

NATIONAL ASSEMBLY

**FOR WRITTEN REPLY**

**QUESTION NO 2936**

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**(INTERNAL QUESTION PAPER NO. 30)**

**2936. Mr L J Basson (DA) to ask the Minister of Water and Sanitation:**

(1) With regard to her reply to question 2367 on 14 July 2015, what have been the results of the Metsi a Me project;

(2) (a) when did the specified project start and (b) what has been the yearly cost of the specified project since it started;

(3) whether her department plans to expand the specified project to other dams; if not, why not; if so, what are the relevant details;

(4) whether raw sewage is still flowing into the dam from the Rietfontein Wastewater Treatment Plant and upstream of the dam; if so, what are the relevant details;

(5) whether her department has put any measures in place to stop the flow of sewage into the Hartebeespoort Dam; if not, why not; if so, what are the relevant details? NW3440E

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**REPLY:**

1. The results and outcomes since the initiation of the Metsi a Me (Hartbeespoort Dam Integrated Biological remediation Programme - HDRP) is extensively covered within the annual reports, which are consolidated in the Phase I and Phase II progress reports. The outcomes can briefly be summarized in **Annexure A**.

(2)(a) The Harties Metsi a Me Integrated Biological Remediation Programme) started with the development of the Phase I Business Plan in July 2006 after Rand Water was appointed as Implementing Agent.

(2)(b) The yearly expenditure of the HDRP since it started was:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **06/07** | **07/08** | **08/09** | **09/10** | **10/11** | **11/12** | **12/13** | **13/14** | **14/15** | **15/16** | **TOTAL** |
| **998** | **9,518** | **24,999** | **20,500** | **20,552** | **18,447** | **26,837** | **28,331**  | **17,473** | **5,580** | **167,660** |

**\*** Up to July 2015

(3) My Department plans to expand the successful pilot of the Hartbeespoort Dam Integrated Biological Remediation Programme to full scale implementation in the Hartbeespoort Dam and the upper catchment. This holistic and comprehensive Catchment solutions as developed and pilot implemented for the Hartbeespoort Dam will also be taken to other dams and catchments with additional alternative biological solutions.

(4) The Rietfontein Wastewater Treatment Plant upstream of the dam in the Swart Spruit is not functioning optimally as no refurbishment and upgrading of the Plant have happened since the last visit by the Portfolio Committee of Water and Sanitation. One aerator is still working hence partially treated anaerobic effluent is discharged.

(5) Yes, my Department has put in place measures to stop the flow of raw sewage into the Hartbeespoort Dam from pump stations. To date, the pumping capacity has been restored at the 13 pump stations and work is underway to reinstate the standby capacity (redundancy) as well.

The sewer pump stations owned by Madibeng Local Authority were upgraded and refurbished in the past, but could not be handed back to Madibeng Local Municipality due to outstanding work. The operations and maintenance of these pump stations remain the waste water service responsibility of the Water Services Authority but my Department will continue to support towards complete restoration.

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**Annexure A**

The outcomes can briefly be summarised under the following points

1. Since 2009 more frequent and prolonged clear water has been recorded with a succession to the higher order filamentous algae starting to dominate during these periods with less of the single cellmicrocystis (blue-green) algae;
2. The improvement of aquatic diversity in the Hartbeespoort dam, as a direct result from the Metsi a Me Programme, is still displaying an increasing trend on all trophic levels with more species and numbers recorded and documented in the bio-monitoring reports. This includes different fish and bird species. The Red Knobbed Coot alone has increased from a few hundred when the Programme started to more than four thousand at the moment. This increase in bird species has also resulted in an additional add on advantage as a natural hyacinth control with the Coot also feeding on the invader plants. The summary of results from the food web restructuring project (removal of undesired bottom feeding fish species - Carp and Catfish) from the Hartbeespoort dam is summarised below:

