

A Trip to - School of Energy, Environment and Natural Resources, Madurai Kamaraj University



BY-

**S.H.Reshma Rathi,
Sky Team Leader, KAP.**

We the young scientists were waiting for the day on which we are to travel to Madurai. Our

Organiser Shri. Mullanchery M. Velaian arranged a comfortable video coach bus for us to go to Madurai. In spite of the strike announced by the state government, we started from Nagercoil at about 7.30 p.m. on 23 April 2009. It was an exciting and enjoyable trip. We all had fun. We had a comfortable stay at IMA building, Madurai.

The programme started with a welcome address by Dr. A.K. Kumaraguru – Member Syndicate, Madurai Kamaraj University and Dr. Samuel Paul Raj- Chairperson, School of Energy, Environment and Natural Resources presided over the function. Our Organiser Shri. Mullanchery M. Velaian gave the introductory address. Dr. S. Shanmugaiah- Controller of Examinations delivered his inaugural address and released the souvenir, which contains the study report of various teams of Kumari Arivial

Peravai. The souvenir was first received by Prof. T. James Wilson- Vice Chairman, Marthandam College of Engineering.

Felicitations were given by Prof. James Wilson, Shri. Gopalan- Academic Coordinator, NVKS Higher Secondary School, Shri. Johnson – Headmaster (Kalkurichi) and Shri. Joe Prakash- National Green Corps.

Next started the presentation of young scientists report. First presentation was given by the Sky team on the topic “Reasons for Climate Change leading towards Global Warming”, followed by Water team on the topic “Water Resources and Natural Disasters”. Next came the Earth team with the topic “Sea level rise & Erosion of Coastal Zones” followed by the Air team regarding “Affecting Agriculture & Endangering food security” and lastly by the Fire team on the topic “Dangers of Biodiversity and Spread of vector borne diseases”.



We had Mrs. P.Pabitha, Mrs. U. Hema, Ms. Meena, Shri. Karthik Kumar, Dr. Gloria Dhas, Shri. Manonmani and Shri. K. Siva Rama Sundaram, all of them the Research Scholars of Madurai Kamaraj University as our moderators during our Power Point Presentations on various topics. The moderators drilled us on our topics and gave suggestions.

After lunch Dr. R.V. Jeba Rajashekar- Scientific Associate (Research), Regional Test Centre (Solar Thermal), M.K. University delivered a lecture on “A sustainable means to mitigate climate change”. We observed the following from his lecture:

- ⊕ The surface temperature of the sun is 6,000 Kelvin and its core temperature is 4,00,00,000 Kelvin.
- ⊕ The diameter of the sun equals to 13,90,000 km.
- ⊕ Solar power is one of the best alternative fuels that can be used in place of today's polluting fuels.
- ⊕ A solar water heater has three parts- a glass piece, a copper plate coated with black chromium oxide paint and an insulating piece.
- ⊕ A FP Solar Water heater has a capacity of 100 litres. It can rise the temperature of water until 60 to 70 °C. $[\eta = \frac{mC_p(T_o - T_i)}{AcGT}]$. Its efficiency is 60%.
- ⊕ An ETC Solar Water Heater has a thermal collection efficiency of 60%.
- ⊕ Its advantages are –
 - No fuel; No pollution
 - Safe & simple to use
- ⊕ A solar air-heating system is used in drying and dehydration of fruits.
- ⊕ There are two types of solar cookers- box cooker and reflecting cooker.
- ⊕ A box cooker can be only used to cook foods. However, a reflecting cooker can be used to cook or fry food items.
- ⊕ The world's largest solar cooking system is located at Thirumala.
- ⊕ Features of R & D in solar thermal technology:
 - Selective coating/Anti reflective coating



- Alternate materials/Nano Materials
- Deployment of solar gadgets
- Storage of thermal energy
- Hybrid technology

In addition, we had a visit to the Regional Test Centre and observed the above-discussed points in detail.

Next came the valedictory session with the distribution of certificates by Dr. Samuel Paul Raj to the participants. In his valedictory address, he discussed the following:

- ⊕ There are five regional test centres in India and the test centre here is an important one and around 600 solar heaters are tested in five years.
- ⊕ He told about the characteristics of CFCs, PET bottles, polythene, etc.
- ⊕ Dioxin is emitted from plastics; no mapping equipment is available in India to detect it.
- ⊕ After 50 years due to the climatic change the coastal areas would sink. Especially Tuticorin in South India will be affected.

Shri. J. Joe Prakash- National Green Corps, KK District, conveyed the vote of thanks and the function ended with national anthem.

We thank Dr. S. Shanmugaiah- Controller of Examinations, Dr. A.K. Kumaraguru – Member Syndicate, Dr. Samuel Paul Raj- Chairperson, School of Energy, Environment and Natural resources, Dr. R.V. Jeba Rajashekar- Scientific Associate (Research)- Regional Test Centre (Solar Thermal) and the faculties of School of Energy - Madurai Kamaraj

University for giving us this wonderful opportunity and also hospitality provided to us for the whole day.

We thank the IMA who provided us with a comfortable boarding and lodging and thank the Pallotine Christian Missionary, Madurai, for providing us a delicious feast in the night.

We wholeheartedly with full regards thank our Beloved Scientist, for their full support given to us and who tuned us to present the report in a successful manner.

Finally, we thank our Beloved Organizer Thiru.Mullanchery M.Velaian for giving us this excellent opportunity and we thank the team of Kumari Arivial Peravai for the care and consideration they gave us for the two days journey.

Thank you!