



# SEED COMMUNICATIONS

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

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FROM THE DESK OF EDITOR

April - June, 2015

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**Ms. Muktha G.R.**

SEED is very happy to inform our readers about very interesting and encouraging results from Distribution of Energy Drink - 'SEED' Nutritive Drink to 100 visually impaired students of Mathru Educational Trust, Bangalore for last 6 - 8 months and this programme was sponsored by M/s. Centum Rakon India Pvt. Ltd., Bangalore under CSR. A sample survey of 10% of students was conducted and the results are in the following table-1:

### Efficacy studies

This time, Distribution of Nutritive Drink for the students was continuously monitored by a group of Doctors, Srinivas Orthopaedic Centre, Yalahanka, New Town, Bangalore - 64 for efficacy studies. The tests were carried out once in 3 months - 1st in August 2014 and 2nd in February 2015.

The report gives the results of health status of students regarding Hemoglobin and Serum Calcium levels in the students. Within 6 months we find good health improvements among students. Ms. Rashmi, Project Head, Mathru Educational Trust has reported in their mail dated February 10, 2015 "we have observed many improvements in their behavior, Hemoglobin, Serum Calcium and weight". Average Hemoglobin 31.54% improvement and Serum Calcium 14.76% improvement was observed in the efficacy studies. In the case of Hemoglobin it varies from 30 - 90% among the sample survey students and Serum Calcium 7.06 - 61.11% which gives average of 31.54% of Hemoglobin and 14.76% of Serum Calcium improvement. Among the sample survey of students 40% of girls and 60% of boys belong to 1st to 5th class and 50% of the students were in the under underweight.

The effect of this Nutritive Drink to students of Mathru Educational Trust is very effective in combating malnutrition and improvement of health of students within a period of 6 months.

This is in continuation of Nutritive Drink distributed to one academic year to 200 students of MSM Z.P. High School, Tholkatta Village, Ranga Reddy District, Telangana State.



**Ms. Rashmi**

## SEED' NUTRITIVE DRINK WORKS WONDERS IMPROVEMENT OF HEALTH OF BLIND STUDENTS IN 6 MONTHS

Ms. Muktha G.R. & Ms. Rashmi

**Table 1 - Mathru Educational Trust - Monitoring of Health Status of Students**

S.No	Name	Class/Age/ Gender (M/F)	Hemoglobin (gms %)		Serum Calcium (mg/dl)		BMI  H: Healthy, UW: Under weight
			Initial	Final	Initial	Final	
			Normal: 13-18 (M) & 12-15 (F)		Normal: 8.6-10.5		
1	Bhargav	I/6/M	11.7	14.2	8.3	9.1	11* UW
2	Mallamma	I/8/F	9	11.7	8.5	9.1	13* UW
3	Manjusree	I/9/F	12.4	14.3	7.8	8.8	14 H
4	Dhanusree	I/9/F	11.1	14.3	8.6	9.1	15 H
5	sanna Rame gouda	II/8/M	9.9	11.2	7.6	8.9	10* UW
6	Hemanth	IV/10/M	8.5	13.0	8.2	8.8	15 H
7	Karaya	V/12/F	7.3	14.0	7.7	9.3	14* UW
8	Shivam	VI/11/M	8.2	10.4	7.0	7.5	15 H
9	Kannappa	VI/11/M	9.4	11.4	8.7	8.6	16 H
10	Bangarappa	VII/13/M	12.9	14.7	8.4	8.7	13 * UW

### BDL Contribution

Bharat Dynamics Limited (BDL), one of India's leading manufacturers' of defence systems has awarded a Corporate Social Responsibility (CSR) grant to SEED during 2013-14. Under this program SEED has developed nutritional supplement to provide supplemental Protein, Vitamin A, Vitamin C, Iron and Calcium to school going children of 6 to 16 years using solar processed natural foods to increase the bio availability of vital nutrients for the target group. A number of natural foods -

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mostly processed using solar energy - such as malted ragi, defatted soy flour, tomato powder, carrot powder, malted green gram powder, amla powder, skimmed milk powder, guar gum, sugar and salt were used in this nutritional supplement.

This novel and unique 'Nutritive Supplementary Drink' developed by Society for Energy, Environment & Development (SEED), Hyderabad under the leadership of Dr. I. Suresh which led the team on the development of Nutritional Drinks for the different age groups.

We convey our grateful thanks to M/s Centum Rakon India Pvt. Ltd., Bangalore for their financial sponsorship.

