

I INTRODUCTION

The Integrated Plan for Chad's Water Development and Management (SDEA) is a multisectoral and strategic master plan providing guidelines for sustainable development and management of water resources in Chad, with a view to meeting the population's basic needs and guaranteeing the economic and social development of the country while protecting the environment.

This document, stemming from a wide national consensus, proposes concrete measures forming part of a long-term vision, and may be viewed as both a process and a product. The multi-stakeholder process that was instigated while the SDEA was being drawn up will continue to provide a vital forum for intersectoral consultation and will gradually infiltrate right down to local management level. It will also adapt constantly to changes while being guided by the long-term vision of the water sector set out by the SDEA. As a product, following a detailed analysis of each water-using subsector, the Integrated Plan for Water Development and Management defines a clear and consistent strategic framework for all the tasks to be implemented in order to attain a large number of development goals set out in the Millennium Declaration¹ and the Johannesburg action plan. It also includes an institutional and financial framework as well as a detailed, costed programme. For the next fifteen years, the Integrated Plan for Water Development and Management will constitute a major operating instrument that will contribute to the fight against poverty and to sustainable development in Chad.

In Chad, the proportion of the population with permanent access to safe water in rural areas was 17% in 2000; the proportion implementing environmental health measures was 7%. In towns equipped with a drinking water supply (DWS), only 9.7% of the population have a connection, while 27.5% obtain water from a public stand-pipe and 63% have to draw water from (often traditional) wells. On the whole, permanent access to drinking water is limited to 23% of the Chadian population. None of the towns has a functioning wastewater sewerage system and the collection networks are dilapidated. Less than 2% of city-dwellers have sanitary facilities with running water; while latrines are almost non-existent in rural areas.

The poor are vulnerable to chronic diseases related to poor living conditions and lack of access to water and sanitation. Women and girls from villages without access to a drinking water point devote a great deal of time to fetching water (up to several hours each day in some bedrock areas) which, along with other chores, is often one of the factors depriving them of their right to education (the basic education-level school-attendance rate among girls in Chad was 35.6% in 1999) and preventing them from acquiring skills that would enable them to become involved in more productive and rewarding activities.

Two thirds of Chad is desert, and over the past thirty years the country has suffered the consequences of a persistent drought that has speeded up the desertification process and reduced the surface area of agropastoral land. Population growth and environmental damage linked to anthropogenic and climatic pressures have extended pastureland areas southwards to the detriment of agricultural land, which regularly creates conflicts between farmers and stock rearers, while agricultural output per inhabitant and mean consumption in calories are currently decreasing.

From the economic point of view, the agriculture, stock-rearing and fishery sectors, which currently represent 40% of Chad's GDP, fundamentally depend on decisions made regarding water access levels (quantity and quality), spatial distribution of hydraulic networks within a homogeneous area or basin, national, regional and local water management methods, provision of management training and conservation of healthy basin aquatic ecosystems.

This severe lack of basic infrastructure and the multiple water-related issues prompted the Government to draw up a national water policy and integrated management strategies, defined in a plan setting out guidelines and planning investments and the rational use of national water resources in order to meet the population's basic needs more effectively. At the Government's request, the first Integrated Plan for Chad's Water Development and Management was drawn up entirely in Chad, under UNDP² funding and with methodological and technical support from UNDESA³. This reference document should contribute to making food crops less vulnerable to climatic variations, while reducing sources of conflict. It will also contribute to protecting the aquatic and basin ecosystems upon which the country's main economic sectors and rich biodiversity depend. In light of these needs the SDEA covers sanitation, a natural extension of any water supply system, as a specific important subsector.

¹ Declaration of Heads of State who gathered at United Nations Headquarters in New York in 2000, which defines quantified development goals to be reached in all countries by 2015. This declaration constitutes a joint commitment from the countries to provide international aid, and is universally recognised and referred to for all cooperation projects. It was completed and made more specific, notably with regard to basic sanitation, at Johannesburg in September 2002 during the World Summit on Sustainable Development.

