

**1. Title: NADP Project on Establishment of Regional Dairy
Entrepreneurs Training Facility, Veterinary College and
Research Institute, Orathanadu, Thanjavur – 614 625.**

2. Category: Animal Husbandry.

3. Challenges:

India enriched with a diversity of livestock population ranks first in cattle population. The country is the highest milk producer in the world (155.46 million tonnes) even though per animal milk production of its cattle is very less when compared to developed countries. Dairying has become an important secondary source of income for millions of rural families and has assumed the most important role in providing employment and income generating opportunities. However, organised processing sector covers only 20% in our country when compared to unorganised processing units. Most of these farmers are not well versed with best practices in milk production (clean milk production) but are only concerned about the volumes of milk. The microbiological quality of milk is poor due to lack of knowledge and lack of chilling facilities in the villages.

A majority of the dairy production in the country is being handled by unorganized sector (80%) except for a very few private dairies, co-operative societies, government agencies, hi-tech farms etc. Being a highly perishable commodity which requires high infrastructure and investment for storage and transportation, cattle owners are forced to sell milk to local vendors. Lack of adequate facilities and scientific knowledge prevent the farmers from venturing into production of value added milk products. Lack of market, and competition from the commercial manufacturers among other reasons, restrict small entrepreneurs and farmers from expanding their small scale traditional milk product manufacturing and marketing. To compete in international market for export of milk and milk products, it has become necessary to produce dairy products of international standards. So it's been mandatory to give training for small farmers, marginal farmers and landless labourers who possess an average herd size of 2-3 animals. Training farmers in value addition techniques of surplus milk will change rural un-organised sector as organised in coming decades.

4. Initiative:

The **Regional Dairy Entrepreneurs Training Facility (RDEF)** has imparted knowledge to the dairy farmers on scientific dairy cattle rearing to improve the health and productivity of the animals, clean and quality milk production thereby improving the economic and livelihood security of the rural dairy farmers. Various skill development training programmes are regularly provided to school dropouts / rural youth / farmers / milkmen / SHG members. The farmers are provided with the facility for chilling, processing, storage, and market for their produce at the proposed park there by reducing the risk of spoilage and ensuring premium price. Entrepreneurs will also be encouraged to venture into large scale production of traditional dairy products.

Objectives:

- i. To create infrastructure for Dairy Products Park (DPP)
- ii. To develop herbal, probiotic and functional dairy products.
- iii. To develop active packing system for indigenous dairy products.
- iv. To impart training on dairy plant operations for school dropouts, unemployed rural youths and small entrepreneurs.
- v. To help entrepreneurs to scale up the product development unit.
- vi. To provide training to the farmers of Cauvery delta region on hygienic producing and handling of milk.
- vii. To impart training to the school dropouts who are working as pre-processors / processors of in the dairy plants of Cauvery delta region.
- viii. To offer training programmes on “Microbiological techniques” and “Quality control of food products” to the Quality Control Managers, Quality control laboratory technicians, Production Managers, Supervisors etc. who are working in the dairy processing plants.

Project Location:

Department of Livestock Products Technology, Veterinary College and Research Institute, Orathanadu - 614 625. Thanjavur district.

Duration:

29-11-2014 to 28-11-2015.

G.O. (Ms). No. 149 Agriculture (AP1) Dept. Dt 26.09.2014.

U.S.O. No.50515/ G2/2014, Proc.No.19812/ G2/ 2014, dated: 28.11.2014 of the Registrar, Tamil Nadu Veterinary and Animal Sciences University, Chennai – 600 051.

Budget:

Rs.171.50 lakh.

5. Key Results:

Outcome of the Project:

Created Infrastructure for Dairy Products Park (DPP).

**Construction of Model Dairy Plant under the NADP Scheme
Capacity 1000 LPH**



Dairy Plant (1000 LPH) consists of

- ❖ Milk Processing Section (1000 LPH).
- ❖ Milk Pasteurizer Skid mounted.
- ❖ Homogenizer (1000 LPH).
- ❖ Cream separator (1000 LPH).
- ❖ Processed milk storage tank (1000 LPH).
- ❖ Cold storage - Walk-in-cooler (2000 LPH).
- ❖ Sterilized bottle section.
- ❖ Milk pouch filling machine.
- ❖ Cold storage (2000 LPH).
- ❖ Curd Section.
- ❖ Khoa Section.
- ❖ CIP system.

MACHINERIES



MILK POUCH FILLING MACHINE



MILK PASTEURIZER SKID MOUNTED



CIP SYSTEM-SKID MOUNTED
(600 LTS CAPACITY)



CIP SYSTEM-SKID MOUNTED
(600 LTS CAPACITY)

Conducted training programmes for the following beneficiaries:

- ❖ Entrepreneurs & Cauvery Delta Farmers.
- ❖ Self help Group Members & Aavin Society Members.
- ❖ Quality Control Managers.
- ❖ Quality Control Laboratory Technicians.
- ❖ Production Managers and Supervisors working in the Dairy Processing Plants.

