

PEMPHIS



Environmental Newsletter
Ministry of Environment and Energy

50th Edition



P50

▶ **ENVIRONMENT SECTOR**

EDITOR'S NOTE

Alhamdulillah,

As editor, it is my utmost pleasure to bring to you the 50th edition to Pemphis. I take the opportunity to thank our contributors and all others involved over the years in bringing to you this newsletter.

While we mark the 50th edition, it would be an utter shame to neglect the founders of this newsletter; therefore it is of my duty to congratulate and acknowledge the minds who drove the idea to a reality.

“Environment Research Centre” took the initiative and published the first Pemphis in May 2007, with the aim to promote environmental awareness among students and the general public. With God's will, the current Pemphis team would strive to undertake this challenge to our level best.



NOTES FROM THE MINISTER

Since the late 1980s, when environmental issues gained prominence in the Maldives, the sector has achieved significant progress, particularly in terms of developing technical capacity, institutionalising necessary legal and regulatory frameworks and establishing the needed institutional mechanisms. Concurrent to this, much effort has also been directed towards enhancing awareness on environmental issues.

Pemphis is a part of this effort. Over the years it has been a vital tool to disseminate information on, and enhance public awareness on environmental issues facing the nation. This edition marks the 50th issue of Pemphis. I take the opportunity to thank the past and current contributors to Pemphis. I look forward to further strengthening the work of Pemphis and enhance our engagement with the readers.

MR. THORIQ IBRAHIM

Pemphis acidula (Kuredhi)

“PEMPHIS” is named after the plant *Pemphis acidula*. It is a marine and terrestrial plant which grows along the beaches of islands. On this 50th edition PEMPHIS here are some information about this plant.

Description

Pemphis acidula is robust species which is widely spread in Maldives. This is a fast growing and densely branched small tree which grows on the intertidal zone where salt water reaches its root during high tide. *P. acidula* grows on calcareous rocky and sandy beaches. This species acts as a wind barrier to the island. It is a very sturdy and resilient plant, however, it will not grow anywhere other than the appropriate habitat type.

P. acidula has tap root system with main root tapping deep into the ground and lateral roots are highly branched and lies shallow tightly packed.

Stem is woody, twisted, highly branched and sometimes lies almost on the ground. It grows up to 4 – 6 meters tall.

Leaves are simple, bluntly acute at the tip, opposite in arrangement, hairy on both sides and 0.5 to 2 cm long.

Inflorescence is axillary. Calyx is tubular, 12-lobed, hairy and green in colour. Petals are separate, 6 in number and white or pinkish white in colour.

Fruit of *P. acidula* are about 1cm long with round apex. The fruits are green when young and brown when matured. Each fruit contains 20-30 seeds.

The fruits float on water and sometimes dispersed by water currents.

Uses and Importance

P. acidula is one of the most favored timbers in Maldives. It is used for boat building, particularly to hold the beams together. It is also used to carve tool handles, chess coins and other handicrafts.

As this plant is mainly found on the green belt surrounding the islands, it acts as a wind barrier to the island and aids in stabilization of the sand on the beach. The roots of this tree reinforce the soil increasing the strength of the soil. This helps to prevent coastal erosion.

Classification

Kingdom: **Plantae**

Phylum: **Tracheophyta**

Class: **Magnoliopsida**

Order: **Myrtales**

Family: **Lythraceae**

Genus: **Pemphis**

Species: **acidula**



HISTORICAL REFERENCES OF SOME ENVIRONMENTAL LAWS

1933. SULTAN MOHAMED SHAMSUDHIN III

25TH APRIL. PASSED A LAW ON THE SALE OF GOVERNMENT TIMBER.