² UNDP: United Nations Development Programme.

³ UNDESA: United Nations Department of Economic and Social Affairs (United Nations secretariat).

⁴ World Summit on Sustainable Development, Johannesburg, 2002. Chad National Report, May 2002.

The participatory, comprehensive approach (see appendix I for the list of participants and the bibliography) which was adopted to draw up the SDEA made it possible simultaneously to consider water resources, human, institutional and financial resources, technological, ecological and economic aspects, and social and cultural factors, in order to ensure that they are integrated.

This study is being carried out just at the right time since Chad is entering the crude oil era and 72% of its oil revenues will be allocated to expenditure in declared priority sectors⁴ in Chad, i.e., education, healthcare and water, by virtue of law 001/PR/99 of 11 January 1999.

A great deal of work has been carried out over three years to draw up an inventory and assessment of the existing situation and predict future needs for infrastructure and local capacity-building in order to meet the goals that have been set. These efforts have resulted in a water policy, strategies for mobilising financial, institutional and human resources and an action plan, covering a ten- and twenty-year period. This participatory approach to planning has also enabled the administrations of various sectors to reach a consensus on specific strategies for monitoring water resources (both surface and groundwater) and aquatic ecosystem resources, notably how they are protected and used by five subsectors: village water supply, urban and semi-urban water supply, sanitation, pastoral water supply and agricultural water supply (not forgetting fisheries, hydropower, tourism and natural or anthropogenic risk management).

Throughout the national process of drawing up the Integrated Plan for Water Development and Management, the recommended strategies and action and development plans were checked for consistency by continuously comparing them with the Government's general development policy and with policies governing other water-related sectors. However, the limits of the SDEA must be made quite specific in order to be clearly understood: the factors for developing an economic sector are not limited to good access to water and the sound management thereof. The aim of the SDEA is rather to complement and harmonise the other sectoral plans with the resources available within the framework of the Government's macroeconomic policy. Thus, the SDEA is not intended to replace a master plan, such as the food production master plan, which depends on several other factors. Nevertheless, the SDEA diagnoses the current situation and the past performance of irrigation systems, and indicates constraints relating to the mobilisation and local management of water, before proposing areas for coordinated action at local level. Because of its transverse nature, the management of water and basic facilities can, indeed, be a potent factor for integrating local actions.

The SDEA thus responds to a priority for the Chadian Government which, given the lack of harmonised approaches and the poor coordination of participants observed during the sectoral consultation on rural development and the environment in 1999, considered it essential to revise the design and working methods in order to turn resolutely towards integrating activities within the framework of a comprehensive development approach.

The Integrated Plan for Water Development and Management responds to one of the country's basic needs, since it presents a coherent policy, strategy and action plan for the water sector in a holistic and integrated manner. The SDEA takes account of the recommendations made at United Nations conferences, notably Rio de Janeiro in 1992, set out in the "Agenda 21" reference document and, in particular, those concerning the integrated management of water resources (Harare, 1998) which undertook to draw up national strategies and costed action plans for development and integrated water management by the end of 2002. This need was emphatically restated in Johannesburg during the World Summit on Sustainable Development (September 2002). The Chad SDEA is, in fact, a pioneering document in sub-Saharan Africa. It has anticipated the recommendations made at this recent summit, "to develop integrated water resources management and water efficiency plans by 2005, with support to developing countries, through actions at all levels".

The SDEA sets great store by local action. An investment programme spread over twenty years, including an initial phase completed in ten years, is presented for a joint, gradual mobilisation of internal resources and aid from the international community. In compliance with the international community's Millennium Declaration (UN-NY-2000), implementation of the SDEA will thus contribute to the fight against poverty and protection of the environment by:

- ensuring a consensus and national coordination based on a deliberate yet realistic policy of extensive, efficient, fair and affordable access to drinking water and basic sanitation;
- educating, training and increasing the awareness of stakeholder groups, whether public, private, associations, national, regional or local, men, women or young people, in the field of sustainable water management;
- organising basic activities and investments that will influence the sustainable improvement of the populations' health;
- implementing strategies aimed at the integrated management of water resources and their uses in order to protect the aquatic ecosystems upon which conservation and biodiversity, agricultural production, fisheries and stock-rearing depend.

