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## Dietary diversity: Path of achieving nutrition security of farm women

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### Abstract

Food security in India has recently been more alarming than ever before. Increasing pressure on land, environmental degradation and more frequent occurrence of natural calamities like flood, drought etc has worsened the scenario. The status of women and children in the country is far from satisfactory. High rates of infant mortality rate, maternal mortality, low birth weight and high degree of malnutrition are indicative of poor nutritional status of women and children in the country. The establishment of National Nutrition Monitoring Bureau (NNMB) indicated that a large proportion of women are under nourished. Women of child bearing age are at greater nutritional risk than any other population groups owing to the added demands of reproduction. Underutilized crops plays an important role in the well being of humans. They provide energy and protective nutrients like minerals and vitamins and also good sources of dietary fibre. Underutilized fruits are considered a rich source of vitamin C and beta-carotene, a precursor for vitamin A. Underutilized vegetables like green leafy vegetables are a good source of calcium, iron, beta-carotene, vitamin-c, riboflavin and folic acid.

**Keywords:** Dietary diversity, nutrition security, farm, women

### Introduction

**“I am quite convinced that in India today progress can be and should be measured by the progress of the women in India”**

- Jawahar lal Nehru

Nutrition is the fundamental basic requirement for good health, functional efficiency and productivity. For a nation to be healthy, strong and productive, the nutritional status of its people must be good. In spite of the progress that the country has made in the field of food production, the current scenario of nutritional status of the vulnerable sections especially of women and children of the community in India are quite disturbing.

**Prevalence of Malnutrition in India:** In the country, malnutrition is public health problem. It is worrisome fact that there is an absolute increase in undernourished persons from 210 million to 252 million (FAO, 2009). The NFHS (National Family Health Survey (2005-06), highlights some very disturbing truths about the prevailing situation in India. Approximate 56 per cent of women are anaemic, 22 per cent of new born babies are of low birth weight (LBW) and 43 per cent of children are underweight. Although it is widely reported that 20 % Indians are undernourished, 43% children below five years are underweight, 70% children and 55% women are anaemic, 7.6% child mortality ([www.nfhsindia.org](http://www.nfhsindia.org) cited on 26-7-2010). So, the country present a contrasting picture of one fifth population chronically hungry at lower strata even after being a food sufficient nation. This imbalance can be corrected.

**Food Security in India:** Food security in India has recently been more alarming than ever before. Increasing pressure on land, environmental degradation and more frequent occurrence of natural calamities like flood, drought etc has worsened the scenario. Settled agriculture does not provide them sufficient food and health security. India has achieved food security by agriculture produce. But nutrition security is farfetched goal. It is a cause of concern, sufficient food production and availability has not percolated to individual households, therefore it has resulted in food insecurity and poor nutritional status.

**India is Land of Small Farmers:** India is a land of small farmers, with 650 million of per 1 billion people living on the land and 80 per cent farmers owing less than 2 ha of land. In other words, the land provides livelihood security for 65 per cent of the people, and the small farmers provide food security for 1 billion ([zcommunication.org](http://zcommunication.org) cited on 29-3-2012). Though India has attained self-sufficiency in food grain production, approximately 48 per cent of the

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farm household are indebted (Boopathi, 2011).

**Status of Farm Women in India:** The eminent scientist and thinker Dr. M.S. Swaminathan has synthesized the contribution of farm women in development of agriculture from the pages of history that it was women who first domesticated crop plants and thereby initiated art and science of farming. Farm women play a major role in shaping the country's economy. They are backbone of the rural economy, as they constitute at least one third of the country's economically active population, particularly in the unorganized agrarian sector. They participated in different crop production and food processing activities including storage, package, transport and marketing etc (Shobha, 2001). They are critical to the wellbeing of farm households, as they play a vital role both in the management of domestic work as well as farm related work (Gordon *et al.*, 2002). Farm women's role is silently appreciated without economic recognition, regard and accountability. Women comprise 50% of the population; contribute 75% work hours; receive 10% income and 1% share in property (Grover and Grover, 2004). The contribution of women both in agricultural tasks and household activities have been rendered invisible due to under enumerated statistical data base in economic surveys and not accounting her productive household tasks in the System of National Accounting (SNA) used for estimating the Gross Domestic Product (Mrunalini, 2001). In such condition, the need of hour is extending a helping hand for the upliftment of these farm women, ultimately farm families.

**Nutritional Status of Farm Women:** The status of women and children in the country is far from satisfactory. High rates of infant mortality rate, maternal mortality, low birth weight and high degree of malnutrition are indicative of poor nutritional status of women and children in the country. The establishment of National Nutrition Monitoring Bureau (NNMB) indicated that a large proportion of women are under nourished. Women of child bearing age are at greater nutritional risk than any other population groups owing to the added demands of reproduction. The country's welfare directly depends upon the welfare of its women, as women make major contribution in the development of its nation because they not only constitute half of its population but also influence the growth of remaining half of the population. As in Pandit Jawahar Lal Nehru words "In order to awaken the people, it is the woman who has to be awakened first. Once she is on the move, the family moves, the village moves, the nation moves".

Besides the role of women in economic development as human resource, throughout the world, women have major responsibility, are working as wives, mothers, and home makers. They play vital role in providing nutrition to their family. But their own nutrition is often impaired, under the social and biological stress, which they face. So, to save the mother Earth, the mother of the family has to be saved (Kumari and Srivastava, 2001). Challenges are to increase diversified food production for nutrition security. This can be done by giving due to the production of coarse grains i.e. amaranth, millets, hoarse gram and maize etc. In addition to local fruits and vegetables; roots and tubers; local herbs and spices and centuries, they have varied nutrients and photochemical in different amounts available in different seasons thus supported health and nutrition of the farm women.

