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Golden Research Thoughts

A GEOGRAPHICAL ANALYSIS OF PROBLEMS ASSOCIATED WITH LOW NUTRITIONAL LEVEL IN SOLAPUR DISTRICT MAHARASHTRA,(INDIA).

Abstract:-

The villages of Maharashtra are lacking in the basic concept of balanced and nutritional diet. The sample families of villages of Solapur district shows a very poor result with respect to intake of balanced, nutritional diet and general awareness. The result of this is that most of the people suffer from slow growth rate, low eye sight, teeth problem, weakness, increased hair fall, anemia, skin problem, lowering of intelligence level and bone deformities. Proper awareness regarding the importance of balanced diet should be enhanced among the village folks.

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Keywords:

Malnutrition, Balanced Diet, Dietary Habits, Health

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INTRODUCTION

The rural areas of the country are facing very serious problem in the form of nutritional deficiency, which restricts physical growth and mental development. With ever increasing population in developing countries including India, the countries are striving hard toward raising food production and attaining agricultural self sufficiency. Among the developing countries India has high level of malnutrition cases. Infant's children, women especially pregnant women and lactating women and lactating women constitute the major group of rural population where nutritional deficiency problems are more common. The main source of nourishment for the human body if food, which is defined as the substance which yields energy. Good diet is defined as one which yields nutrient daily in proper amounts to satisfy the physical needs; such a diet is termed as "Balanced Diet". The necessity for food varies according to age, sex, body, climate, size, activity, work condition etc. Food habits are influenced by climatic condition, local food production, social and religious customs and traditions etc. In the area of study almost 87% of the population lives with almost uniform dietary habit. The food habit of the villages of the study area is governed by local production. Climate prevailing customs and traditions.

OBJECTIVES:

1. To understood the General nutritional level amongst the masses in study area
2. To Interpret Analysis of study the cause and effect of malnutrition.
3. To suggest possible steps to overcome the problem of malnutrition.

STUDY AREA:

The District of Solapur lies in the Bhima – Sina main river basin of Maharashtra state. The Solapur District is bounded by 1705' N Latitudes to 180320 North Latitudes and 74042' East to 75015' East Longitudes. The total geographical area of the district is 14878 sq. kms. Divided into eleven tahasils. According to the census of Solapur district of 2011, Solapur district has total population of 43.15 lakh (rural population 2917088 and urban population 1398439). All Solapur district is very flat into shape and famous for fertile black soils. Climate of the Solapur District is tropical and rain shadow climate. Major crops are cereals, pulses, oilseeds, sugarcane and fiber crops its Total production 463990.2, 40184.43, 6310.76, 15299694 and 4475.44 are respectively in Solapur district. In view of this the study of Solapur District has been undertaken for the research paper.