-For every palm or breadfruit tree felled, 4 additional were to be planted

7TH MAY. PASSED A LAW TO CONTROL THE SPREAD OF DISEASES

-Mechanisms were set to collect and dispose household wastes

-banned open defecation on the beach areas

-Established public toilets

-Planted shady trees on the road sides

-Food set for sale were to be hygienically covered

-Decreed to separate and distance the used and waste water seepage from the water wells

SECOND WORLD WAR

1942

-Representatives from the King were sent throughout the nation to advocate on the importance of planting trees

-Tree plantation programmes were carried out in Male'

1945

-A palm committee was established

1993. ENVIRONMENT PROTECTION AND PRESERVATION ACT OF MALDIVES

93/4

"The natural environment and its resources are a national heritage that needs to be protected and preserved for the benefit of future generations. The protection and preservation of the country's land and water resources, flora and fauna as well as the beaches, reefs, lagoons and all natural habitats are important for the sustainable development of the country."

MINISTERS & OFFICIALS INCHARGE OF THE ENVIRONMENT SECTOR

Ministry of Home Affairs & Social Services

Umar Zahir
Minister
21 MAY 1984 - 12 DEC 1988

Ismail Shafeeu
Deputy Minister
05 JAN 1989 - 22 FEB 1990

Hussain Shihaab
Director Environmental Affairs
30 MAY 1990 - 27 MAR 1991

1984
21 MAY

Abdul Rasheed Hussain
Acting Deputy Minister
12 DEC 1988 - 5 JAN 1989

Fathullah Jameel
State Minister
22 FEB 1990 - 30 MAY 1990

Ismail Shafeeu
Minister
27 MAR 1991 - 11 NOV 1993

Ministry of Planning, Human Resources and Environment

Ismail Shafeeu
Minister
11 NOV 1993 - 06 NOV 1996

1993
11 NOV

Abdul Rasheed Hussain
Minister
06 NOV 1996 - 11 NOV 1998

Ministry of Home Affairs, Housing and Environment

Abdul Aziz Yousuf
Deputy Minister
09 OCT 2002 - 07 APR 2003

1998
11 NOV

Ismail Shafeeu
Minister
11 NOV 1998 - 09 OCT 2002

Abdullahi Majeedh
Deputy Minister
07 APR 2003 - 11 NOV 2003

Ministry of Home Affairs and Environment

2003
11 NOV

Ismail Shafeeu
Minister
11 NOV 2003 - 01 SEP 2004

Ministry of Environment and Construction

Abdullah Kamaaludhin
Acting Minister
10 OCT 2004 - 14 JUL 2005

2004
01 SEP

Abdullahi Majeedh
Deputy Minister
01 SEP 2004 - 10 OCT 2004

MINISTERS & OFFICIALS INCHARGE OF THE ENVIRONMENT SECTOR

Ministry of Environment, Energy and Water

2005
14 JUL

Ahmed Abdulla
Minister
14 JUL 2005 - 31 AUG 2008

Ahmed Mausoom
Minister
29 AUG 2008 - 11 NOV 2008

Ministry of Housing, Transport and Environment

2008
12 NOV

Mohamed Aslam
Minister
12 NOV 2008 - 29 JUN 2010

Ministry of Housing and Environment

2010
07 JUL

Mohamed Aslam
Minister
07 JUL 2010 - 08 FEB 2012

Ministry of Housing and Environment

2012
19 FEB

Dr. Mohamed Muizzu
Minister
19 FEB 2012- 21 MAY 2012

Mohamed Aslam
Minister
07 JUL 2010 - 08 FEB 2012

Ministry of Environment and Energy

2012
21 MAY

Dr. Mariyam Shakeela
Minister
21 MAY 2012- 10 NOV 2013

Thoriq Ibrahim
Minister
19 NOV 2013

ENVIRONMENT SECTOR IN THE GOVERNMENT

A council for environment protection was formed in 21 May 1984 under "Ministry of Home Affairs and Social Services". The main objective of the council was to advice the government on environmental issues, particularly environmental impacts associated with developmental projects.

