

## Padi Pantalu

### Enhancing food security through establishment of Nutri Shop

Millets are used for the purpose of food and feed from ancient times, domesticated about 10,000 years ago all over the world especially India. These coarse grains are highly nutritious and are known to have high fiber content. Millets have been a major staple food in diets of people particularly rainfed regions, especially Andhra Pradesh state. Chittoor being a drought hit district of the state, where most of the farmers are small and marginal in nature used to cultivate these 'super foods'. However, there has been a drastic decline in production and direct consumption of millets as food over the past three decades mainly due to limited productivity, drudgery involved in their processing and negative perceptions of small millets as a food for the poor. This coupled with an overt reliance on paddy and other commercial crops has led to nutritional deficiencies and prevalence of non-communicable diseases such as diabetes, low levels of blood hemoglobin affecting the health of people most particularly women and children.

*Millets face low consumer awareness and demand, weak value chains as well as commercial players. This lack of interest is surprising given that millets have high nutritional benefits, mitigate risk for farmers under adverse weather conditions induced by climate change. They are good for the environment as they require less water and need very little external input. These are rich in minerals (calcium, iron, copper, magnesium, etc.), B-vitamins and antioxidants. These extraordinary traits make them nutritious and climate change compliant crops. These can not only serve as an income crop for farmers but also improve the health of the community as a whole. The anti-nutritional factors can be inactivated by processing methods like cooking, roasting, and fermentation.*



The major reasons for the decrease in consumption in the area are that it is inconvenient, cumbersome and time-consuming to prepare food from it. Lack of processing technologies, lack of awareness of nutritional merits also contributed to the existing reasons.

In order to bridge the identified gaps and reorient the importance of production, processing and consumption of millets, APMAS being the implementing agency in coordination with its donor partner; AEIN Luxemburg has initiated a project "Padi Pantalu" in two mandals, Valmikipuram and Kurabalakota to promote food and fodder security as its one of the core objectives of the project. This project aims to enhance and improve farming practices,

empower women and create sustainable livelihoods to the rural households in 30 villages of 14 GPs (gram panchayaths), so as to achieve food and fodder security.

The project has identified a woman who is passionate about bringing back the millets into daily diets of the people. Ms. Padmavathi from Kurabalakota mandal, a single woman used to work as a daily labour in agriculture fields to support her family. Having a basic knowledge on the health benefits of millets, she prepares various food products using all kinds of millets such as finger millet, kodo millet, brown top millet, little millet, barnyard millet, pearl millet and sorghum. She procures primarily processed millets (dried, cleaned, sorted and packed) from a nearby processing unit in Bangalore, Karnataka state, where they produce millets using organic practices without involving chemical fertilizers. She says that, “While people are aware of the health benefits of millets, not many know how to cook them or introduce these in breakfast or meals”.

“That’s where the idea to start millet shop came up. The idea is to encourage people to replace at least one meal of the day with ready-to-cook wholegrain products; introduce any form of exercise five days a week in their regime”.