MAP OF STUDY AREA

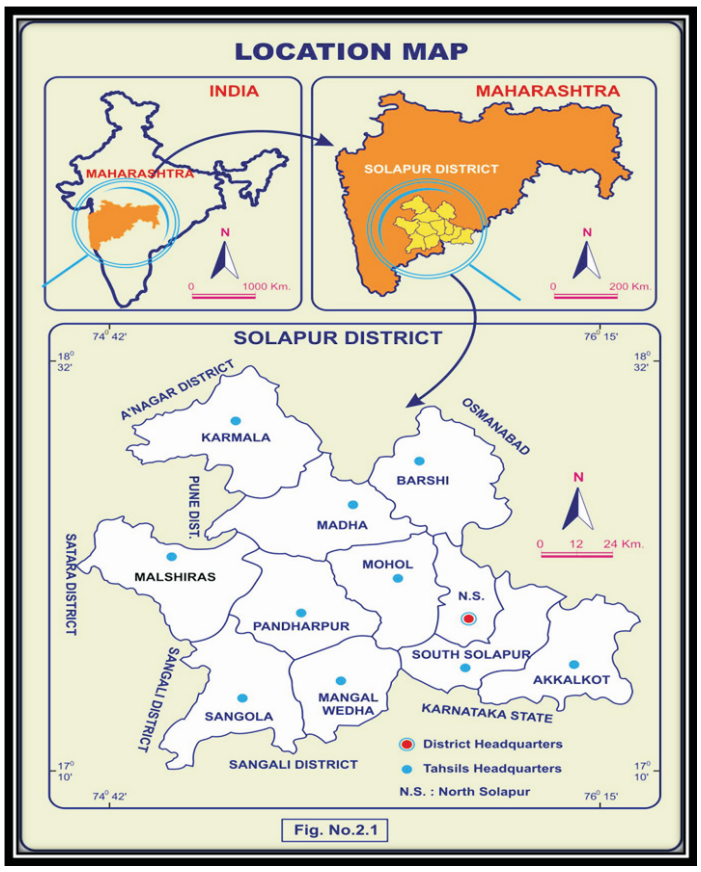


Fig. No.2.1

METHODOLOGY AND DATABASE

To find the nutritional deficiency of the people a diet survey was conducted in the study area through personal interview and questionnaire in all the 11 tahsil of the district covering 200 families with 10 from each selected tahsil through random sampling. The analysis of diet schedule has been done on the basis of data information and techniques published by the Indian Council of Medical Research (ICMR), Indian Food Biotechnology Research Institute and W.H.O. etc. Based on the climate condition and nutritional requirement of Indians ICMR along with other institutes like IFBRI have formulated the dietary and nutritional requirements of the Indians. according the diet chart and nutritional content to the diet taken by rural people of the area have been compared with the standard like carbohydrate content, protein content, vitamin content etc. of varied standard food required by adults. The author has computed the nutritional value according to the diet content and quantity of the food consumed by the locals. The indicators are used to the study Calories, Protein, Iron, Calcium, Vitamin-A, Riboflavin, Thiamine etc.

GENRAL DIETARY HABITS OF SOLAPUR DISTRICT:

Breakfast:

People residing in rural area avoid breakfast they refer to take meals instead of breakfast. They prefer to eat Bhakaries made from Jowar, Wheat, Bajara and one cup of tea and milk and urban people prefer to one cup of tea and 1 glass of milk, bread and fruits.

Lunch:

This constitutes of Chapati, Dal however, Bhakari, Solapur Shengadna Chatney, These Rice more common lunch and other.

Fruits:

Fruits should be consumed in the afternoon.

Dinner:

In dinner Bhakari(Jowari ,Roti & Bajari), Chapati and Rice Dal and Vegetables like Potato, Brinjal, Bitter Gourd Gourd etc.

Other Characteristics:

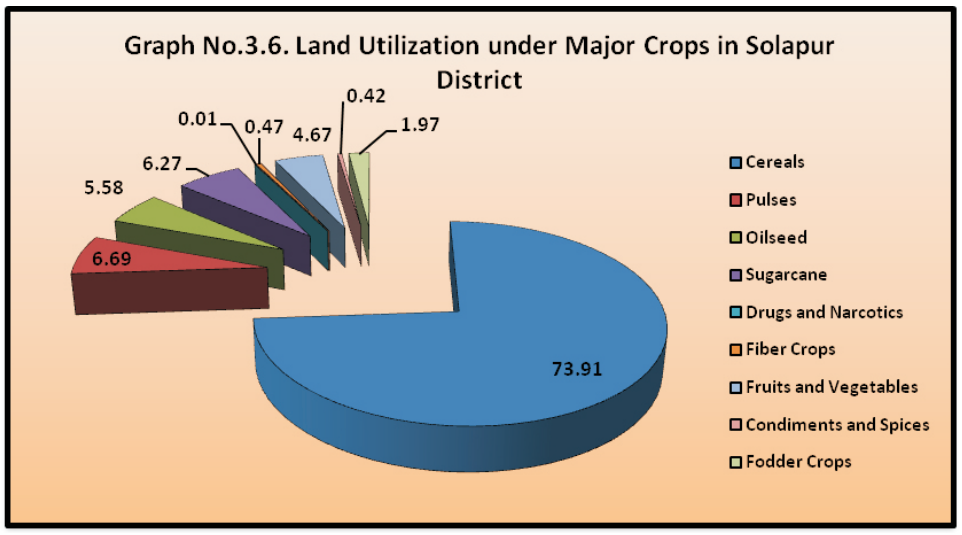
Fruit consumption is comparatively low in the rural areas compared to urban area. In villages seasonal fruits are generally readily available and consumption depends upon the availability.

INTERPRETION OF CROPING PATTERN AND DIETARY HABITS PEOPELS IN SOLAPUR DISTRICT:

Table No.1- Land Utilization and total Production under Major Crops in Solapur District (Area in Hectares and Production in MT)

Sr. No.	Crops	Area Under Crops	%	Total Production	%
1	**Cereals**	774723	73.91	463990.2	2.93
2	**Pulses**	70174	6.69	40184.43	0.25
3	**Oilseed**	58537	5.58	6310.76	0.04
4	**Sugarcane**	65704	6.27	15299694	96.74
5	**Drugs and Narcotics**	126	0.01	-	-
6	**Fiber Crops**	4921	0.47	4475.44	0.03
7	**Fruits and Vegetables**	48961	4.67	-	-
8	**Condiments and Spices**	4366	0.42	-	-
9	**Fodder Crops**	20653	1.97	-	-
	Total	**1048165**	**100.00**	**15814655**	**100.00**

Source: Socio-Economic Survey of Solapur District, 2011



The total utilization under major crops in the district has been explained by table no.1. The total area of the Solapur district under major crops is shown in the table. The area under Cereal Crops was 73.91 percent of the total area, which was maximum among all crops. Further, the area under Pulses was 6.69 percent of the total cultivated land. Moreover, the area under Sugarcane 6.27 percent, Oilseed 5.58 percent, Fruits and Vegetables 4.67 percent, Fodder Crops 1.97 percent and Fiber Crops 0.47 percent, Condiments and Spices 0.42 percent of the total cultivated area, but the area under the Drugs and Narcotics in the district was very low i.e. 0.01 percent.