1. Minister of Home Affairs and Social Services Honourable Umar Zahir
2. Executive Secretary of the President Mr. Abdul Rasheed Hussain
3. Director General of Department of Tourism Mr. Ahmed Zahir
4. Director General of Ministry of Health Services Dr. Abdul Samad Abdullah
5. Senior Under- Secretary of Ministry of Education Mr. Abdullah Rasheed
6. Senior Under- Secretary of Ministry of Atolls Administration Mr. Abdul Hameedh Ahmed Didi
7. Senior Under- Secretary of Ministry of Agriculture Mr. Abdul Aziz Abdul Hakeem
8. Deputy Director of "Dhivehi Raajjeyge Adu" Mr. Ibrahim Manik
9. Senior Under- Secretary of Ministry of Transport and Shipping Mr. Ahmed Shareef
10. Lawyer of Ministry of Planning and Development Mohamed Saeedh
11. Senior Fisheries Development Officer of Ministry of Fisheries Mr. Maizaan Hassan Manik
12. Lawyer of Ministry of Defence and National Security Mr. Ibrahim Mohamed Manik

1986. ENVIRONMENT SECTION WAS FORMED

On 14th January 1987, the post of Environment Officer was created and Mr. Mohamed Zahir was assigned as the first environment officer.

The responsibilities of this post included:

- Monitor and report coastal waves
- Make environmental reports by gathering, monitoring and analysing environmental data
- Coordinate and monitor environmental awareness programmes
- Conduct environment related surveys
- Promote environmental awareness among the public

1988. MINISTRY STATUS FOR ENVIRONMENT

"Ministry of Planning and Environment" was formed with the expansion of environment related works.