The final version includes observations from the SDEA political approval meeting that took place on 30 April 2003 under the aegis of the HCNE (High National Council for the Environment). It also includes remarks and observations made during the national validation workshop that took place in November 2002 and observations from the three regional validation workshops that took place in July 2002 under the aegis of the CNGE (National Water Management Committee). It was drawn up taking account of the results of the six subsectoral validations carried out under the aegis of the Intersectoral Technical Committee for Water (CTIE) in April and May 2002. Given the complexity of the aspects dealt with, the various technical validations were greatly simplified by the fact that the Directorate of Hydraulic Affairs, with support from the UNDESA, kept up a constant dialogue with all the administrations concerned (ten ministries) throughout the two years of studies for the subsector documents.

Chapter 1 of the main document is devoted to an analysis of the current situation, taking into account the economics of water, basic infrastructure and its management (sanitation and village, semi-urban, urban, agricultural and pastoral water supplies), water resources, the environment, water shared with neighbouring countries, and the institutional context. This analysis draws on the lessons learned from past experience and reveals the constraints to be overcome.

Basic needs are predicted in chapter 2. Thus, the needs for village, urban and semi-urban, pastoral and agricultural water supplies, water resources and sanitation are analysed. The third chapter notably examines investment deficits that have either already been recorded or are forecast for various goals. A study of (internal and external) financial capacities and local implementation, management and maintenance capacities enabled an optimum scenario to be defined for each subsector. Previous studies were drawn on to define the water policy and to specify all the subsector strategies to be implemented in order to reach the national water policy objectives. These subsector strategies are complemented by a financial mobilisation strategy, a water resources and information strategy and a strategy for human and institutional capacity-building, all of which are transverse themes that are vital to implementation of the SDEA.

Chapter 4 groups together the action plans for 2000-2010 and 2011-2020. Finally, chapter 5 deals with measurable performances stemming from SDEA implementation, the economic and social justification of the plan, the indicator-based performance monitoring method, and resources for coordinating and updating the Integrated Plan for Water Development and Management.

2 INSTITUTIONAL FRAMEWORK FOR DRAWING UP THE INTEGRATED PLAN FOR WATER DEVELOPMENT AND MANAGEMENT AND ITS CONSULTATION DOMAINS

