



water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

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MINISTER OF WATER AND ENVIRONMENTAL AFFAIRS

NATIONAL ASSEMBLY: QUESTION 2110 FOR WRITTEN REPLY

A draft reply to the above question asked by Mr M J Ellis (DA) is attached for your consideration.

ACTING DIRECTOR-GENERAL

DATE: 31/08/2011

DRAFT REPLY APPROVED/AMENDED

MRS B E E MOLEWA, MP
MINISTER OF WATER AND ENVIRONMENTAL AFFAIRS

DATE: 20/08/11

NATIONAL ASSEMBLY

FOR WRITTEN REPLY

QUESTION NO 2110

DATE OF PUBLICATION IN INTERNAL QUESTION PAPER: 12 AUGUST 2011
(INTERNAL QUESTION PAPER NO. 23)

2110. Mr M J Ellis (DA) to ask the Minister of Water and Environmental Affairs:

- (1) With reference to her replies to questions 1243 on 11 May 2011 and 1489 on 27 July 2011, (a) what are the positive outcomes that have accrued from the rehabilitation work conducted at Hartbeespoort Dam since the inception of the programme and (b) how have these outcomes been empirically (i) measured and (ii) assessed;
- (2) whether the programme was intended to be self funding at a particular stage; if not, why not; if so, what are the relevant details;
- (3) what is the (a) total income that has been generated from the rehabilitation programme since the inception of the programme and (b) breakdown of the total figure according to the various components of the programme? NW2384E

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REPLY:

- (1)(a) The positive outcomes that have accrued from the rehabilitation work conducted at Hartbeespoort Dam since the inception of the programme are as follows:
- 70 permanent labourers have been employed as part of the Hartbeespoort Dam Remediation Programme on an ongoing basis since 2008.
 - A total of 98 tons of fish have been removed from the dam. It has also been determined that, the fish within the dam are in a class 1 and 2 health condition. A Small Medium Micro Enterprises (SMME) development model has been adopted through the Foodweb Restructuring Key Focus Area in order to allow the labourers to start their own enterprises based on production bonuses. A double succession of the photic biomass has been confirmed by the Foodweb Monitoring Programme since 2009.
 - An online water use registration system for all 21 water uses, including Waste Discharge was developed to assist the Department in the efforts of compliance and enforcement in terms of the requirements of the National Water Act, 1998 (Act No. 36 of 1998).
 - The programme has continuously removed hyacinths, algae, litter and debris floating into and on the dam. The organic material is turned into compost and vermi-compost by the vermiculture project. These collective activities have resulted in the indirect removal / reduction of the detritus layer at the dam zone. A total of more than 37 600 m³ of hyacinths have been removed and a related more than 1000 m³ of compost have been created. In addition, 16 000 m³ of algae has been pumped and a total of more than 1270 m³ of litter and debris has been removed out of the dam.
 - Resource Quality Objectives have been developed for the dam to manage the Reserve (Aquatic Ecosystem) in terms of the National Water Act, 1998 (Act No. 36 of 1998. Best practices to remediate the literal zone of the dam

were developed. To assist with the establishment of habitats in the literal, shoreline (more than 5200m²) and Floating Wetlands (more than 2500m²) have been established to rehabilitate damaged shoreline.

- An integrated monitoring programme was implemented which established various important points that would be relevant to similar other dams in South Africa, including significant Phosphorus-nutrients that are associated with sediments in the rivers, sediment loads to the dam that can increase up to 2,000% during large rainfall (flood conditions), similarly significant Phosphorus-nutrients loads that are associated with these flood events, and approximately two thirds of sediments and Phosphorus-nutrients entering the dam.
- A detailed investigation in terms of the sediment distribution within the dam and characterisation as well as the management options was developed, indicating that the sediment is a resource that can be reused. It was found harmful for the aquatic environment (release of settled nutrients) but useful for the terrestrial environment (nutrient enrichment). Strategy of sediments removal and management has been set. Initial pilot dredging and excavation (15 t of sediments) has been performed at the Crocodile Inlet zone. Testing of the use of sediments in building blocks production has been completed and the first blocks were manufactured. Pilot dredging and bulk sampling together with pilot run (irrigation and aquifer recharge, use of sediments in agriculture, etc.) is on-going to determine the feasible options to implement future sediment management. The design of the real world operation to be implemented next year has been initiated. The update of pre-impoundment (to facilitate required external load reduction in the future) options are under consideration.
- An Information, Communication and Knowledge Centre has been established at the dam wall, in order to inform and educate the general public on the impacts caused by mankind to the dam. The message that is conveyed is that, the general public can contribute to the solution by implementing waste minimisation and reuse options to reduce catchment impacts to the water resources, with the focus on addressing these impacts on a biological and more environmentally friendly manner.
- A Resource Management Plan as well as local rules have been developed for the dam in order to assist with the management of the dam from all stakeholders around and using the dam from an aesthetic point of view. Dramatically improvements were noticed since the second half of 2009. There are no more unpleasant smells nor is the water excessively green as it was prior to the implementation of the programme.

(1)(b)(i) The positive outcomes are measured based on the planned outcomes of the Business Plan, and in detail from the specific Key Focus Areas and Project Execution Plans.

(1)(b)(ii) The positive outcomes have been assessed as derived in general from the overall objective of the programme, which is amongst others, to:

- Implement Integrated Water Resource Management principles in Crocodile West-Marico Catchment to enhance growth, development and work creation.
- determine, optimise and manage physical and biological conditions in the dam to ensure optimal diversity by reduction in algae (blue-green), hyacinth and undesired fish biomass.

(2) No, the programme was never intended to be self-funded. The funding has been received from the Department in the interim until the Waste Discharge Charge

System is in place to enable the funding of the remediation activities. In terms of the Department's Compliance Monitoring and Enforcement, an online water use registration system was developed as an important first step towards the implementation of the Waste Discharge Charge System. Some of the activities within the programme are being developed for basic cost recovery, for example Food web Restructuring and Sediment Management. It should be noted that, the Hartbeespoort Dam Remediation Programme is not a profit oriented programme to be judged through the financial parameters. It has a strong research and development component with a great intrinsic social, environmental and developmental value (human health care, recovery of the environment, boost the businesses, job creation, education, etc.), not only locally but also internationally.

- (3)(a) The total income that has been generated since the inception of the programme is R479 305.00.
- (3)(b) Table 1 below reflects the breakdown of the total figure according to the various components of the programme:

Table 1- Breakdown of budget

Programme components	Income generated
Fisheries project	R72 305.00
Sediment Management (Elands Platinum)	R315 000.00
Communication Centre	R92 000.00
TOTAL	R479 305.00

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