WATER SECURITY IN MALDIVES

22ND MARCH: WATER DAY

WATER AND SUSTAINABLE DEVELOPMENT

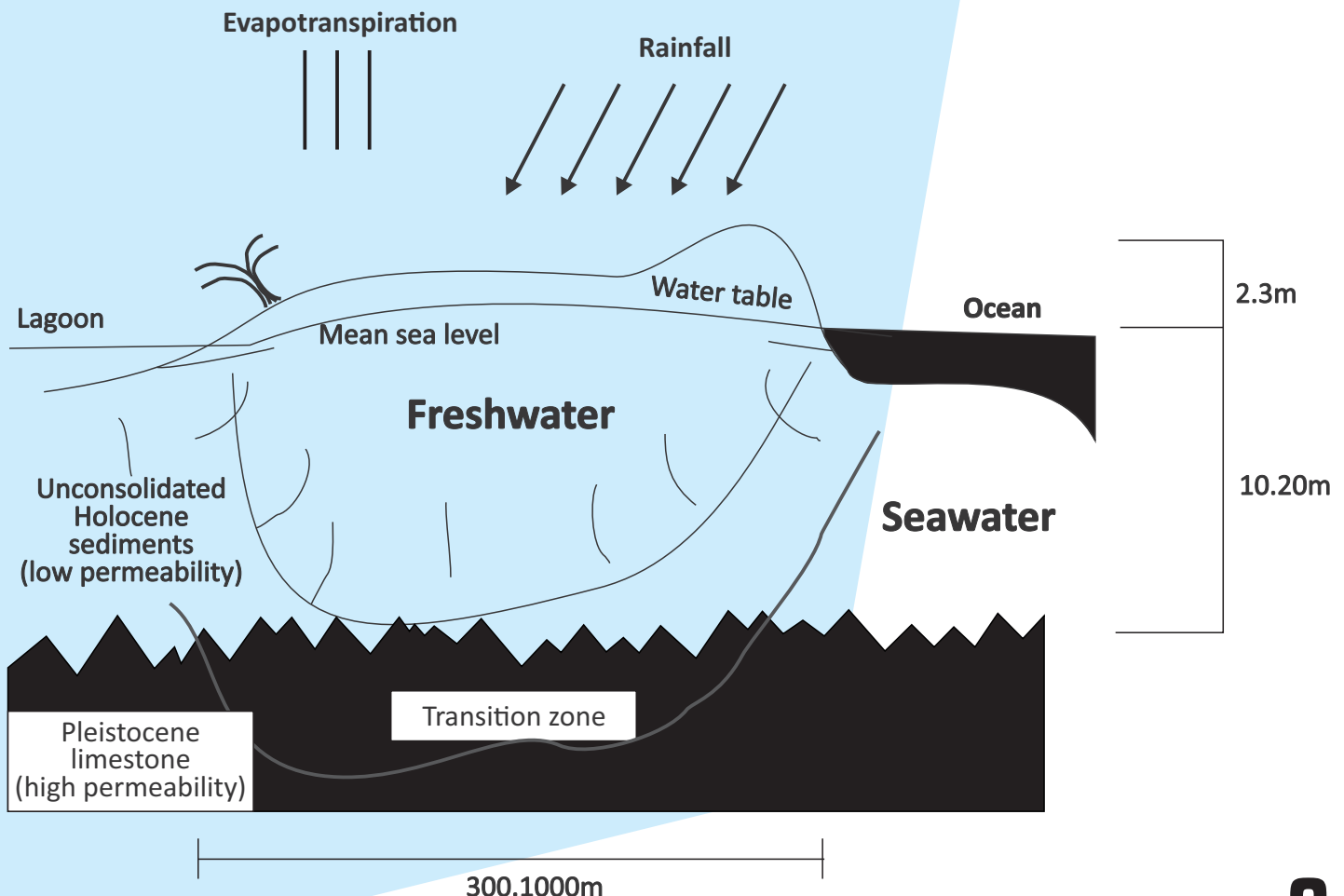
2015
THEME

Maldives consist of small, low-lying, flat, coral islands spread over more than 90,000 sq. km. The islands rise to an average of 1.5 m above sea level. Being a small island nation, the country is limited in terms of land area and fresh water resources. However, the demand for water resources is continuously increasing. This increase is being driven not only by population but also by the aspirations of that population for an ever increasing standard of living. At the same time, the capacity to meet this demand is in decline due to, amongst others, over harvesting, inappropriate agricultural practices and pollution.

The only conventional water resources available on islands in Maldives are confined to shallow ground water aquifers and rainwater. The non-conventional water resources include desalinated water and bottled water from both imported and local production.

Freshwater is scarce in the Maldives due to the typical hydrogeology of the small islands surrounded by seawater. Surface freshwater is generally lacking throughout the country. The freshwater aquifer lying beneath the islands is a shallow lens, 1 to 1.5m below the ground surface and not more than a few meters thick, susceptible to pollution and contamination. The freshwater aquifer is dependent on rainfall recharge which is becoming more variable in a changing global climate. The key issues to be addressed are then related to the management of saline groundwater and variable rainfall patterns.

The groundwater aquifers on many of the islands are severely contaminated with untreated domestic wastewater discharged into ground due to absence of appropriate wastewater treatment and disposal system.

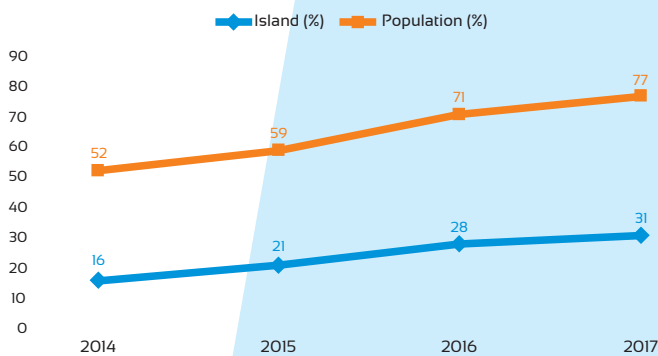


Furthermore, the freshwater aquifers having limited storage potential are already stressed from over-extraction and face the risk of partial or total depletion. This already precarious hydrological system is further aggravated by climate change-induced effects of sea level rise, inundation and flooding during extreme weather events, which increases saltwater intrusion into the freshwater lens. The increasing salinization of fresh groundwater lens is affecting the quality of life in the islands, and also affecting soil and vegetation, causing adverse impacts on agriculture and terrestrial ecosystems.

