Republic of the Sudan
The National Audit Chamber

Environmental Impact of water in Khartoum state

(1) The National Audit Chamber:

Is the supreme audit institution responsible for auditing the national government accounts, the northern states accounts and the public corporations.

Is an independent body under the direct supervision of the National Assembly and the Presidency of the Republic

The appointment and the removal of the National Auditor General shall be carried out with the approval of a two third majority of the National Assembly.

A special department has been created and designed for environmental audit.

(2) **The Environmental Audit:**

The Government of Sudan has given the utmost care and concern to the environmental issues in the country.

The development of the environmental policies has considered the environmental incidences that have inflicted the country like the desertification, drought waves and the water pollution.

(3) Our audit has been carried out in accordance with:

Environment auditing standards

Uses of Directives issued by **INTOSAI / WGEA.**

Field surveys.

Interviews.

Technical specialist studies.

(4) Our report which shows the results of auditing the environment impact of water in Khartoum State covers:

Potable water used for drinking.

Sewage water drainage.

First: Potable water used for drinking:

The total production of drinking water in the state amounts to 950000 m3 per day: 350000 m3 produced by the 7 Nile water stations.

600000 m3 produced by 1238 under ground water wells.

The findings:

- The water transmission grid is composed of obsolete asbestos pipes.
- The grid is cracked in most parts.
- The grid is exposed to blockages & breakages resulting in water leaks.
- The water leaks cause adverse environmental impacts like mosquitoes reproduction, spread of malaria and water pollution.
- The produced potable water is not enough to meet the increasing needs of the inhabitants of the state.

The future reform plan in the state includes:

1. Establish new water station to increase the daily production of potable water, these new stations are expected to provide about 665,000 m3 per day.
2. Change the old transmission grid with a new one using pipes made of high density polythene material.
3. Until the construction work in 1&2 above are completed, the operational failure of the existing pipe grid will be periodically maintained through the existing partnership between Khartoum state water corporation and Khartoum void of malaria project. This partnership emerged in the beginning of 2000.

   Since its inception in the year 2000 until the end of the year 2004, this partnership was able to reduce the number of broken pipes from 9741 to 2030.

Second : Sewage water drainage :-

Two stations were used to treat the sewage water and then use the treated water in agriculture.

These Two Stations are :

Soba station .

Al – Haj Yousof station .

(a) Soba Station :-

Designed to treat 3.2 million gallons of sewage water but due to the increase in population raised to 4 million gallons .

The increase resulted in :

- Decreasing the productivity of the treatment station .
- Disposing of excess water arbitrarily out doors leading to the formation of swamps .
- leaking of sewage water into the blue Nile river bed .
- the treatment basins have become in the middle of the residential districts because of the high increase in the number of buildings & houses .

Action taken to eliminate the negative out comes :

A new treatment station is under construction .

An area of 5000 Fadden has been chosen to be cultivated by using the treated water .

(a) AL – Haj Yousef station :

- Numerous break down in the station and the pipe that transmit sewage water to the treatment basins
- Emissim of offensive smells contaminate the weather in the neighboring residential areas .
- The sewage water in the area contains industrial waste which might cause some hygienic hazards .
- The grid is very poor in term of both effectiveness and coverage which let the remaining residential areas to use ordinary latrine .
- The use of such latrines enhances the possibilities of pollution of both the Nile and the under ground water.

Action taken to Eliminate the negative outcomes :

- A new station is built and about to be completed .
- The new station is designed to :

  Use advanced technical and practical methods to avoid the emission of offensive smells .

  Make use of the treated water in agriculture .

The Difficulties Facing Environment Auditing:

- The Managers and executives are still not willing to give the concept of environmental auditing the appreciation and importance that it really deserves.
- The financial accounts pertaining to the environmental auditing are not clear.
- The lack of specialized departments concerned with the environmental impact in the governmental institutions.

- Operational expenditures are scattered and spread apart over the different chapters of the general budget.
- The lack of environmental awareness campaigns in secondary schools, universities and the national media.
- Environmental violation cases brought to the courts of law are very scarce despite the fact that they are crystalclear and self-evident.

Auditing Recommendations:-

1- Activate the laws and regulations of environment seriously and more earnestly in all cases pertaining to violations.

2- Set a government strategy to finance the environmental impacts and seeking to increase its sources of finance from the related institutions

3- Establish environment monitoring units in the different departments.

4- Establish specialized departments in each and every ministry, governmental department and public corporation to monitor environmental impact

5- Solve irrigation problems by using treated sewage water owing to its positive qualities in increasing soil fertility.

6-Train workers on how to deal safely with the treated sewage water in order to avoid any possible health hazards.

7- apprise & direct farmers that treated sewage water is not good to irrigate all types of agricultural crops as well as it is by no means safe for drinking neither by man nor by animal.

8- The administration of Khartoum State Water Corporation should provide all the required maintenance equipment and instruct its maintenance workers crew to inspect and monitor the residential areas for detecting any crack or leakage in the grid and fix it on the spot.

9- Support & motivate scientific researches morally and financially in order to come out with feasible solutions to environmental problems .