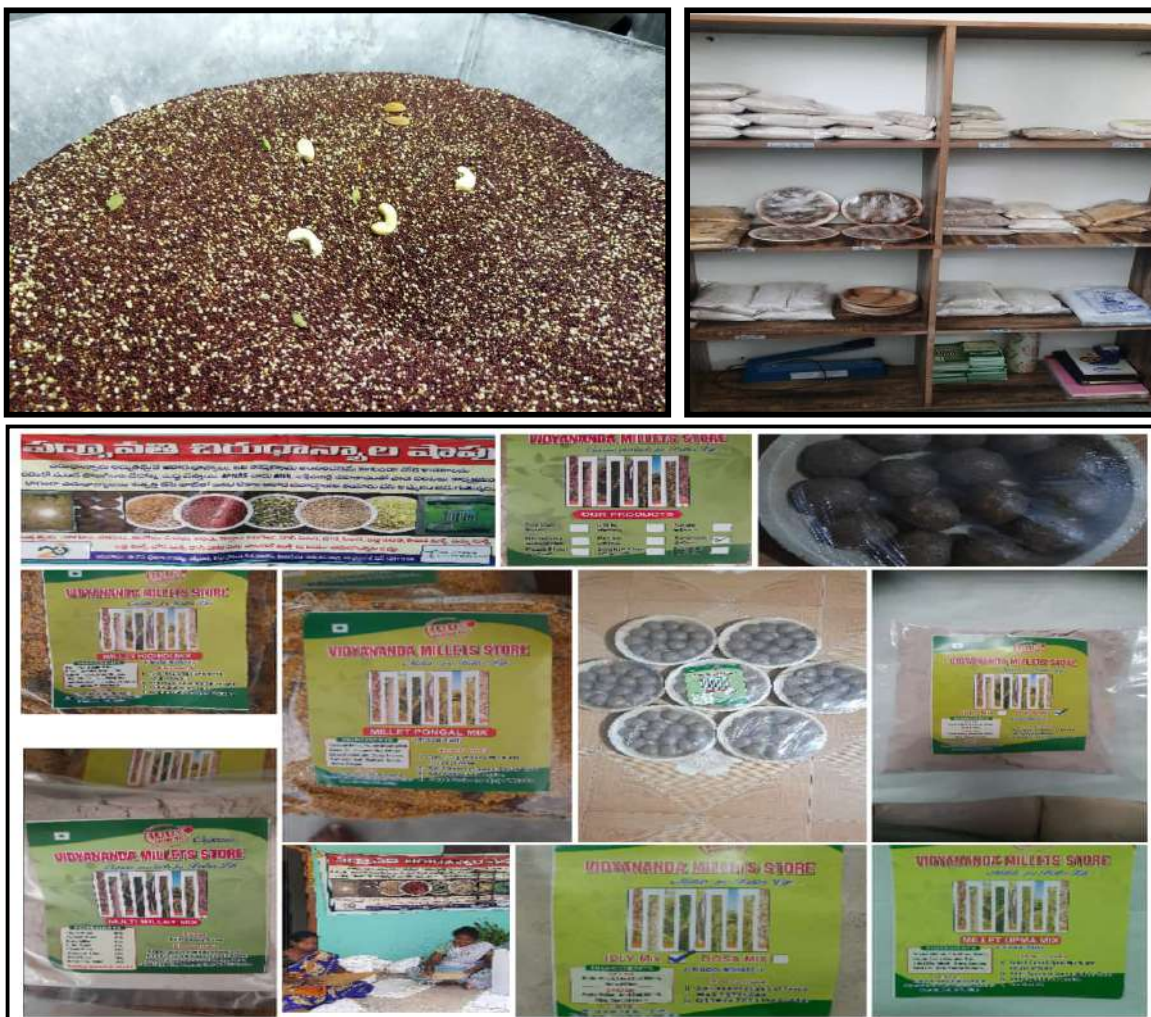
Recognizing her passion towards promotion of millet foods, the project has supported the entrepreneur with processing equipment (storage bins, stove, cooking utensils, trays, racks to display, and packing equipment) worth of Rs. 1,00,000/-. The entrepreneur has contributed Rs. 30,000/- towards installation of equipment, transportation costs and other establishment costs. The overall establishment costs of the nutri shop is Rs. 1,30,000/-. Under this project, she was also encouraged attended training programs on millet processing and storage provided by regional Krishi Vigyan Kendra (KVK) in Kalikiri mandal of Chittoor district. KVK is an agricultural extension centre created by Indian Council for Agricultural Research (ICAR). Ms. Jyothi, a nutritionist trained 10 active women farmers belonging to different mandals including

Ms. Padmavathi on preparation of ready to eat millet foods for 3 days in the month of November 2020.

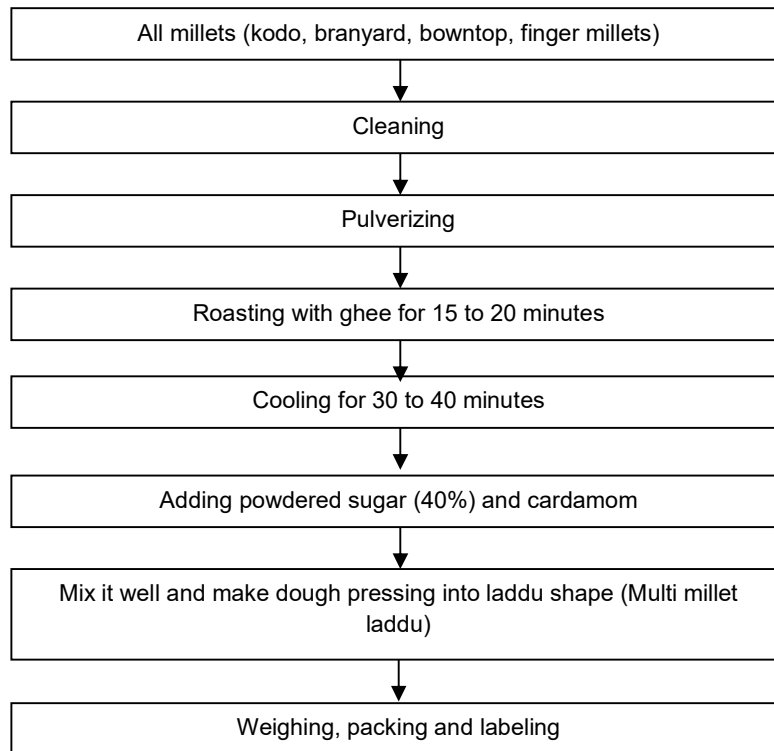
After attending the program on millet nutrition, importance of value addition, handling of value addition/ processing unit, maintaining hygienic practices while handling food products, labeling, packing, and licensing the entrepreneur started making ready to eat traditional products like multi millet laddu, payasam, ragi pop mix, multi millet flour and ready to cook products like kichidi mix, pongal mix, dosa mix, idly mix and rotis. These products are properly packed and are being sold to villagers at her shop “Padmavathi nutri shop” opened near her house, also at different outlets such as Rishi valley health care centre in poojarivaripalli village, farmer producer organization in angallu village, M- tomato farmer federation center in Madanapalli. About 80% of sales will done from her shop (at her house), 10% sales are from Rishi Valley health care centre, 5% sales are from farmer producer organization and remaining 5% sales are from M-tomato farmer federation centre.

