



# **AFGHANISTAN HUMAN DEVELOPMENT REPORT 2011**

---

**The Forgotten Front: Water Security and the Crisis in Sanitation**

**An overview of key messages**

## Chapter 1: Water security and human development

- Clean water and sanitation are essential to human development. They are fundamental in the exercise of capabilities: what people can do and what they can become.
- An analysis of human development in Afghanistan reveals that there has been progress towards achieving better human development outcomes in recent years, but that the progress has been uneven and far too slow.
- Since 2001, primary and secondary enrolment rates have expanded considerably, with more children than ever before attending school. Furthermore, a remarkable surge in literacy has occurred in younger children. Despite these achievements, not all Afghan children of school age enjoy equal access to education. Female enrolment rates still trail far behind male enrolment rates. Geographically disaggregated data reveal considerable discrepancies in educational participation between provinces. Furthermore, Kuchi and disabled children continue to be underrepresented.
- Encouraging advances have been also made in health service accessibility, reduction of under-five and maternal mortality rates over the last decade in Afghanistan. Yes, most common health indicators are extremely high—thus placing Afghanistan at the bottom of the international rankings.
- Despite nearly a decade of government and donor efforts to combat poverty, the vast majority of Afghans still face multiple deprivations in key aspects of human development.
- Considering poverty in terms of deprivation in health, education and standard of living, the proportion of poor is much higher (84 percent) than adopting an income-based approach (36 percent). Low standards of living, including poor levels of access to improved water sources and sanitation, are major contributing factors to high poverty levels.
- Despite some progress in terms of advancing women's rights and improving access to education for girls, the extent of gender discrimination in Afghanistan is pervasive.

## Chapter 2: Managing water resources, scarcity and climate shocks

- Afghanistan is not a water-scarce country, but it faces numerous constraints in managing its water resources.
- The relatively high availability of water at the national level can be misleading because it hides important variations within and across sub-basins. The distribution of the available

water does not always correspond to the location and distribution of irrigable land and population settlements.

- Even if Afghanistan's population growth rate slows, the decrease in the availability of water per capita would raise concerns about human development. Urbanization is also critical in terms of water demand. Among the consequences of the migration to cities is overloaded urban water supply and sanitation infrastructure.
- Kabul is already overexploiting the groundwater resource.
- Many karezes have dried up because of drought and the uncontrolled expansion of tube-wells.
- There are serious concerns regarding groundwater quality in many parts of the country, but particularly in the capital city. Over the last 50 years, the quality of water in the Kabul basin has significantly deteriorated.
- The country's reconstruction requires water resources to be developed, including through large-scale infrastructural projects. Afghanistan's capacity to deal with transboundary water management will be critical in this effort.
- As with all other arid and semi-arid countries, Afghanistan is prone to floods and drought. However, significant dependence on agriculture, combined with ongoing land degradation, lack of infrastructure and inadequate storage, renders the country particularly sensitive to the impacts of drought and floods.
- The rate of flood-related deaths in Afghanistan is among the highest in the world.
- Because of drought, vulnerable households frequently resort to survival strategies that deplete productive assets and trap the households in poverty.
- Afghanistan has the lowest storage capacity in the region and one of the lowest storage capacities in the world. The absence of proper storage facilities may pose a serious problem because the excess water cannot be stored to meet subsequent demand during periods when availability becomes limited.
- Climate change will result in the following:
  - A progressive increase in the demand for water for crop irrigation
  - A change in the seasonality of the behaviour of rivers, including reduced snow-melt water during the warm season; this means less surface water will be available for the irrigation of summer crops.
  - An increased incidence of drought and floods
- Dealing with scarcity will involve developing supply and regulating demand, while finding a balance to ensure sustainable and efficient water use and equitable access across categories of users.