TRAININGS WERE CONDUCTED UNDER THE FOLLOWING TOPICS:

Sl. No	Name of the Training Programme	Duration	No. of Training	No. of Participants
1.	Hygienic handling of milk	1 day	20	381
2.	Microbiological techniques	1 day	20	439
3.	Quality Control in Dairy Plant	1 day	20	380
4.	Milk beverages	5 day	4	180
5.	Cheese technology	5 day	4	62
6.	Cultured Dairy products	5 day	4	68
7.	Indigenous milk products preparation	5 days	4	100
8.	Dairy Plant Operator	30 days	3	-

TRAINING PROGRAMME



PREPARATION OF VALUE ADDED MILK PRODUCTS



MILK QUALITY CONTROL TRAINING



TRAINING ON PANEER PREPARATION



FLAVOURED MILK PREPARATION

Publications:

1. Formulation of value enriched yoghurt with soy milk and mango pulp - J Nutr Food Sci 2015, 5-6.
2. Formulation of novel value enriched yoghurt and its quality evaluation - Indian J Dairy Sci 69(2), 2016 - pp 143-147.
3. Microbial and sensory quality of value enriched smoothie - Journal of Agriculture and Animal Science - Vol. 1, No.1. pp 52-59.

Manuals:

1. Hygienic handling of milk -ISBN 978-93-85399-36-7.
2. Microbiological technique- ISBN 978-93-85399-26-8.
3. Quality control in dairy plant.
4. Milk beverages- ISBN 978-93-85399-80-0.
5. Cheese technology-ISBN 978-93-85399-29-9.
6. Cultured dairy products- ISBN 978-93-85399-80-0.
7. Indigenous milk products preparation- ISBN 978-93-85399-21-3.

6. Impact:

The geographical profile of Thanjavur presents 9 Taluks, 754 villages and a human population of 24, 02,781. It ranks 13th in cattle population with a size of 3, 87,008 white cattle and 11,689 buffaloes as per the 19th quinquennial livestock census. Incidentally Thanjavur contributes 4.2% of total milk production in Tamil Nadu. The annual milk production has increased from 226.689 thousand tonnes during 2015-16 to 316.593 thousand tonnes (39.66 %) during 2016-17 resulting in district leap frogging from the 16th place to the 9th place in milk production. This district has many marginal dairy producers and small scale entrepreneurs rearing indigenous and cross bred animals. The market for raw milk is immense and this Facility funded by NADP at Orathanadu has encouraged these producers to process milk and improve their economic status by adopting various clean milk practices and preparation of milk and value addition.



Abstract of the training Programme:

(Gender)	SC	ST	Others	Total
(Male)	234	-	426	660
(Female)	423	-	527	950
Total	657	-	953	1610



Lessons learned:

- ❖ Most of the dairy farmers face difficulty in the storage of raw milk at village level. Hence, installation of bulk milk cooler in milk shed areas is vital for sustainability.
- ❖ The excess milk produced during winter season can be processed and marketed as value added products and more over dairy plant can be outsourced for maximum utilization of fluid milk by the entrepreneurs.
- ❖ There is a huge demand for cow ghee in the delta region which can be fulfilled by installation of cream separator at every village business incubation centre. This would promote production and marketing of desi ghee.
- ❖ The by-product skim milk can be utilized for flavoured drink, dahi/curd, etc. preparation thus increasing economic returns.
- ❖ The demand for paneer is increasing and hence technology transfer by imparting training will be a profitable rural /cottage small scale enterprise.

- ❖ Hence, this scheme which has offered hands on training for conversion of surplus milk into value added dairy products like khoa, flavoured milk, cream, paneer, curd, cheese, yoghurt, ice cream has aided in the sustainability of their livelihood through additional income. Apart from this, social benefit like achievement of nutritional security to all walks of life through value added milk products can be ensured. Entrepreneurs can avail the facilities in the Dairy incubation centre for the processing and value addition.

SUCCESS STORIES



MAGHALIR THITTAM



MAGHALIR THITTAM



EMPOWERING WOMEN



CLEAN MILK PRODUCTION

SUPPORTING QUOTES & IMAGES



7. Additional Information:

NADP- RDEF SUCCESSFUL BENEFICIARIES

S.NO	NAME	ADDRESS
1	Mr. SATHISHKUMAR	AGARAPETTAI, THIRUKATTUPALLI, THANJAVUR DT
2	Mr. ASHOKAN	KADAVARAYANPATTI, GANDHARVAKOTTAI, PUDUKOTTAI DT
3	Mr. MANIVANNAN R	EACHANKOTTAI, ORATHANADU TK, THANJAVUR DT-614625
4	Mrs. CHITRA	MAIN ROAD, SOORAKOTTAI, THANJAVUR DT
5	Mrs. REVATHI	KUMBAKONAM

S.NO	NAME	ADDRESS
6	Mr. HARI, ANBU DAIRY ENTERPRISES	KUMBAKONAM
7	Mrs. G.SANGEETHA	14/19, CHEKADI STREET, MELACAUVERY, KUMBAKONAM
8	Mr. ABU	KARAMBAKUDI, PUDUKOTTAI DT
9	DHAKSHINAMOOR THY	ILLUPUR AGRICULTURAL PRODUCER COMPANY LTD, ILLUPUR, PUDUKOTTAI DT
10	SHEIK IBRAHIM B	5/18, KAATUBAVA STREET, ANNAVASAL, PUDUKOTTAI DT

Contact Details:

Department of Livestock Products Technology

Veterinary College and Research Institute

Orathanadu - 614 625. Thanjavur

lptvcricnd@tanuvas.org.in