Tahsil		Calories (Mg)	Protein (gm)	Calcium (gm)	Iron (mg)	Vitamin(A)(mg)	Thaimin(e) (gm)	Riboflvin (mg)	Fat (gm)	Carboy-drate (g)	Nutritional index
N. Solapur		10.41	9.67	4.90	8.99	11.16	8.84	11.76	10.35	10.33	**9.60**
S. Solapur		10.79	9.82	11.61	11.67	10.46	9.94	10.78	10.27	10.66	**10.60**
Malshiras		8.72	6.61	9.93	9.03	8.49	8.84	7.84	8.11	8.71	**8.48**
Sangola		9.17	9.06	9.26	7.75	8.67	8.29	10.29	11.74	8.76	**9.22**
Mangalwedha		7.68	8.46	8.54	8.14	7.67	8.29	7.35	8.80	7.80	**8.08**
Mohol		9.79	9.37	10.89	9.07	8.54	8.29	8.82	6.52	9.22	**8.85**
Madha		8.90	8.61	8.69	7.33	8.09	9.94	9.80	8.48	8.48	**8.70**
Karmala		8.94	9.06	9.02	10.47	10.41	9.94	7.84	9.09	9.59	**9.37**
Pandharpur		8.85	9.06	8.17	9.69	8.80	9.39	9.31	10.11	8.89	**9.14**
Barshi		7.79	8.61	9.21	7.79	8.14	9.39	7.84	7.33	8.10	**8.24**
Akkalkot		8.97	9.67	9.26	10.08	9.87	8.84	8.33	9.21	9.46	**9.30**
In-take	**Average value of indicator**	**2304**	**60.18**	**444.72**	**24**	**2607.27**	**1.64**	**1.85**	**21.69**	**449.5**	
	%	**96%**	**100%**	**49.36%**	**80%**	**52.14**	**109%**	**74%**	**36.15 %**	**74.29%**	
	ICMR Std.	**2400**	**68**	**900.9**	**30**	**5000**	**7.5**	**2.5**	**60**	**60.5**	

Table No-2: Nutrients Intake Per Capita per Day. (In %)

Source: Based on Field Survey by Author and Computed according to ICMR Standard Method.

ANALYSIS OF TAHSILS WISE NUTRIENTS DIET IN STUDY AREA

1.Calories:

As a whole the average per capita per day intake are 2304 gm calories although there is wide variation from maximum 10.79% and minimum 7.68% calories among the tahsil of the this study area. Calorie intake is not satisfactory in the study area barring a few families who invariably are better off financially than the others and more than 62% Villagers are deficient in calorie intake of which the major share is received from Cereals.

2.Protein:

Protein is an important ingredient for life and useful for development and growth. It is most important for growing children, pregnant women and lactating women. Since the study area is dominantly vegetarian. Pulses are the chief sources of protein for them. In the study area the rate of intake of pulses varies from minimum 8.46% and maximum 9.82% head per day. Proteins these estimates of portion requirement for adults have been made from available data obligatory nitrogen losses i.e. nitrogen losses on a protein free diet and nitrogen balance experiment for infants and children it is based on portion a satisfactory rate of growth.

3.Iron:

The intake of iron varies from place to place and family to family in the area. The intake per capita per day or iron in diet varies from minimum 7.33% and maximum 11.67% with an average of 80% which is not sufficient. The reason behind this is low intake of food stuffs rich in iron like Banana and also the ignorance of rural people for balanced diet. Iron deficiency cause mainly by anemia and the blood does not have healthy red blood cells. In children is the alteration of behavior and cognitive performing in iron-deficient children striking behavior changes.

4.Calcium:

The intake of calcium per capita per day varies from minimum 8.54% and maximum 11.61% from family to family. Calcium is a very essential element in the balanced diet which helps in bone formation. It is essential for children particularly for women in their after menstrual stage. Low calcium intakes have resulted in bone deformation, low eye sight etc.