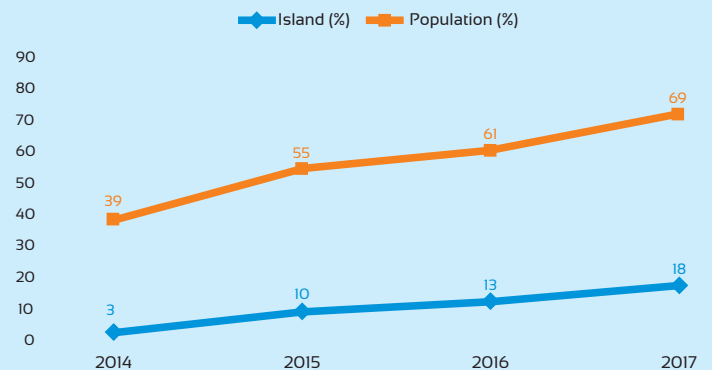
The Indian Ocean Tsunami of December 2004 aggravated the situation further by salt water intrusion into the groundwater lens and contamination of the groundwater from prevailing onsite sewerage disposal systems in the islands to an unusable extent. Proper sanitation services are required to protect public health and the environment, particularly the groundwater resources in the islands. Increased groundwater pollution and demand by the community for higher levels of services, along with socioeconomic development, has underlined the need for immediate action to improve sanitation services in the atolls through provision of appropriate sewerage treatment and disposal systems.

Government initiated provision of sewerage and water supply facilities for the tsunami affected islands through external assistance received by means of loans and grants. Individual household water storage capacity had been enhanced by provision of 2500 liter capacity storage tanks (HDPE tanks) to all the islands across the country with installation of 50 desalination plants for emergency use in the affected islands. These small RO plants are installed as a supplementary water supply source and are mainly used during emergencies in the dry period. However, due to lack of technical and financial capacity in the islands, most of the plants are currently not in a functional status. Currently, 31 islands have improved sewerage systems and 06 islands have desalinated piped water supply systems with household connections.

DEVELOPMENT IN PERCENTAGE OF SEWERAGE SYSTEM



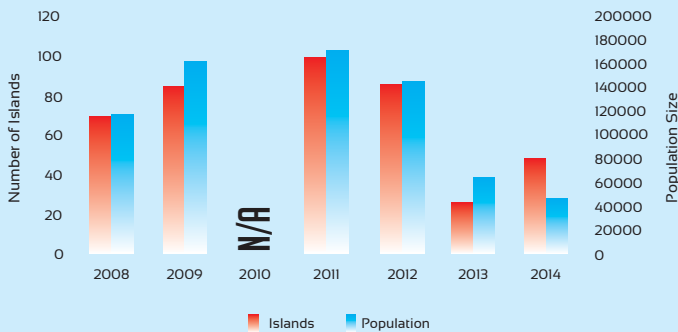
DEVELOPMENT IN PERCENTAGE OF WATER SUPPLY SYSTEM



The demand for desalinated water increases throughout the country during the dry period. Transporting desalinated water to the dispersed populations has been a challenge over the years as more islands face problems of water scarcity each year. Over 50% of the islands report acute water shortages due to the prolonged dry period every year and the National Disaster Management Center (NDMC) has transported desalinated water to these islands at high costs. The water shortage problem has exacerbated as the changes in precipitation have impacted the rainwater harvested across all the atolls. Drinking water shortages during dry periods is a significant challenge for the atoll population

In order to reduce the barriers to effective climate change adaptation in the water management sector, it is essential to reinforce the perspective of Integrated Water Resource Management (IWRM). This will ensure that measures responding to climate change related risks are addressed in concert with basic development problems such as insufficient sewage and wastewater treatment and lack of environmental awareness. The IWRM projects that have been initiated in the country will be developed through integration and pooling of available water resources, both conventional and non-conventional, including rainwater and desalinated water along with strengthening of the institutional capacity, water management and water governance.