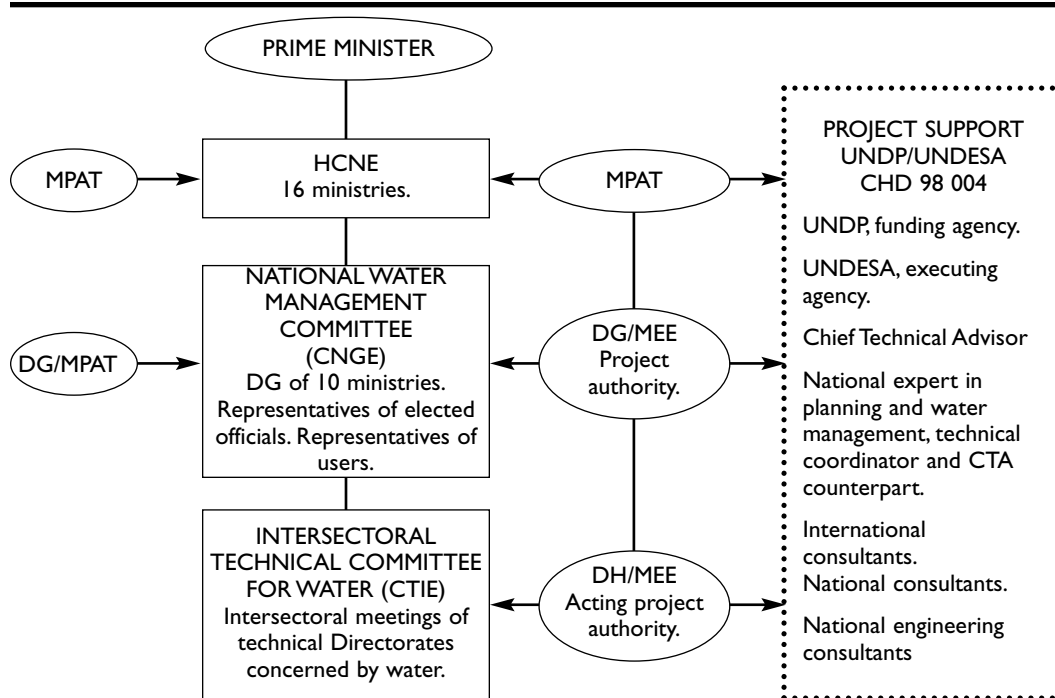
The institutional framework for **drawing up** the Integrated Plan for Water Development and Management is provided by the ministry responsible for water: the Ministry of the Environment and Water (MEE), through the Directorate of Hydraulic Affairs.

The institutional framework of the intersector **consultation** process has been set up on three levels (see organisation chart below), under the Prime Minister's supervision:

- 1 the **intersectoral technical level** (Intersectoral Technical Committee for Water - CTIE), which rules on the technical aspects of each subsector document;
- 2 the **administrative and strategic level** (National Water Management Committee - CNGE - including several elected representatives of civil society), which gives opinions to the HCNE (High National Council for the Environment) on the Integrated Plan for Water Development and Management;
- 3 the **political level** (HCNE), which is placed under the authority and arbitration of the Prime Minister, and whose secretariat is provided by the MEE. Finally, the decision-making level, which refers to the Council of Ministers at the HCNE's request.

The Ministry of the Environment and Water acts as both the permanent secretary of the HCNE and the president of the CNGE and the CTIE. The Ministry of Economic Promotion and Development (MPAT) acts as vice-president of the HCNE and the CNGE and thus guarantees that the process is integrated and that the Integrated Plan for Water Development and Management is drawn up in a manner which is consistent at all levels with sectoral policies, the objectives of the national economy and with regional development and the environment.

Mechanism for drawing up the Integrated Plan for Water Development and Management



Decree No. 034/PM/MEE/99

This flexible consultation framework, institutionalised by Prime Minister's decree⁵, is also intended to be devolved, at a later date, into smaller subsidiary mechanisms for local and regional intersectoral consultation. This consultation domain will have to remain in place and deal with all the strategic issues and projects related to integrated water management, after completion of the support project on preparation of the SDEA. No parallel structures have been created; preference was given to strengthening existing institutions and capacity-building.

⁵ Decree
034/PM/MEE/99
signed by the Prime
Minister on 31/9/99
concerning the creation
and organisation of a
National Water
Management
Committee.

3 GOALS OF THE INTEGRATED PLAN FOR CHAD'S WATER DEVELOPMENT AND MANAGEMENT AND OF THE MILLENNIUM DECLARATION

In addition to providing a unique, updatable national reference frame, as well as policies and guidelines for short-, medium- and long-term investments in numerous key sectors in Chad, the Integrated Plan for Water Development and Management is a vital stage on the road to sustainable development and part of Chad's response to the reciprocal commitments it has made with the international community over the past few years.

The specific extracts of the Millennium Declaration concerning water are quoted in the box below.

