water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

MINISTRY
Received
03 JUL 2012
WATER & ENVIRONMENTAL AFFAIRS

EdST

Enquiries: Ms T Sigwaza
Telephone: 012 336 6600
Reference: 2/1/5/1

MINISTER OF WATER AND ENVIRONMENTAL AFFAIRS

NATIONAL ASSEMBLY: QUESTION 1686 FOR WRITTEN REPLY

A draft reply to the above question asked by Mrs M Wenger (DA) is attached for your consideration.

DIRECTOR-GENERAL

DATE: 03/07/2012

DRAFT REPLY APPROVED/~~AMENDED~~

① Do not attach the annexure, send the 2page response only

② DG and his team should make time to brief me on these reports as it is not helpful to keep answering questions and refering to reports I have never seen, nor been briefed about

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

DATE: 2012/07/07

NATIONAL ASSEMBLY

FOR WRITTEN REPLY

QUESTION NO 1686

DATE OF PUBLICATION IN INTERNAL QUESTION PAPER: 22 JUNE 2012 (INTERNAL QUESTION PAPER NO. 19)

1686. Mrs M Wenger (DA) to ask the Minister of Water and Environmental Affairs:

(1) What is the purpose of all fog harvesting projects that are being conducted by the (a) Water Research Commission and (b) Department of Water;

(2) whether the Department of Water has procured any fog harvesting technology for use in any of its projects since 1 April 2010; if not, why not; if so, what are the relevant details;

(3) whether the projects on fog harvesting in which the Water Research Commission is involved exist for the purpose of developing fog harvesting technology; if not, what is the position in this regard; if so, why is the Water Research Commission involved in such projects when this technology already exists in the private sector? NW2033E

---00O00---

REPLY

(1) South Africa is a water scarce country which is further exacerbated by the seasonality and uneven distribution of rainfall across the country. Assurance of water supply in rural environments remains a particular challenge. In many cases, the possibility of extending conventional reticulation infrastructure to ensure piped water is limited and more innovative solutions need to be found. Fog water harvesting in low rainfall areas has the potential to enhance water security of these communities.

An examination of technological and system optimisation to make fog water harvesting a sustainable water supply in appropriate settings is the driver behind the Water Research Commission (WRC) fog water projects.

The first WRC funded study began in 1995 with the main aims to:

- Determine the feasibility of using fog to supplement existing water supplies in water-scarce parts of the country, and
- Assess design concepts for a fog water collection system.

The findings of the study are published in a report titled ***The South African Fog Water Collection Project*** (WRC Report No. 671/1/1999). The general findings of the study were that it was feasible to harvest appreciable quantities of good quality water from fog, and the volumes collected seemed to be dependent on the density of fog and wind movement. This had implications for the design of a collection system and thus the study recommended the erection of small prototype of the collection unit at one or two areas to determine how the design could function in practice.

This led to a second WRC funded study titled ***Implementation of an Operational Prototype Fog Water Collection System: Project Implementation*** (WRC Report No. 902/1/02) whose aims were to design, erect and operate a fog water collection system to provide water to rural communities, and to research factors like wet events, chemical and biological analyses of water samples that are associated with water collection at the site. The Tshanowa Junior Primary School at the crest of the Soutpansberg Mountains in the Limpopo Province and at the Lepelfontein village on the West Coast, were selected as suitable sites to implement the project. Fully operational fog harvesting systems were installed, and after a three-year monitoring and a number of experiments and development (including resizing the system) the project was finalised in which the structure design and specifications were published.

There has been further testing and experimentation on this Fog Water Collection System in different parts of the country. An example is the launch of the system in Cabazane Village (Alfred Nzo DM), Eastern Cape, and in many other areas. The results are that the system is not necessarily universally applicable because of the spatial and temporal variation in fog characteristics and types.

Therefore, as it is found that although the principles for the technology is well founded, the designs are area and context specific and that there is no comprehensive guide to define the suitable criteria needed for a location to be suitable for this technology and hence the 2011 research commissioned by the WRC for a more comprehensive, four-year study (K5/2059) titled ***Optimising Fog Water Harvesting*** which commenced in April 2011 to further enhance the system.

All WRC reports are available free to the public via the ***knowledge hub*** on the WRC website – www.wrc.org.za.

(2) The Department has not procured any fog harvesting technology for use in any of its projects since 1 April 2010 as all pilots were done by the WRC.

(3) The private sector does have some technology but municipalities and communities must be advised on how to use and purchase technologies. From the WRC studies, guidelines are developed for this purpose. The current WRC project which began in April 2011 has been designed to further optimise the fog harvesting processes and examine the extent of the environmental impact of fog water collection systems which the private sector will not do. An important product of this study will be a South African Atlas of Fog Harvesting Potential which will map out the areas of the country with the best potential for Fog Water capture. This will be an invaluable contribution to the planning for both government and private sector agencies to roll out this water supply augmentation option.

---00O00---