



SEED COMMUNICATIONS

A Quarterly News Letter from
Society For Energy, Environment & Development

Volume : 6

No : 1

FROM THE DESK OF EDITOR

JANUARY - MARCH 2019

EDITORIAL BOARD MEMBERS

Dr. M. M. Krishna

Chief Editor

Prof. M. Ramakrishna Rao

Executive Editor

Prof. V. V. Kutumbarao

Convener

Dr. K. Vidyasagar

Member

Dr. I. Suresh

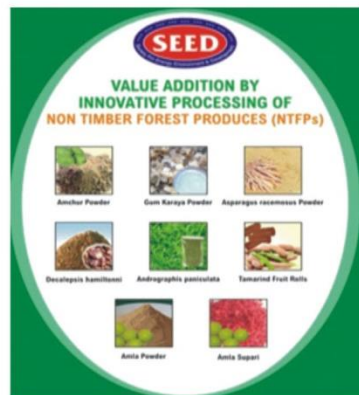
Member

Mrs. R. Shyamala

Member

Solar Energy Applications for Improved Livelihood of Tribal Population

It is a universal fact that tribal population in India is socially and economically vulnerable and their living conditions poor due to lack of basic amenities. The tribal population is the most deprived and vulnerable community that faces severe economic exclusion. Most tribes are concentrated in heavily forested areas that combine inaccessibility with limited political or economic significance.



Historically, the economy of most tribes was subsistence agriculture or hunting and gathering. Lack of post harvest technologies, absence of storage facilities, inadequate training programme and inadequate demonstration of new technology are some of the challenges faced by

the tribal farmers. This is a major problem that requires attention and needs social engineering to make tribal population adopt modern technology. The solar energy applications would raise standard of living of the community. The innovative solar cabinet dryer developed by SEED is one of the excellent solutions to problems faced this target population. Solar food processing involves the value addition of the products in the value chain. This value addition is achieved by processing of fruits, vegetables, spices, forest produce (NTFP) in a scientific method by dehydration process in innovative solar cabinet dryers. This gives an assured enhanced income to the tribal farmers.

SEED has been working on development of new products such as medicinal and Non-Timber Forest Produce

(NTFP) forest produce especially medicinal and herbal plants, vegetables & fruits with solar and osmo-solar processing technology. Development of methods/techniques for processing of NTFT for commercialization (roots, barks, flowers, leaves, arials, extracts). SEED has successfully developed processing methods and demonstrated commercial viability of NTFPs like Gum Karaya,



Asparagus racemosus, Decalepsishamiltonniand Andropogonispaniculate.

Also, fruits and vegetables grown in the tribal areas such as mango, amala, tamarind jack fruit and ginger can be processed in to commercially viable products like aamchur, amla powder, amla supari, tamarind powder & candyand ginger powder

etc using solar food processing. Further, processing and value addition to medicinal and aromatic plants available in the forest areas can be successfully commercialized the growing health conscious populations across India. This technology can efficiently improve the livelihood of tribal population by processing locally grown fruits & vegetables in solar cabinet dryers by using solar food processing techniques for value addition and preservation in shorter period as marketable products.

This can be a holistic approach to solve both social and economic issues of the tribal population with enhanced quality of life.

(Contributed by Dr. Suresh Itapu, Joint Secretary, SEED)

Kovel Foundation collaborates with SEED to support the Farmer Producer Organizations

By
Sri V. Krishna Rao
Kovel Foundation, Visakhapatnam

A large group of poorest of the poor tribal Gum Pickers whose needs are specific with regard to the economics and technicality of Gum Karaya (which is a sub-sector of NTFP livelihood), have come forward to organize themselves with a vision to enhance their quality of life through socio-economic empowerment and formed 'Kovel Foundation - An Apex organisation of 250 Girijan Gum Pickers Associations (GGPA) spread across 15 tribal concentrated Districts of Andhra Pradesh & Telangana States with a strong clientele base of 8500 tribal gum pickers. Having the core values of faith in the capacity of indigenous community, ecological integrity and accountability besides transparency, Kovel has been able to impact the lives of the tribals both tangibly and intangibly.

Strategically, Kovel Foundation collaborates with different development agencies at various levels to take up development initiatives for the empowerment of tribal communities across its operational area. As part of this, Kovel has been collaborating with SEED, Hyderabad in terms of research pilots and technology transfer to tribal collectives with regard to initiatives like promotion of value

addition through solar energy, food processing methods, research pilot studies on NTFP/Medicinal Plants, etc over the last decade and has been successful in establishing a fruitful association and benefitted the tribal community.

On 10th November, 2018, Mr T. Vijay Kumar, IAS., Advisor, Agriculture & Cooperation and Co-Vice Chairman, Rythu Sadhikara Samstha, Government of Andhra Pradesh visited Kovel operational area in Ananthagiri Mandal of Visakhapatnam District and inaugurated the NTFP/Agriculture Processing Center which is established in collaboration with SEED, Hyderabad for supporting the Farmer Producer Organization (FPO) in Chinthapaka Village.

The Advisor appreciated the collaborative efforts by both Kovel and SEED anticipating more such initiatives in the future for the welfare of the tribals.