One more school Children at Peddhapalli joins SEED-Nutritive drink from Vishaka industries HYD

The authors are Ms G.R. Muktha, Managing Trustee & Ms Rashmi, Project Head-

SEED Nutritive Drink, Mathru Educational Trust, Bangalore



Prof. M. Ramakrishna Rao, Sri.M.V. Apparao and Ms. Muktha at Inauguration of Nutritive drink MET Bangalore

## NIFTEM 2<sup>nd</sup> Workshop on "Dehydration of Food and Agricultural Products"

SEED Correspondent: Second workshop on Dehydration of Food and Agricultural products was organized by the Department, National Institute of Food Technology Entrepreneurship Management (NIFTEM) was held during February 25-27, 2015 at NIFTEM campus, Kundli, Sonapat, Haryana, India. The workshop was inaugurated by Dr Ajit Kumar vice chancellor, NIFTEM in the presence of Dr sakamom Devahastin, KMUTT, Bangkok, Thailand, Dr. K.Vidyasagar, Vice President, SEED, Hyderabad, Dr Dinesh Gupta, President, Bry- Air, was the chief guest of the inauguration program. The objective of the workshop was to provide interactive lectures and discussions among the speakers and participants. There were 10 invited lectures by eminent researchers from academia and industry from India as well as abroad.

Some of the topics covered in the workshop were as follows:

- ⇒ New concepts in agricultural and Food products assisted by dehumidification system,
- ⇒ Super heated Steam Drying of Foods and bio materials.
- ⇒ Solar assisted Heat pump dryer.
- ⇒ Microwave drying equipment and application for agriculture and Food arterial.

- ⇒ Mushroom drying.
- ⇒ Food Processing Technology based on Solar Energy for value addition of fruits and vegetables for sustainable livelihood and self employment for women.

The workshop began with the lecture of Dr Dinesh Gupta on the advantages of low temperature desiccant Technology for maintaining the tissue texture of heat-sensitive products such as onion, ginger, mushrooms and herbs as well as volatiles and other constituents. Dr Sakamom Devahastin discussed Super heated Steam Drying (SSD) and explained its advantages over conventional hot air drying, both from product quality and energy consumption. Dr PL Singh senior scientist of ICAR, Bhopal, presented data and explained about usefulness of solar assisted Heat pump which could be used at farm level to reduce post harvest losses of agricultural products. A twin technology of microwave combining with dehumidification results in quick processing and improved texture of agricultural products (Rajesh Devlalikar). Dr K. Vidyasagar, Vice President, SEED, Hyderabad elaborately explained the benefits of zero energy cost, and pollution free, solar dryers for the development and commercialization of value added products of fruits and vegetables at farm level. Training facilities offered by SEED and success stories of self help groups engaged in solar food processing technology as well as opportunities for self employment was described. A profitable business module was presented. During interaction with participants he made an earnest appeal to popularize solar food processing technology at mandal/village level to reduce post harvest losses and economic empowerment of rural women.



Dr. K. Vidyasagar at NIFTEM Workshop

## VIP COMMENTS

"SEED activities towards women development are laudable. They are working with solar heated dryer to produce hygienic and nutritious food products. The capacity building for women in a well structured programme"

- Dr.KVSPRao, Advisor, DSIR, New Delhi

"Highly useful and relevant R & D for the country. We will work in partnership"

- Shri M.V. Rao, Director General, NIRD & PR Chief Executive NFDB, Hyderabad

"A fine example of R & D work, with lot of ideas and products. Looking forward to using them in uplifting rural self help groups"

- Dr. Subbarao ghanta, CEO, Skill Development Corporation, A.P. Secretariat, Hyderabad.



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### Solar Food Processing Micro-Enterprise in Manipur – 1<sup>st</sup> in NE States

All India Woman's Association Activity in Manipur

SEED correspondent: SEED has added another micro enterprise member to its family Kakching Khullen Mahila Mandal, Manipur has recently purchased two SDM-50 dryers to process locally grown fruits, vegetables and fish. All India Woman's Association (AIWA) New Delhi has provided financial assistance to set up this micro enterprise to encourage woman enterprises in rural areas as a lively hood improvement and income generation activity. This is first such activity supported by AIWA in North East. SEED team members visited the facility to install the dryer and train the entrepreneurs on processing of fruits, vegetables and fish. Mr. G.S. Prakash AGM, and Mr D. Narayana, Food technologist SEED travelled to



Manipur and

#### "SEED" Training in Solar Food Processing Micro-Enterprise In Manipur

conducted four day's training program on processing of fruits and vegetables and fish using solar cabinet dryer.

