

Scope of value added rice food products to boost demand

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■ **ABSTRACT** : The study was undertaken in Niali block of Cuttack district with a sample size of 200 farmwomen from 10 villages @ twenty in each to know the varieties of items made from rice which the people in Coastal Odisha consume in their daily breakfast as traditional products. Data were collected through personal interview, observation and focused group discussion methods by using a structured pre-tested interview schedule and then were analyzed with the help of appropriate statistical tools and techniques. The study reveals that highest percentage (90%) of farm families are habituated with beverage rice followed by rice cakes (16.00%), flaked rice (6.00%), puffed rice (5.00%), roasted rice (4.00%), cooked rice without draining water (4.00%), fried rice powder (3.00%), porridge (3.00%), rice upama (2.00%), rice papad (1.00%) and other items (3.00%) in their breakfasts. The study also indicates that the farmwomen in Odisha are quite skilled in preparation of different types of cakes made from rice in different occasions. So, it is clear that the rural women in Odisha have basic knowledge and skill on preparation of different types of rice products. To make them more empowered and employed in this field a small scale village industry can be established.

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There is a deep-rooted relation between the rice and the people of Eastern India. In our society, morning starts with 'rice' and also ends with 'rice'. People use rice in eating and drinking and use its straw for sleeping. Always there is a great demand both from the researchers and the farmers for more productivity. Due to increased food grain production, now the growing population in India is able to consume rice in different value added forms according to their food habits. According to Trichopoulou *et al.* (2007) traditional foods are frequently palatable and this combined with reputed positive health effects, makes them attractive to the food industry. The agro-climatic

condition in Odisha favors the rice cultivation and it has a great influence in the socio-cultural life of Odisha people. The farm women are very much acquainted with the value added rice food stuff in which traditional skill is required. But, their involvement in rice does not give any economic benefits. If we can enhance their skill for newer rice products then there is scope for commercial purpose. Keeping it in view, the study was undertaken with the following objectives to know the varieties of items made from rice which the people in Coastal Odisha eat in their daily breakfast as traditional products, to find out the opinions of rural social class women on commercial production of the value added rice products.

■ RESEARCH METHODS

The study was undertaken in Niali block of Cuttack district. A total number of 200 farmwomen were selected randomly from 10 villages @ twenty in each. The criteria for selection of farmwomen was that she should have some land may be own or shared for rice cultivation and be married having children and husband in family. Data were collected on personal interview, observation and group discussion method by using a structured interview schedule. The schedule was also pre-tested in the field to test its validity before final data collection. Then, the collected data were processed and analyzed with the help of appropriate statistical tools and techniques.

■ RESEARCH FINDINGS AND DISCUSSION

The findings of the present study as well as relevant discussion have been presented under following heads :

Socio-economic profiles:

The analysis of socio-economic profiles of farm women reveals very interesting results. Majority of the farm women (36%) were within the age group of 36-45 years belonging to backward caste (96%) having 1-2 earning members (60%) with annual family income ranging from Rs. 10001 to Rs. 15000 (40%) from wage earning as primary source of income. Livestock management was the secondary source of income for 26 per cent of the respondents. Out of them, 84 per cent had nuclear family system with 3-6 family members (56%) and male headship (58%). They live in kacha house (60%) having two rooms (60%). About 40 per cent of the respondents had shared land against 6 per cent own land while other 54 per cent were landless. Rain water was the main source of irrigation for 61 per cent of the respondents.

Rice items:

The farm women in Odisha are very much skilled to prepare various types of rice items to feed their family members. According to Mahanta (2005) the household level processing of rice into products is in the domain of women folk. The women in Assam make three rice products namely, *hurum*, *bhaja chawl* and *sandahguri* by traditional process. According to Sinha *et al.* (2003) majority of the respondents purchased rice to meet the demand of food requirement of their families. The samples

were asked various questions during the time of interview to know the different types of traditional value added rice food stuff prepared regularly in the household and their views are reflected in the following Table 1.

Table 1: Traditional value added rice food stuff

Sr. No.	Items	Frequency	Percentage
1.	Beverage rice	180	90.00
2.	Flaked rice	12	6.00
3.	Puffed rice	10	5.00
4.	Fried rice powder	06	3.00
5.	Khai	04	2.00
6.	Porridge	06	3.00
7.	Hurum	02	1.00
8.	Roasted rice	08	4.00
9.	Cooked rice without draining water	08	4.00
10.	Rice <i>papad</i>	12	6.00
11.	Rice <i>upama</i>	04	2.00
12.	Rice cakes	32	16.00

Beverage rice:

The data in above table reveal that highest percentage (90%) of farm families are habituated with beverage rice which the farmwomen cook in previous night and add water to the leftover after dinner. This process helps in fermentation of rice which gives a very good aroma to eat. The farm women perceive the intake of beverage rice in morning gives energy for a long time to work. So, the children and farmers take it with *sag/ bhaji/ bharta* etc. before going to school and farm, respectively. Side by side the farmwomen also take belly full of it to do other important household works. During data collection, an old woman gave her statement that the beverage rice eaters are more capable to do heavy work than those who take tea and light snacks in morning breakfast. According to Virmani (2006), in the rural areas of eastern India, poor people have *pantha* (left over rice with onion, salt and green chilies) for breakfast. The major quantity of rice is consumed as grain (90%) after primary processing and remaining quantity is used after the secondary or tertiary processed products like expanded rice, flaked rice, puffed rice, fermented products, noodles, dough, flour, infant foods and extended products (Lakanadhan, and Lakanadhan, 2006). According to Iya (2006) quality of the product is not merely the preservation or keeping quality but even more importantly characteristics of flavour, taste and the acceptability of the product.

Flaked rice:

It is made from rice by soaking paddy in hot water and then milling with little pressure. People add curd, sugar/ jaggery, banana, coconut etc. to it for good taste and take in morning as breakfast. It gives much energy which lasts for a long time to work.

Puffed rice:

It is an expanded rice product. Some aged persons in the family take puffed rice at the time of morning tea. They keep tea in a big glass and put a sizable quantity of puffed rice to it. The soaked puffed rice they like to eat and drink tea. Some take it differently with addition of curd/ milk, sugar, banana etc. Special varieties of rice are being cultivated for puffed rice purpose.

Fried rice powder:

It is another form of rice item. First, the rice is being fried and then powdered with the help of *chaki/homadasta* (manual stone grinder). It may be mixed with the powder of other cereals or pulses also. Some pre-school children are fed *chhatu* with milk and sugar/ jaggery. The adults also take it. About 3 per cent of samples consume rice in this form.

Khai:

People take it by making 'barfi' with addition of sugar/ jaggery syrup and coconut. Two per cent of the respondents take it in breakfast.

Porridge:

Sometimes to save time, the farmwomen (3%) prepare porridge, a combination of rice, pulses, vegetables and ghee. Pre-school children are also fed porridge as supplementary diet. According to Virmani (2006) *Khichri* is eaten by people suffering from indigestion and those recover from sickness.

Hudum:

It is also another type of expanded rice product used as breakfast item but now-a-days people (1%) take very rarely.

Roasted rice:

It is prepared by roasting rice in an earthen pot or *kadei* with dry sand. People may chew it or may take with tea. After soaking for whole night also they

consume it with sugar, coconut, etc. During *Ekadasi brata*, mainly the widows take this item.

Ghadi bhata :

Especially in winter, the mothers keep rice and water with right proportion in an utensil preferably small earthen pot (*ghadi*). Then for whole night they put that pot inside hot *chulla*. During whole night period, the rice gets cooked and there is no question of over or under cooking. It is called as *ghadi bhaat*. To avoid beverage rice in cold days, this *ghadhi bhata* is taken by 4 per cent of respondents.

Rice papad:

The rice powder are cooked with salt, rasi, chilli and other spices and dried in the form of papad. For eating purpose, deep frying of this item is required. The rural farm women (6%) enjoy this food with puffed rice.

Rice upama:

The broken rice is separated through winnowing after milling of paddy. These ingredients are used for *upama* in breakfast. It is very common in Andhra Pradesh and Odisha.

Rice cakes :

The farmwomen in Odisha are quite skilled in preparation of different types of cakes made from rice as following which they take in breakfast. They prepare different types of cakes on festivals and other social occasions. (a) *Chakuli*: It is prepared from black gram and rice. A proportionate quantity of both is made soaking and grinding. After a certain period of time, it becomes fermented. The farmwomen almost keep it ready from pervious night. So, in morning hot *chakuli* can be prepared in a *tawa* and served with chutney. (b) *Chitau*: For this type of cake, rice and coconut with proper quantity are soaked and grounded. A special earthen *tawa* and its cover are required to prepare it. In the festival of 'Chitau Amabasya' it is being offered to snails. (c) *Anduri*: It is just like *idili*. Ingredients are both black gram and rice which are grounded after soaking and when fermented is prepared through steaming method. A stuff of coconut and jaggery is given inside *anduri*. Mostly it is eaten during the festival of *Podhua Astami*. (d) *Arisa*: For this, the rice has to be soaked for 1/2 days and then powdered. This powder

should be cooked with sugar/jaggery. Sometimes coconut, rasi, etc. may be added for better taste. *Arisa* is to be deep fried in mustard or refined oil. It can be preserved up to 30 days without any preservatives. During social ceremonies (marriage), it is being served as a sweet item. (e) *Manda*: The soaked rice has to be powdered by grinding, then cooked for a while with little water and salt. The consistency should be dry so that the *manda* is made like balls having stuff of coconut and sugar/jaggery inside. It is to be prepared through steaming method. (f) *Kakara*: It is like *manda* but there is little addition of sugar/jaggery into cooked ingredients and it follows the deep frying method. (g) *Podapitha*: This is prepared in special occasion of 'Raja' festival. It is made from cooked rice powder, elaichi, ginger, black pepper, coconut, etc. in an earthen pot through roasting method. This is a special dish in coastal belt of Odisha. (h) *Gaintha*: It is also like *manda* but without stuff inside. It is prepared for the small children as supplementary diet by adding sugar and milk. According to Faber *et al.* (2005) incorporation of locally available cheap food sources is one of the best and effective strategies to enrich the diet of rural folk for addressing the nutritional deficiencies.