The event was attended by the Asst. Collector, Visakhapatnam and officials of other partner NGOs.

Dr. Y. Sreenivasulu of 'SEED' explained the solar drying process and details to the audience.



'SEED' Solar Cabinet Dryers Operating at High Altitude in the Himalayan Region

Dehradun based Himalayan Environmental Studies & Conservation Organization (HESCO) has procured 19 'SEED' Solar Cabinet Dryers of various sizes during 2011 to 2018 to introduce solar food processing as an appropriate and renewable energy based technology for processing Himalayan fruits and vegetables. SEED has been continuously supporting HESCO with excellent after sales service so that the performance of dryers is at their best at all times.

In addition to the core activities of rural development, HESCO has been actively working on solar food processing technology as one of the areas of rural development and women empowerment in rural areas. They process sub-

tropical and temperate fruits and vegetables like apple, pears, peaches, plums, cherries, strawberries, as well as pineapple, amla, ginger, potato etc. as value added and marketable products. They are marketing the processed food products in the local markets across the region.

Though they also operate other models of Solar dryers like tunnel dryers, convective dryers etc., it is of utmost satisfaction for us to note that they have experienced great satisfaction with SEED Solar cabinet dryers. SEED hopes to further expand the dryer presence across the Himalayan region.

(Contributed by Mr. G. Hari Krishna, Engineering Division, SEED.)

Developed Exotic Fruit Bar (Kiwi Fruit Bar)

Kiwi fruit (*Actinidia deliciosa*) is a relatively a new crop in Indian markets. A lot of enterprising farmers are taking up the cultivation of these fruits in their backyard or farms to meet the emerging demand. Farmers from Himachal Pradesh and southern states of Kerala and Karnataka are showing interest in cultivation of this fruit. It is well known for its flavour and vitamin C content. Botanically, kiwi fruit is a berry with various locules filled with numerous small and soft black seeds. Shelf life of kiwi fruit is are short and require conservation techniques to enhance its commercial life. Once harvested, kiwi fruit need to be kept at low temperatures and such storage entails high energy costs and appropriate facilities. SEED has developed the technology to convert the Kiwi fruits into ready to eat and nutritious bars, with zero energy cost using Solar drying processing.

Nutritional value: Energy: 61 Kcal, Carbohydrates: 14.66g, Sugars: 8.99g, Dietary fiber: 3g, Protein: 1.14g, Vitamin A: 122 ug, Vitamin C: 92.7 mg, Vitamin E: 1.46 mg, Vitamin K: 40.3 ug Calcium: 34 mg, Phosphorus: 34 mg, Potassium: 312 mg (Source: USDA Nutrient Database).

Kiwi fruit Bar: The basic ingredients of this fruit bar are kiwi fruit puree, pectin powder, sugar, water, glucose syrup and Class II preservatives. Fruit puree and sugar syrup were mixed in a blender for 2 minutes before adding the other ingredients. The Kiwi fruit mixture was poured into stainless steel trays and then dried in a solar cabinet dryer at 55 to 60°C a moisture content of 12% and packed in suitable packing material for long shelf life. Kiwi fruit bar is a good source of antioxidant Vitamin C, provides about 84 mg per 100 grms.

(From SEED R&D)



FORTHCOMING TRAINING PROGRAMME ON

“SOLAR FOOD PROCESSING (VALUE ADDITION TO FRUITS & VEGETABLES)”

From 29th January to 1st February 2019 at

Society for Energy, Environment & Development (SEED)

Plot No.81, 'Golden Residency', Road No.7, Jubilee Hills, HYDERABAD – 50 033

Phone: (040) 23608892 / 23546036 / 40200748

Email :seed@seedngo.com & Website:www.seedngo.com



SoLR Dryers & Foods LLP

**(Manufacturer and supplier of Solar Cabinet Dryers &
Processed Food Products dried in solar cabinet dryers)**

Solar Cabinet Dryers
SDM-8
SDM-25
SDM-50
SDM-100
SDM-200
SDM-500 Models

Processed food Products
Mango
Sapota
Guava
Fig
Pineapple
Mixed Fruit
No sugar added Mango
Ragi Malt
Amla Suphari
Curry Leaf Powder

Contact:

Plot No.81, 'Golden Residency', Road No.7, Jubilee Hills, HYDERABAD – 50 033

Phone: (040) 23608892 / 23546036 / 40200748

Email :solr.df@gmail.com & Website:www.sdfllp.com

From the Visitor's Book

“I loved everything I saw in the 'SEED' NGO and we will work to apply the knowledge back in Zanzibar”.

- Ms. Mzuri Issa Ali Director, Tanzania Media Women's Association, Zanzibar

Awards & Recognitions

NGO Leadership Award presented to **Prof. M. Ramakrishna Rao**,
SEED by Telangana NGO Leadership Awards Novmber – 2018

Printed and Published by:

SOCIETY FOR ENERGY, ENVIRONMENT & DEVELOPMENT

Plot No. 81, Golden Residency, Road No.7, Jubilee Hills, Hyderabad-33, T.S., India. Ph: 040-23608892/23546036, E-mail: seed@seedngo.com website: www.seedngo.com