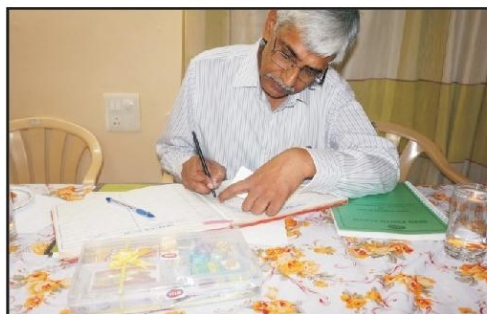
Four fruits and vegetables (Tomato, Bitter guard, Amla and Mango bar) and three fish (Plain, salted and marinated) products have been demonstrated during this training period, which was attended by five members of Kakching Khullen Mahila Mandal. On first day, Mr. Prakash installed the dryers and explained the operating procedures to the participants. The group was also trained on periodic maintenance and electrical safety systems. At the end of four-day training program, the participants were confident of handling the drying the demonstrated products including packaging for commercial production.



**Drying of Fruits and Vegetables in SDM-50**

### AP Government Officials visit evoked Interest in Solar Dryer Technology

Sri. Subbarao Ghanta CEO AP Skill Development Corporation visited SEED office to understand the role of solar cabinet dryers in increasing the skill and improving the employment opportunities for youth. Sri. Subbarao was highly impressed with the versatility of SEED dryers and scope of solar food processing in employment generation especially in rural and semi-urban areas. Sri. Subbarao's visit resulted in growing interest in SEED technology in various government organizations such as Rural Development, SERP, Kuppam Area Development Authority and AP Tribal Welfare Department.



**SRI. SUBBARAO GHANTA**

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## 'SEED' Solar Shop at Rural Technology Park, NIRD

SEED Correspondent: National Institute of Rural Development (NIRD) is an Indian Government Institute dedicated to the development of rural programmes for the welfare of the Society. It conducts the training programmes for all the Government officials working in the various Departments in the country. Many skill development programmes are regularly organized by them and the different technologies are displayed through opening the shops of variety of products, manufactured by small scale Industries In Its Rural Technology Park, Hyderabad.

Since the Society for Energy, Environment & Development (SEED), Hyderabad is fully committed to Solar Energy based food processing technology in value addition and preservation of different fruits and vegetables, NIRD is chosen as right place for promotion and popularization of unique technology programmes. The display of high quality and clean & hygienically dehydrated products is an excellent means to promote the unique technology with **zero energy cost**.

Shri M.V. Rao IAS, Director General, NIRD with a team of officials (Sri. Mohammed Khan and Prof. P. Sivaram) visited SEED Laboratories and appreciated the innovative solar food processing technology. This has resulted in allotment of a stall for SEED Solar Shop at Rural Technology Park at NIRD for display-cum-sale of solar dehydrated food products for the benefit of students, participants of the training programmes. SEED highly appreciates Mr. Rao's visit, which resulted in increased exposure to solar food processing technology.

A large space is allotted in the Rural Technology Park Complex by NIRD for shop purposes to exhibit the solar processed fruit bars of different fruits, vegetable powders, Nutritive Supplement Drink powders, etc for display cum sale with displaying informative charts on technology benefits to the participants. The stall is continuously visited by visitors, students, and course participants from different parts of the country.

The SEED stall No. 25 & 26 is located at Rural Technology Park, NIRD. The stall opens on all working days from 9.30 am to 5.00 pm.



Shri M.V. Rao IAS, Director General, NIRD with his Team visited SEED

## SEED NEWS



GOPI KRISHNA (JNTU), SUPRIYA & SNEHA (GITAM)

- ⇒ Academic- Internship Program - 3 Post Graduate students from GITAM & JNTU(H) enrolled in Solar Drying & Food Processing Areas at SEED Laboratories, Hyd.
- ⇒ Priya Foods delegation consisting of Sri Gopal Rao, Vice-President, Sri M.N.V.V. Prasad, Head - Marketing and Sri visited SEED office to explore marketability of solar energy processed new and innovative products
- ⇒ SEED Started marketing of solar dried fruits and vegetable powders at Sunrise Organics, Hyderabad

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