Besides, this entrepreneur is also sensitized for the linkage development and marketing skills. She is now able sell her products in Chittoor, Hyderabad in addition to online services with the help of her son Vidyananda (<https://www.facebook.com/Vidyananda-millet-store-103787035069660/>). These millet products are registered and certified under FSSAI (Food Safety Standards Authority of India).

Figure: Traditional products made of millets



### Detailed process of making multi millet laddu:



Ms. Padmavathi prepared multi millet flour by incorporating various millet flours. The substitution of wheat flour with 10–20% of millet flour and by optimizing 10% substitution of finger, foxtail and little millet, the proso millet is replaced to a level of 15% and barnyard millet up to 20%. These products were sold at the primary health care centre to lactating mothers and t s observed that there is an increase in protein, fiber and iron content on addition of some millet flours into the diet.

She says that, “processing of millets decreases the anti-nutritional factors in millets and improves the bio-accessibility of nutrients. All the processing methods have been reported to have a significant impact on the nutritional value of the grain. Malting of millets improves access to nutrients and has been reported to increase the bio-accessibility of iron by 300%”.



During covid 19 pandemic, to improve the immunity in the infected patients, she supplied 280 nutrition kits (multi millet laddu, sesame laddu, Ragi flour) to primary health care centers in three mandals (Kurabalakota, Valmikipura and Madanapalli). Organized trainings to 20 women in the

neighboring villages in preparation of various millet foods. These women are slowly adopting millet foods in their daily diets. She has attended 2 millet melas organized under the project and demonstrated preparation of millet products to participants.



On a whole, the establishment of this nutri shop in Kurabalakota mandal has increased the percentage consumption of millets in the area. A minimum of 50% population of the mandal are now aware of importance of including millets in their daily diets. Till date she supplied products to 263 people in Chitoor district. This business has enhanced her income and below is the monthly detailed returns.

<b>Monthly sales information</b>			
<b>Month</b>	<b>Expenses (INR)</b>	<b>Income (INR)</b>	<b>Profit (INR)</b>
<b>2020</b>			
November	1000	1500	500
December	1000	1500	500
<b>2021</b>			
January	Rs. 6,900/-	Rs. 8,900/-	Rs. 2,000/-
February	Rs. 3940/-	Rs. 6,440/-	Rs. 2,500/-
March	Rs. 5805/-	Rs. 8,805/-	Rs. 3,000/-
April	Rs. 5,535/-	Rs. 9,535/-	Rs. 4,000/-

May	Rs. 13,480/-	Rs. 22,480/-	Rs. 9,000/-
June	Rs. 9,090/-	Rs. 16,890/-	Rs. 7,800/-
July	Rs. 4,130/-	Rs. 8,130/-	Rs. 4,000/-
August	Rs. 8,000/-	Rs. 20,000/-	Rs. 12,000/-
September	Rs. 10,500/-	Rs. 24,000/-	Rs. 13,500/-

The entrepreneur invests on the purchase of millets from vendors and transportation costs are the additional expenses. Monthly Rs. 5000/- to 10,000/- will be her expenditure based on the orders she receive from customers.

Rates of different products		
S.No	Products	Costs (INR) per kilo gram
1	Kichidi Mix	Rs. 240/-
2	Pongal mix	Rs. 240/-
3	Upma mix	Rs. 240/-
4	Dosa mix	Rs. 180/-
5	Idly mix	Rs. 180/-
6	Multi millet mix	Rs. 250/-
7	Ragi pop mix	Rs. 440/-
8	Ragi flour	Rs. 200/-
9	Jowar flour	Rs. 60/-
10	Pearl millet flour	Rs. 80/-

Ms. Padmavati expressed her happiness as she is following her passion in promoting millets and also said that, these super foods can easily thrive in extreme conditions like drought. The sensory acceptability of millet-based products can be enhanced by mixing millet flours with other flours of high acceptability and preparing composite foods. The use of millets in commercial/packaged food will encourage farmers to grow millets and will open new opportunities and revitalize the farmers. The inclusion of millet-based foods in international, national and state-level feeding programs will help to overcome the existing nutrient deficiencies of protein, calcium and iron in developing countries. Along with overall health benefits,



establishment of nutri shop has created a livelihood generating additional income while has enhanced the economic status of the family.

The woman entrepreneur says, *“I want to reach consumers all over the state who are looking for a healthy lifestyle and thereby, benefit my farmer friends”*.