

20th April, 2011

PRESS RELEASE

Nairobi Water and Sewerage Emergency Physical Investments Programme Sasumua works – commissioning ceremony

The French Ambassador to Kenya, H.E. Etienne de Poncins and the Minister of Water and Irrigation Hon. Charity Ngilu, together with Mr Jean-Marc Gravellini, Head of the Sub-Saharan African Department, Agence Française de Développement (AFD) and the Director of the Nairobi Regional office of AFD, Mr Yves Terracol, will be present at the commissioning of the rehabilitation works of the Sasumua water dam on Tuesday 26th April 2011 at 11.00a.m.

The rehabilitation of the Sasumua water dam is part of the “Nairobi Water and Sewerage Emergency Physical Investments Programme” implemented by Athi Water Services Board (AWSB).

The main objectives of the “Nairobi Water and Sewerage Emergency Physical Investments Programme” are to improve the living conditions of the inhabitants of the city of Nairobi through large investments in water and sanitation infrastructures, and simultaneously to complement the implementation of the reform in the water sector at the local level.

Under these objectives, the following main components have been included in the Project:

- The full rehabilitation of Sasumua Dam and Sasumua Treatment Plant, which were seriously damaged in 2003 and whose spillway was threatening to collapse, with huge risks of human and further physical damages;
- Major works on the Ngethu system, main transmission lines to Nairobi and Kabete, pumping equipment, trunk sewers and Dandora sewage treatment plant, all works now totally completed or in-progress;
- Putting in place up-to-date dam safety tools to ensure that Sasumua, Thika and Ruiru dams will be operated and managed according to international principles of dam safety.

The total cost of the Project is EUR 62 million, totally financed by AFD thanks to a soft loan granted in 2005 to the GOK, partially un-lent to AWSB.

Once completed, this project will increase Nairobi’s water production capacity by 25%, will secure main dams, treatment plants and pipes providing water to Nairobi and will improve the quality of rivers and environment in Nairobi.

Water and sanitation is one of the priorities of Kenya-France Cooperation. Since 1998, AFD has been funding around EUR 148 million in this sector in Kenya.

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REHABILITATION WORKS OF SASUMUA WATER RESERVOIR

Implemented in the scope of Nairobi Water and Sewerage Emergency Physical Investments Programme (NWSEPIP)

Project background

The Sasumua Dam is an asset owned by the Athi Water Services Board (AWSB). The Dam is operated by the country's largest water service provider - Nairobi City Water and Sewerage Company (NCWSC) - and is one of the four main sources of water supply to the City of Nairobi and its environs (around 15-20%).

Sasumua Dam and the associated facilities were constructed in 1956. The Dam is located on the Sasumua River just over 90 km by road (60 km as the crow flies) from Nairobi. From 1966 to 1968, the crest of the Dam embankment was raised by almost 8 m while the lateral spillway weir crest was raised by about 6.4 m.

Exceptionally heavy rains in the beginning of May 2003 caused massive damage to the Sasumua Dam's reinforced concrete spillway. This also resulted in the surrender of potential reservoir capacity, as the Dam water level had to be reduced to approximately 10 m below the Normal Water Level. Due to the extensive damage of the spillway, urgent measures were required to secure the safety of the Dam and all the associated permanent structures.

To implement the required emergency measures, the Government of the Republic of Kenya obtained a loan from Agence Francaise de Developpement (AFD) for the financing of the Nairobi Water and Sewerage Emergency Physical Investments Project (NWSEPIP). On 31 March 2006, AWSB awarded the contract for consultancy services for the Rehabilitation of Sasumua Dam defined under the Emergency Physical Investments Package 1 to Coyne et Bellier of France in association with Gibb Africa Ltd.

Following the assessment of the Dam safety situation, emergency safety measures for flood control and protection of the permanent structures were proposed, which entailed construction of a coffer dam and an emergency side (earth) spillway, to ensure that no water overtopped the damaged concrete spillway until it was rebuilt. These structures were constructed during 2007-2008 with the National Water Conservation and Pipeline Corporation (NWCPC) as the main Contractor under the supervision of the Consultant.

Following international competitive bidding, the Contract for the construction work was awarded towards the end of 2008 to a Joint Venture made up of Sinohydro Corporation Ltd. of China and Machiri Ltd. of Kenya (Kshs 2billion). The Contract also incorporated the implementation/rehabilitation of monitoring and instrumentation works at the three dams currently supplying water to Nairobi, viz. Thika, Sasumua and Ruiru Dams.

The 24-month construction period commenced on 9 December 2008 and the works were scheduled to be completed by 9 December 2010. A one-year defects liability period will then follow.

Project scope

The main activities carried out under this project include:

- Mobilisation of staff, equipment and materials;
- Setting up of Contractor's camp;
- Erection of concrete batching plants;
- Demolition of defined existing concrete slabs, weirs and structures;
- Diaphragm wall construction including grouting at foundation level for bond;
- Bulk excavation at spillway basin, Block NB10 and wing wall Block WW11;
- Construction of a soil-nailed wall at the steep downstream excavated face on the left bank of the spillway basin;
- Drilling for and installation of vertical anchor bars at the basin slab blocks;
- Construction of an under drainage system comprising of, perforated pipes and pcc slab (voids) embedded in a porous concrete layer below the basin slab blocks;

- Concreting of the spillway basin slab (BS blocks) and side walls (LW and RW blocks);
- Concreting (UW blocks) below the existing spillway weir;
- Concreting of new weir Block NB10 and wing wall Block WW11;
- Concreting of the downstream control weir (CW blocks), chute (CH blocks) and ski jump (SJ blocks);
- Backfilling behind spillway basin walls, Block NB10 and around Wing Wall WW11;
- Closure dam construction across emergency spillway including instrumentation;
- Construction of drainage gallery, drain pipes and filter drains;
- Demolition of part of the coffer dam;
- Instrumentation for Thika, Ruiru and Sasumua dams;
- Miscellaneous metalwork erection for access into the drainage gallery and spillway basin;
- Rip rap reconstruction on upstream slope of main Sasumua dam, around breached coffer dam and upstream of backfill near Block WW11;
- Dam crest road reconstruction and drainage;
- Post-construction site landscaping;
- Maintenance of public access roads to the project site and work site accesses;
- Training of the operator's staff and other stakeholders in operation and maintenance skills.

Progress of works

After two years of works, the Dam has fully recovered its original capacity (64,000 m³). The budget has been respected. The adjacent water treatment plant has also been fully rehabilitated under another package.