Number Island and the population with Dry Period Impact



The key national policy on water and sanitation has always been to provide access to safe drinking water and improved sanitation to all Maldivians. Provision of safe drinking water and adequate sewerage systems to all Maldivians has been enshrined as a constitutional right. The Government of Maldives is also committed to the goals of the International Decade for Action and the Millennium Development Goals, including goal 7, Target 10: “Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation” and is exerting every effort to increase the number of people with access to safe drinking water and improved sanitation..

The current desalinated water supply and sewerage treatment systems in place require high energy to operate the systems. Given that the Maldives is dependent on imported fuel, the high operational costs arising from this have hampered the provision of water and sewerage services in a sustainable manner.. As such, some of the water supply projects are currently implemented with a renewable energy component to reduce the operational costs.

As the number of islands with water shortages during the dry period has increased over the years, the government has initiated projects to increase rainwater harvesting and storage capacity, particularly targeting islands with small populations. Water storage will be increased up to 30 tons by provision of community water tanks for rainwater harvesting facilities in these islands. Islands with high and medium populations will utilize RO desalination plants, water supply networks with integrated rainwater supply

MARCH 23: WORLD METEOROLOGY DAY SPECIAL

“Climate Knowledge for Climate Action”

“World Meteorological Day is celebrated every year on 23 March to commemorate the entry into force in 1950 of the convention that created the World Meteorological Organization.”

1987 TIDAL WAVES. MALDIVES

BASED ON UNDR0 SITUATION REPORT

Since the entire archipelago of Maldives was severely hit on 11th April 1987, the government requested UNDR0 to appeal for international assistance to cope with the natural disaster.

- One third of Male' was affected by severe flooding from the tidal waves. Breakwaters, retaining walls, coastal roads, Hulhule International Airport, access harbour, fuel jetty, radio antenna were among the damaged coastal infrastructure.
- Night flights of the only International airport of that time, Hulhule was halted due to the damages.
- Repair works was estimated at 6 million dollars.
- Some houses were destroyed.
- Around 300 people were relocated.
- No life lost.
- 13 atolls of were reportedly impacted by the disaster.

INTERNATIONAL ASSISTANCE. 1987 TIDAL WAVE

Following nations and countries provided assistance following the disaster

World Meteorological Organization

Bhutan

China

Cuba

Federation Republic of Germany

Japan

Nepal

New Zealand

Singapore

Sri Lanka

UK

USA

USSR

Islamic Call Society

Maldives Libyan Brotherhood Society

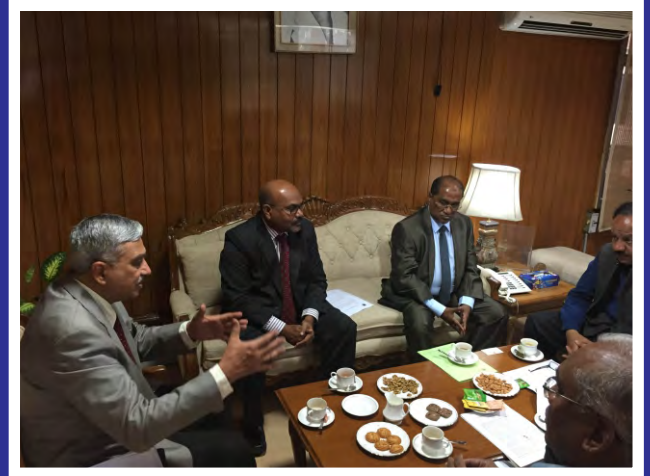
Save the Children USA



MONTH IN REVIEW

01 March - Minister of State for Environment and Energy, Mr. Abdullahi Majeed called on the Minister of Science & Technology and Earth Sciences Dr. Harsh Vardhan to discuss issues relating to Regional Integrated Multi-Hazard Early Warning Systems (RIMES).

Issues relating to an interim funding mechanism for RIMES till it is integrated into national budgets of members countries were discussed in the meeting. The Ministers also discussed the proposed second Master Plan for 2015-20 to be prepared through the sub-group of RIMES Ministers, constituted by the First RIMES Ministerial Conference. IMES second Ministers Conference could be fixed in mid-April to adopt RIMES second Master Plan (2015-2020) which would guide RIMES program implementation during this period.