- Large-scale dams or small-scale water harvesting are both needed in the context of Afghanistan.
- Because of the extreme annual variations in surface water flows, the construction of storage infrastructure, particularly dams, would enable the country to control its resources more effectively and ensure the greater and more reliable availability of water throughout the country and throughout the year.
- In countries such as Afghanistan, where river flows are unreliable, drought mitigation strategies should not focus on river flows alone. The development of an integrated package of strategies is needed that includes water harvesting and river flows.
- Afghanistan requires evidence and expertise to invest in large scale water resources development. Therefore, donors need to work with the government to improve the technical capacity of local water management experts.
- The rehabilitation of canal infrastructure is a priority if irrigation is to become more efficient.
- While improving water supply is a priority in water-abundant river basins, decreasing the demand for irrigation water might be a greater priority in water-scarce river basins. The latter would mean reducing crop water requirements and improving the efficiency of water delivery to plots.
- Testing and adopting seed and crop varieties that are more tolerant to drought conditions may help the poorest households avoid resorting to survival strategies.
- Substantial water savings can be achieved in on-farm water delivery.
- While large- and small-scale storage may represent a short- or medium-term solution to water scarcity, sub-river basin and rangeland conservation and management are necessary for long-term drought and flood mitigation.
- Both flood vulnerability and sensitivity to drought would be lessened through effective catchment conservation and water harvesting practices. However, little attention has been paid to these practices in recent years.
- Differing levels of scarcity characterize the five river basins of Afghanistan. This means that supply and demand management plans will need to be tailored.
- Ensuring that groundwater is effectively managed as a strategic reserve and safeguarded during periods of drought or poor availability will be critical to preserving access to domestic water.
- Data collection and analysis are an overarching requirement in the development and management of water resources.

- One of the key areas in which governments can make a difference is raising awareness about the importance of water conservation at the household level.
- Afghanistan is not responsible for global warming or the related climate change, but it is bearing the consequences. It is the responsibility of donor countries to invest in adaptation responses of Afghanistan.
- Transboundary water management should target the specific challenges Afghanistan faces in engaging in dialogue with neighbouring countries.

### **Chapter 3: Water for human consumption and water for sanitation**

- Despite a decade of commitment by numerous actors to the development of Afghanistan, many Afghans are still suffering and dying because of unsafe water and sanitation.
- 73 percent of the population still relies on improvised and inadequate facilities to supply water.
- 95 percent of the population does not have access to improved toilets.
- Afghanistan is unlikely to be sufficient to meet the MDG target of connecting 62 percent of the population to improved water services by 2020.
- The coverage of improved water sources differs significantly from province to province. Coverage ranges from 56 percent in Kabul to a drastically low 5 percent in Helmand.
- Diarrhoea: the leading cause of illness among children under 5. Every hour, six children under 5 die because of the effects of diarrhoea.
- During three decades of turmoil in Afghanistan, water supply infrastructure has been neglected or destroyed, while the relevant institutions responsible for management and service delivery have collapsed.
- Access to water through old piped networks is not a guarantee of better water quality.
- A few unregistered companies that supply water using water networks, tankers, or animals have sprung up over the past years and are growing. The transactions are exploitative and often cause tensions within and among communities.
- The high economic cost associated with gaining access to water represents a burden for the poor population of unplanned settlements.
- Kuchis are considered the most marginalized and vulnerable group in Afghanistan and, in terms of water security.

- Waste management in urban areas suffers from neglect.
- The biggest barrier to success in the drive towards universal access to water and sanitation is the lack of political resolve to put the issue at the centre of the development agenda.
- A starting point for public action in the effort to achieve greater access to improved water sources and sanitation facilities are the recognition of the right to water and sanitation.

## Chapter 4: Sharing irrigation water equitably

- Sustained access to adequate irrigation water helps deliver multiple human development benefits, including food security, income-generating production and employment and reduced indebtedness and out-migration.
- Representing 37 percent of national income, agriculture is a key component of livelihoods and economic growth in Afghanistan.
- Irrigation is the main use of water: over 95 percent of all water consumption is accounted for by agriculture.
- The potential of irrigation to assist in the reduction of rural poverty is undeniable. Irrigation development should therefore be a priority.
- By the mid-1970s, over 3 million hectares were being irrigated. Today, only an estimated 1.8 million hectares are irrigated. This means human development opportunities are being missed.
- While efforts are undertaken to reach the potential of irrigation in Afghanistan, a central pillar of human development should not be overlooked. Ensuring equity in water sharing is essential.
- The majority of the country's irrigation schemes are managed by communities of water users. But no single model exists across Afghanistan for the mirab system.
- In Afghanistan, the gap between water rights and water distribution looms large.
- Despite apparent signs of resilience in the mirab system, local institutions have not generally managed to adapt successfully to the new challenges during this period of conflict and a rapidly changing political and institutional environment.
- The rather rapid collapse of government support has contributed to the decline in the performance of local water management institutions, including for equitable water sharing.

