



DR. ANIL KUMAR RAJVANSHI

Recipient of the Award for Application of Science and Technology for Rural Development - 2001

Born: September 1, 1950

Educational Qualification: Master of Technology, Doctor of Philosophy (Mechanical Engineering)

Giving up a lucrative career in the United State of America, Dr. Rajvanshi returned to India in 1981 and joined the Nimbkar Agricultural Research Institute with a view to propagating sustainable rural development through the use of modern science and technology, tempered by ancient Indian philosophical thought. Dr. Rajvanshi has shown that it is possible to set up a good research and development (R&D) facility in rural areas and through the internet to export and inform the public about the technologies and services.

A number of activities inspired by improved rural technology have been undertaken in a field of rural development. A few of them are indicated below:

1. Solar distillation of fermented stem juice of sweet sorghum for the production of ethanol for cooking and lighting. New lanterns and stoves running on ethanol were developed and stem juice of sweet sorghum seed was used for the production of jaggery or syrup. This has become a promising enterprise in the rural area and three Maharashtra Agricultural Universities are working to popularise its use.
2. An efficient pressurised lantern called "Noorie" run on kerosene, ethanol or diesel producing the same light output as petromax with 40% less consumption of fuel was developed. This can also double up as a cooking stove. The Noorie has been exported to the United States of America where it is providing light in the blackout zones of California!
3. Development of novel technology in which soil bound water unavailable to roots for uptake is evaporated with the help of solar energy and condensed and collected for supply to the tree seedlings. Preliminary studies have shown 100% seedling survival in case of neem, leucaena and prosopis trees.
4. Development of Electric cycle rickshaw with 3 gears, one with back wheel braking.

Besides giving an extra income, it can go longer distances. 3 such type of rickshaws have been developed.

- a) Improved Pedal Cycle Rickshaw (IPCR)
- b) Motor Assisted Pedal Rickshaw (MAPR)
- c) A completely battery-driven rickshaw called ELECSHA.

These rickshaws can provide environmentally friendly energy efficient and cost effective transport system in rural areas and can replace the existing rickshaws. Some of these are being exported to United Kingdom (UK) and Germany. These rickshaws are running as taxis in Phaltan (Satara District) and have also been introduced in Lucknow and Pune.

Some of the future areas of research envisioned by Dr. Rajvanshi are:

1. Production of pyrolysis oil from agricultural residues for displacing diesel oil used in stationary engines.

2. Use of biomass residues for animal feed, fuel and fertiliser to carry out sustainable development of rural areas.
3. Setting up of sustainable development centre in Phaltan, which is based upon high-techagriculture, ancient Indian philosophical thought and use of local resources.