**Dietary Diversity: Need of the Hour:** Dietary diversity is essential for health and biodiversity is essential for dietary diversity. A diverse diet is that includes fruits, vegetables, legumes, coarse cereals and pulses which contribute to good health. Most essential nutrient deficiencies can be eliminated by small increases in the variety of food consumed. Many underutilized species like beta carotene rich palm fruits, are rich in nutrients. Millet is a good source of iron and the recent decline in the consumption of millet for example in favour of less expensive imported rice can be associated with an increase in iron-deficiency anaemia. Plants serve diverse nutrition and health functions in traditional culture offer potentially valuable solutions to address the problems of nutrition and health insecurity facing contemporary society (www.ajol.info cited on 3-10-2012).

**Nutrition Security and Biodiversity:** Biodiversity often has a low priority on the development agenda. Nutritionists emphasize the importance of deficiencies in micronutrients such as iron, vitamin -A, iodine and zinc - so-called hidden hunger - to diet quality and disease resistance. As the growing dependence of population nationwide on a few staple crops leads to increasing health problems, more attention is being given to biodiversity. The overall aim is to promote the sustainable use of biodiversity in programme contributing to food security and human nutrition, and to thereby raise awareness of the importance of this link for sustainable development (www.who.in cited on 3-10-2011).

**Contribution of Underutilized Crops:** Underutilized crops plays an important role in the well-being of humans. They provide energy and protective nutrients like minerals and vitamins and also good sources of dietary fibre. Underutilized fruits are considered a rich source of vitamin C and beta-carotene, a precursor for vitamin A. Underutilized vegetables like green leafy vegetables are a good source of calcium, iron, beta-carotene, vitamin-c, riboflavin and folic acid. They contain all important nutrients for growth and maintenance of health (Verma and Raghuvanshi, 2001). They play important role in alleviating malnutrition by providing all micro-nutrients to the body. Food based strategy is important to overcome micronutrient deficiencies. It can increase the availability and intake not only of vitamin A and iron but also of many other micro-nutrients. There are lots of underutilized crops, among which the most important are Finger millet, Horse Gram and Amaranth etc. Most micronutrient deficiencies can easily be overcome as only small amounts of foods rich in micronutrients are needed to meet daily requirements (Verma and Raghuvanshi, 2001).

**Wild Foods: Food Security Source in All Seasons:** Wild and uncultivated biodiversity is ignored in dietary surveys, laboratory analyses of food composition in policy and decision-making (www.agriculturesnetwork.org cited on 3-10-2011). A growing number of medical studies demonstrate that optimal health requires more than just essential nutrients. Such findings emphasize the potential value of underutilized species and wild foods. The benefits of forest based leafy vegetables and other plants containing carotenoids are also well recognized. These carotenoids have no nutrient value but they do act as antioxidants and help prevent damage to cells and tissues. So, there is need to adopt a holistic approach to securing the sustainability of biodiversity, health and agriculture. As the poverty is prevalent in rural areas, these wild and uncultivated foods supplement their diet with almost

all kinds of foods round the year. In this way, wild and uncultivated food leads to best utilization of the natural resources. It helps in maintenance of biological diversity, biotic integrity and ecological processes forever.

### **Suggestive points for improvement in the present situation**

For improvement in the present situation of high prevalence of malnutrition among farm women followings are the suggestive points:

1. Promote understanding among rural and local people regarding the linkage between biodiversity and sustainable nutrition security.
2. Nation needs to have balanced farming i.e. cultivate not only abundant cereals but also pulses, oilseeds, more so fruits and vegetables and continued mission mode approach would yield a desirable future. Agriculture scientists should pay attention for large cultivation of these items to meet the population demand of food for nutrition security through farm women and small farmers.
3. Small millets production and consumption has drastically come down because of cereal consumption through public distribution system. Expanding small millets production and consumption would ensure nutrition security with sound health.
4. Apart from increase in quantity demand there would also change in consumption pattern with greater demand for fruits and vegetables, processed food with greater emphasis on food safety and quality. Greater emphasis must be given to post harvest management practices.
5. Safe storage of fruits and vegetable at village level is going to give an answer to achieve nutrition and health security of farm women and farm families.
6. Cold chain could also be created for fruits and vegetables to fetch a good price with quality which will turn into nutrition and health security of village people after sometime.
7. Since intimate association exist between local underutilized crops, wild foods and various religious/cultural ceremonies. But, due to ignorance or lack of awareness regarding their nutrition and health benefits, these are decreasing in number. Now, it is right time to disseminate the information regarding their potential nutrition value and conserve them for future generation's sound nutrition and health.
8. Many of the uncommon crops as well as wild foods existence are on the verge of end due to the very fast adoption of western style of dietary habits. So, there is great need to save these endangered plants.
9. There is urgent need of extensive research work on these diversified local foods for production, consumption and utilization to make community nutritionally secure in future.

### **Conclusion**

The status of farm women in the country is far from satisfactory. High prevalence of micro-nutrient deficiencies has forced to modulate out plans, actions and evaluation processes designed to combat such deficiencies. Dietary modification with the help of underutilized species, uncultivated and wild foods is considered the safest and most sustainable long term measure to control deficiencies and the plant genetic resources that guarantee the current and future production of healthy foods, beverages and medicines must be better used to improve the well-being of those whose food security and health is at risk. For making our farm women and

farm families of the nation all round nutrition secure, it is our great responsibility to provide them diversified foods and help them to understand the concept of biodiversity and sustainable food chain.

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