02 March - Renewable Energy Resource Mapping Workshop



The workshop was opened by Permanent Secretary of Ministry of Environment and Energy, Mr. Ajwad Musthafa. During his remarks Mr. Ajwad Musthafa highlighted the importance of reliable and bankable data for potential investors and donors for large scale projects. He also thanked World Bank for providing assistance to this project.

The workshop is part of the solar and wind resource mapping project which was started in August 2014. In this workshop, a summary draft of solar and wind modelling report and site identification report proposal for the first phase of the project were shared with relevant stakeholders from the government and private sector. Preparation for the second phase of the project, which will include site identification to install data mapping equipment is schedule to begin following the conclusion of this workshop.

10 March - Contract signed for building coastal protection structures at Th.Kandoodhoo and Th.Veymandoo

A contract agreement was signed between Ministry of Environment and Energy and SAS-e construction Pvt. Ltd. and Senok Trade combine Pvt. Ltd. (JV) to design and build coastal protection structures in Thaa Kandoodhoo and Thaa Veymandoo. These islands are among the islands approved for Public Sector Investment Plan (PSIP) projects related to coastal protection works for 2015.

With the construction of 706m of geobag revetment on north side of Kandoodhoo and 205m geobag revetment on west side of Veymandoo. The project is expected to be completed within 8 months.



12 March - Training Workshop on CITES held for the staffs of Maldives Customs Service.



A Training Workshop on "Convention on International Trade of Endangered Species of Wild Fauna and Flora" (CITES), targeted for the staffs of Maldives Customs Services was held on 12 March.

This training programme, in which 30 customs officers participated, is the second of such trainings held thus far. The training programme highlighted the responsibilities of customs officers in implementing the Convention. As the enforcement agency for the CITES in the Maldives, the Maldives Customs Service is responsible for document inspection, physical inspection of the species and specimens and validation of information on the CITES permit.

CITES entered into force on the 1st of July 1975, and is currently ratified by 180 parties. Any species listed under CITES can only be imported or exported if they are accompanied by the relevant and valid CITES permit.

15 March - Minister Thoriq Ibrahim delivers statement on behalf of the AOSIS during the Third UN World Conference on Disaster Risk Reduction

As the Chair of the AOSIS, the Maldives delivered a statement on behalf of the AOSIS countries at the Third UN World Conference on Disaster Risk Reduction. Minister Thoriq Ibrahim, as the head of the delegation from the Maldives, delivered the statement and noted the importance of taking into account the specific and inherent vulnerabilities of small island developing states (SIDS) in the formulation of global strategies on disaster risk reduction.

The Third UN World Conference on Disaster Risk Reduction is being held at Sendai, Japan from the 14th to 18th of March 2015. The Conference will review the Hyogo Framework of Action and formulate a global strategy on disaster risk reduction for the post-2015. The Maldives as the Chair of AOSIS will play a critical role in the negotiations during the Conference. The AOSIS is an alliance of 44 low lying and coastal countries.



22 March: MEE Celebrates World Water Day, in Haa Alif Ihavandhoo



On regard to this year's World Environment Day "Water and Sustainable Development", events were held in Ihavandhoo on the occasion. A children's festival were among the activities held with the aim to raise awareness regarding the importance of water among the children



Fehi Faiy

Submissions Open: 22 Feb to 10 Apr 2015

**Application form available from:
Ministry of Environment and Energy
&
www.environment.gov.mv**

www.gazette.gov.mv/v3/iulaan/view/25408
Iulaan

Environment Day Photography Competition



Submission deadline:
5th
May 2015



CATEGORIES Environment & Sustainable Development
Environmental Impacts
Culture through Biodiversity
Environment and the Human

Application
forms

Ministry of Environment & Energy
& www.environment.gov.mv

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Midhath Abdul Rasheed
Mohamed Furaz Shihab
Fazeela Ahmed Shaheem
Hassan Nidham
Aishath Huma
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We welcome all comments on the articles.

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