MILLENNIUM DECLARATION

In September 2000 the heads of State and Government met at the UN in New York, to discuss and adopt the "Millennium Declaration", which now constitutes the common reference document used by all developing and developed countries. This universal declaration sets out concrete goals to be achieved by 2015; the following extracts are related to water:

*"... We also resolve to halve, by the year 2015, the proportion of the world's people whose income is less than one dollar a day and the proportion **of people who suffer from hunger; and also, by the same date, to halve the proportion of people who are unable to reach, or to afford, safe drinking water**";*

"... By the same date, to have reduced under-five child mortality by two thirds of current rates";

*"We reaffirm our support for the principles of **sustainable development** including those set out in Agenda 21, agreed upon at the United Nations Conference on Environment and Development, at Rio de Janeiro in June 1992... and, as first steps we resolve to stop the unsustainable exploitation of water resources by **developing water management strategies at the regional, national and local levels**, which promote both equitable access and adequate supplies".*

Source: General Assembly of Heads of State and Government - UN Headquarters - 8 September 2000 - A/RES/55/2

The Integrated Plan for Water Development and Management should make a significant contribution to reaching the main goals of the Millennium Declaration through:

- **Sustainable access to drinking water:** the SDEA defines the means, equipment and management methods to be implemented over the next twenty years in order fully to achieve this declaration's goal in terms of access to drinking water; and above all to **maintain** its performance in village areas (effective access rate in 2000: 17%; target rate for 2015: 60%) as in all urban and semi-urban areas with more than 2000 inhabitants (situation in 2000: 33%; target rate for 2015: 60%). In accordance with the recommendations of the SDEA, the total access rate in Chad should increase from 23% in 2000 to over 60% in 2015, thus reaching the goals that have been set.

⁶ For Chad, the recommended daily calorie intake (FAO, 1985) is 2095 calories in urban areas and 2175 calories in rural areas.

⁷ For deaths occurring between 1 and 59 months, the main identified cause is seen to be diarrhoeal diseases (44% of identified causes and 3.5 times more than from acute malnutrition). Source: EDST 96-97 - DSEED/DHS).

- **Food production:** at present, according to the national poverty reduction strategy, the level of food poverty, i.e., the proportion of households that cannot meet all their food requirements⁶, is about 54% in Chad. This should be reduced to 27% in 2015. Efficient use of water resources and land over an additional 100 000 ha, the improvement of productivity and yields brought about by training farmers and through income-generating activities should make a large contribution to reaching the goal of reducing hunger.
- **Health:** in a country where the main causes of death are related to water-borne diseases⁷ and hygiene, implementing the SDEA should contribute to speeding up the reduction in the death rate, which is very high in Chad (maternal mortality: 827/100 000 births over the period 1991-1997; under-5 mortality rate: 198/1 000, almost one in five). This contribution (because there are complementary policies to be implemented) will be made through strategies and action plans aimed at significantly improving conditions of access to sanitation (currently almost non-existent in all towns) and to drinking and domestic water; associated with increased awareness of hygiene and the need to protect the quality of water as it is conveyed and stored, not forgetting nutrition issues.
- **Biodiversity, integrated water resource management and cooperation on shared water:** the SDEA defines, among other things, strategies and actions to both promote the sustainable optimum use of water resources and preserve these resources, the aquatic ecosystems and the biodiversity upon which most human activities depend (fisheries, pastures, receding-flood farming, etc.), in other words, most of the Chadian economy. Moreover, the SDEA constitutes the first step towards integrated water resource management as recommended in Agenda 21 (chapter 18), and subsequently specified during the international meeting of United Nations experts in Harare (Zimbabwe - 1998), as well as in the context of the recent meetings of the United Nations Commission on Sustainable Development (World Summit on Sustainable Development, Johannesburg - September 2002) and major international conferences on water (Paris - 1998, The Hague - 2000, Bonn - 2001, Kyoto - 2003).

Finally, given the issues raised by the SDEA in relation to regional development and the protection of aquatic ecosystems, this document is a key component in the fight against desertification, the protection of biodiversity and concerted management of the shared water of the Lake Chad basin (LCBC), the river Niger basin (NBA) and aquifer ecosystems.