The findings of the study provided sufficient information on programme for skill development and suggested for research and extension for quality up gradation of the product and economic empowerment of rural women.

Opinion of rural social class women on commercial production of the value added products:

Social class is operationalized as male and female those who belong to low caste category and work

manually in own field as well as in others field as hired laborers. They work mostly in the activities like: digging land, sowing, transplanting, weeding, inter-culturing, hoeing, harvesting and post harvest operations in crop production. Likewise, in horticultural activities they are involved in seed production and storage, raising seedlings in homestead garden, watering, staking, hoeing, plant protection measures, harvesting, grading, etc. and in livestock also the practices they do are: cleaning shed, collection of fodder, feeding, milking, care during diseases, fish fry production, value addition, etc. Here, the farm women were asked about commercial production of the value added products of rice and their reactions are explained (Table 2).

As per the opinions indicated in Table 2, mostly group efforts (87%) training for more production and taste (80%), modern technology (77%), adequate stock (76%), credit facilities for women groups (74%), development of market channels (70%), development of branding, packaging and cool chain (67%) and access to rice stock of various varieties (61%) are required for commercial production of the value added products. The other areas having less importance are consumer preferences (56%), upscaling production (48%) and support from other institutions (46%). In traditional communities the access and use patterns are most often performed, managed and used collectively applying social and cultural norms through various institutions and capitals (Pretty and Ward, 2001 and Pretty, 2003).

Our rural farm women in Odisha have basic knowledge on preparation of different types of rice products. But, it has not come out commercially, rather still remains at household level. So, a small scale industry could be established in village itself to make the above

Sr. No.	Opinions	f	%
1.	Access to rice stock of various varieties	122	61.00
2.	Adequate stock for value addition	152	76.00
3.	Upscaling production	96	48.00
4.	Training for more production and taste	160	80.00
5.	Modern technology	154	77.00
6.	Group efforts	174	87.00
7.	Development of market channels	140	70.00
8.	Development of branding, packaging and cool chain	134	67.00
9.	Consumer preferences	112	56.00
10.	Credit facilities for women groups	148	74.00
11.	Support from other institutions	92	46.00

mentioned rice products available commercially with scientific process. Some improved scientific technologies should be disseminated to them for rice processing by which the unemployed girls as well as farm women will get self employment to empower themselves. Further, the traditional socio-economic culture can be preserved. Thus rice can be a cooking delight in India as well as in the world by providing employment to village women.

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■ REFERENCES

- Faber, M., Kvalsvig, D.J. and Lamdarb, G.J. (2005).** Effects of fortified maize meal porridge on anemia micronutrient status and motor development of infants. *American J. Clinic. Nutr.*, **82** (5) : 1032-1039.
- Iya, K.K. (2006).** Development of heritage food industry in India – Role in improving rural women’s employment and incomes. *Indian Food Industry*, **25** (6) : 58-59.
- Lakanadhan, S. and Lakanadhan, K. (2006).** Enhancing food value in rice through its value added and it’s by-products. Abstract published in 2nd International Rice Congress on ‘Science, Technology and Trade for Peace and Prosperity’, 9-13, October, 2006 at New Delhi, India.
- Mahanta, C.L. (2005).** Upgradation of traditional technologies for rice products of Assam for commercialization as ready-to-eat cereals. Paper presented in International Conference on ‘Sustainable Crop Production in Stress Environments: Management and Genetic Options’, 9-12, February, 2005 at JNKVV, Jabalpur, M. P.
- Pretty, J.N. (2003).** Social capital and the collective management of resources, *Sci.*, **302** : 1912 – 1914.
- Pretty, J.N. and Ward, H. (2001).** Social capital and the environment, *World Development*, **29** (2) : 209 – 227.
- Sinha, R., Lakra, V. and Mishra, Sabita (2003).** Household food security of tribal farm families in Orissa. *J. Extn. Edu.*, **8**, (1 & 2) : 96-102.
- Trichopoulou, A., Soukara, S. and Vasilopoulo, E. (2007).** Traditional foods: A Science and Society Perspective, *Trends Food Sci. & Tech.*, **18** : 420-427.
- Virmani, I.K. (2006).** Rice: A cooking Delight in India. Paper published in Souvenir during 2nd International Rice Congress on ‘Science, Technology and Trade for Peace and Prosperity’, 9-13, October, 2006 at New Delhi, India.



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