- Inequitable water access between head and tail reaches of canals has been aggravated by the non-negotiated and unauthorized introduction of new offtakes especially in upstream areas.
- New water use patterns have emerged or intensified in recent decades and are competing with irrigation systems for water.
- The spread of water demanding crops in upstream areas has had negative consequences on downstream areas water availability.
- Water is now the second major cause of disputes in communities.
- Inequitable water sharing has multiple consequences affecting the livelihoods of downstream farmers. As farm incomes fall short of the potential, the assets of downstream farmers, including land, lose value.
- When the availability of surface water is chronically low, farmers at the tail reaches of canals have to resort to expensive and often unsustainable alternatives such as pumping.
- Over the long run, this contributes to the weakening of the resilience of downstream farmers to shocks such as droughts and pressures them to adopt confrontation as a coping mechanisms to resolve their water insecurity.
- Because of their more limited access to irrigation water, downstream farmers are faced with relatively lower irrigated land values. This affects their long-term livelihoods. Yet, this is not the only factor.
- The success of collective water management in ensuring equitable water sharing depends on the existence of substantial social capital, including trust and solidarity, the ability of people to work together through robust collective actions to resolve community issues, social cohesion to reduce the risk of conflict and to promote equitable access to water, and communication.
- Any attempt to tackle the complex and sensitive issue of inequity in irrigation water sharing will have to follow an integrated approach evolving around three interrelated components: the reduction in the demand for water, infrastructure rehabilitation, and improvement in governance and collective water management practices.
- Water conservation methods and enhanced on-farm delivery techniques can play a central role in the overall reduction of water demand. Through more extensive use of the water resource, this may be accomplished without compromising crop production.
- An integrated approach should focus on in-canal technical rehabilitation and upgrading to improve the control over water distribution.

- Formation and development of WUA is now promoted in the Water Law. The challenge in establishing and developing the new WUAs to improve collective water management along canals will be to maintain the positive and well-accepted elements of the mirab system, while adding new elements that foster equitable water sharing.
- Providing more protection for water rights and ensuring the long-term positive impact of WUAs on irrigation performance is unlikely without external support to enable regulatory enforcement.

### **Chapter 5: The need for governance in the water sector**

- The water sector in Afghanistan has suffered from inefficiencies associated with political and socio-economic disruption.
- The new Water Law and Water Sector Strategy reflect modern concepts of integrated water resources management. However, numerous problems remain, including the dislocation between an ambitious vision and shortcomings in infrastructure, institutions, management capacity, regulations and enforcement, and information.
- Progress is hindered because of the lack of adequate, predictable and sustained investment and the absence of mechanisms and processes to foster aid effectiveness.
- The water shortage in Afghanistan is primarily driven by inefficient services rather than insufficient resources, particularly with respect to drinking water and sanitation. Thus, the water crisis in Afghanistan is mainly a governance issue.
- In Afghanistan, water sector reform has been undertaken without the aid of comprehensive studies detailing the weaknesses and failures of the existing arrangements and the differences across the five river basins. Analysis of water sharing issues within the agricultural sector in the river basins indicates that there has been no clear model for the approach to water management issues in Afghanistan
- Law-making is often a painstaking process. In Afghanistan, it is more challenging because of weak implementation and enforcement capacity. Despite the adoption of IWRM, together with the river basin management approach and the creation of multistakeholder platforms, the Water Law contains gaps and contradictions, and the definitions it puts forward lack clarity.
- In the water sector, a lack of sufficiently skilled personnel is a barrier to the reform of government water agencies and the implementation of subnational and national policies.
- Individual technical capacity should be developed through higher education and training programmes.

- The physical, technical, social and economic information required for the development, implementation and monitoring involved in water-related projects is limited.
- Even if all the necessary policies and laws are in place, lack of funding will halt efforts to improve water access and supply
- In Afghanistan, a picture of aid emerges that is characterized by fragmentation, unpredictability and distortions in allocation and delivery.
- Despite a water crisis, Afghanistan has received relatively little funding for the water sector.
- In per capita water sector allocation, Afghanistan receives one of the lowest shares.
- There is a low aid disbursement rate through government and donor agencies involved in the water sector.
- Major water sector donors that contribute the smallest shares of their aid contributions to the water sector are the United States (1 percent), Canada (7 percent) and the World Bank (8 percent).