|  |
| --- |
| **Food web Restructuring (Fish Removal)** |
| **YEAR** | **Catfish** | **Carp** | **Bi-Catch** | **Total** |
| **Feb ‘08 - Dec ‘09** | 37527.25 | 24361.59 | 3915.31 | 65804.15 |
| **2010/11 (April ‘10 – March ‘11)** | 9159.30 | 14416.70 | 89.30 | 23665.30 |
| **2011/12 (April ‘11 – March ‘12)** | 34991.10 | 45856.20 | 76.50 | 80923.80 |
| **2012/13 (April ’12 - March ‘12)** | 16878.60 | 35311.80 | 18.80 | 52209.2 |
| **2013/14 (April ’13 to March ‘14)** | 20186.6 | 29278.5 | 18.8 | 49483.9 |
| **2014/15 (April ’14 to March ‘15)** | 9592.4 | 28280.1 | 10.8 | 37883.3 |
| **2015/16 (April ’15 to end July)** | 756.1\* | 6556.1\* | 0 | 7312.2\* |
| **Total** | **129091.35** | **184060.99** | **4127.51** | **317279.85** |

 **\*** Up to July 2015

1. More than three kilometers of shoreline has already been remediated with Floating Wetlands (960 units of 2x2m) of improved stability and functionality since 2010.
2. To control (concentrate, contain and remove) algae, hyacinths, litter and debris more than 1.8 km of floating booms with different designed curtains have been constructed and placed at strategic locations around the dam. These are maintained and refurbished annually with continuous improvements.

This has enabled the effective removal of the following algae, hyacinths and debris over the duration of the Programme:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 07/8 | 08/9 | 09/10 | 10/11 | 11/12 | 12/13 | 13/14 | 14/15 | 15/16**\*** | **TOTAL** |
| Algae (m3) | 6040 | 5207 | 4445 | 360 | 1570 | 14515 | 9690 | 15335 | 9008 | **66170.9** |
| Hyacinth (m3) | 4826 | 9536 | 9500 | 10986 | 25031 | 24398 | 48269 | 46463 | 34289 | **213296** |
| Debris (Tons) | 15 | 165 | 374 | 1161 | 656 | 242 | 3467 | 773 | 550 | **7403** |

 **\*** Up to July 2015

1. The first phase of pilot dredging was completed at the dam wall (jelly layer pumping) and is ongoing with the ability for further investigations on the hydrodynamics of the dam during changing flow regime and different weather conditions. The proposed sediment management reports and recommendations are now available for evaluation and consideration.
2. Awareness programs with different groups visiting (including schools) are ongoing at the Information, Communication and knowledge Centre (ICC), which was developed with the support and sponsorship from Finland (North-South Cooperation between City of Lahti, Bojanala District Municipality & Madibeng Local Authority). The awareness include anti-desertification concepts introducing the “Big Five” actions to Conserve Water and Safe the Environment;
3. The Phase III Business Plan (HDRP Full Scale Implementation and Extension to other dams and Catchments) is still in a process to be finalized by February 2016.**This Phase III Business Plan will also include alternative biological solutions to deal with eutrophication going into the future.**
4. All the different activities constituted in the HDRP were achieved with a professional specialist team and an average annual labor force of 110 employees appointed semi-permanent over the past 9 years:

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| --- |
| **Metsi a Me Work Creation** |
| 20\_\_ | 07/08 | 08/09 | 09/10 | 10/11 | 11/12 | 12/13 | 13/14 | 14/15 | 15/16 |
| Full Time | 40 | 60 | 75 | 90 | 87 | 85 | 93 | 104 | 111 |
| Temporary | 20 | 30 | 20 | 15 | 20 | 33 | 7 |  |  |
| Roodeplaat Dam |  | 90 |  |  |  |  |  |  |  |
| EPWP |  |  |  |  | Average 40 | Average 20 |  |  |  |
| **TOTAL** | **60** | **180** | **95** | **105** | **147** | **138** | **108** | **104** | **111** |