5.Vitamin A:

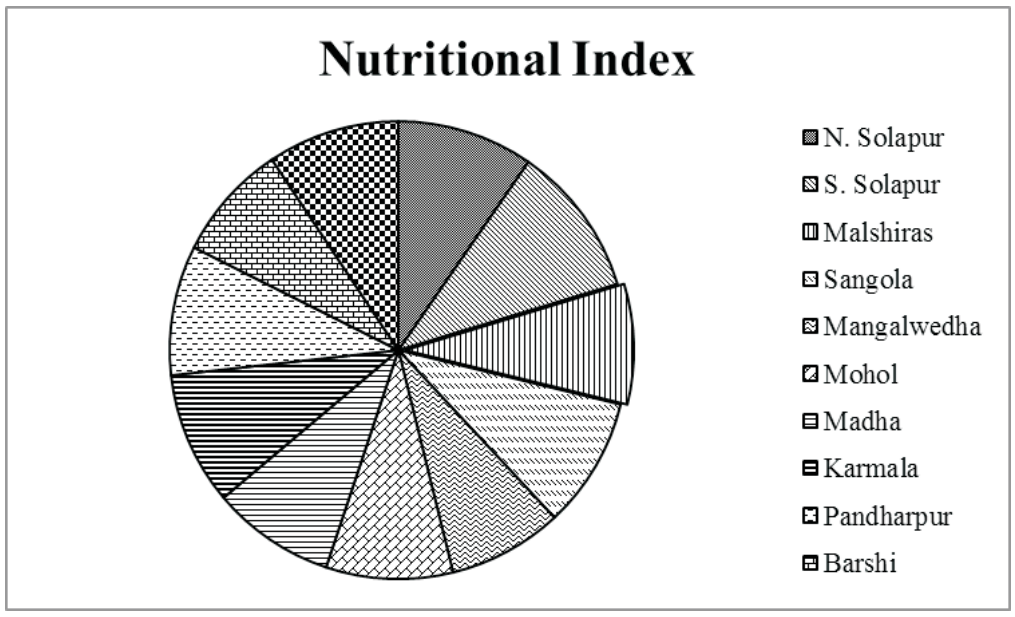
The per capita per day intake of vitamin A in diet varies from minimum 7.67% and maximum 10.46% with, average of 52.14% which is not satisfactory. The reason behind this is low intake of food rich in vitamin A like Green, Vegetables, Egg, Butter, Cheese, Mango, Papaya, and Liver. This is due to ignorance regarding balanced diet and ignorance regarding food stuffs rich in it. Vitamins and minerals is development of these deficiency symptoms but also to maintain satisfactory level in blood or tissue as well as to provide for stronger of these wherever applicable.

6.Riboflavin:

The intake of Riboflavin per capita per day varies from minimum 7.35% and maximum 141.76% with an average of 74% from place to place and family to family. Riboflavin intake is not found satisfactory in the study area. The reason behind this is that pulses and vegetables are the only source of Riboflavin for this study area. The rich sources of this like fruits, fish, milk, and milk products etc. are available cheaply.

7.Thiamine:

Rural diet basically depends on cereals which is the main source of thiamine. Since cereals form the major share of diets in this region so thiamine content is more or less satisfactory in the diet. The average per capita per head intake is 1.64 gm which varies from minimum 8.29% and 9.94% maximum in the study area. The rich sources like Bajra, Jowar, Maize, Ragi and Rice. Thiamine deficiency usually associated with deficiency of vitamin B complex.



The Showing the as above Piachart shows like as Mangalwedha, Barshi, Malshiras, Madha and Mohol which tahsil are below nutritional index then Pandharpur, Sangola, Akklkot and Karmala this tahsil come out of under middle nutritional index and North and south Solapur is two tahsil which under high nutritional index.

ANALYSIS OF TAHSIL WISE NUTRITIONAL DEFICIENCY IN STUDY AREA

Among all the tahsil of Solapur District it is seen that North and South Solapur Taluka have good intakes of nutrients as compared to the other talukas. South Solapur leads among the other talukas with respect to a satisfactory diet where the nutritional content like protein is highest with 9.82%, calories 10.79%, Iron 11.67%, Thiamin 9.94%, Fat 10.27%, on the other hand Mangalwedha along with Vitamin 'A' 7.67% and Sangola which is another backward taluka has the lowest Iron 7.75% and Carbohydrate 8.32%.

Agricultural products of the region influence the food habit of the people, who are generally vegetarian. The nutritional problems in the area under study are both quantitative and qualitative dimensions. In this area are different communities like Marathas, Brahmins, Dhangar Mali, Navboudh, Lingayat, Muslims etc and have different food habits. Muslims, Marathas, Mali, Dhangar are non-vegetarian. Brahmins, Lingayat, Sam-Mali are vegetarian. In general it may be said the women irrespective of their communities are vegetarian.

SUGGESTION PROBLEM OF HEALTH HAZARDS, UNDER NUTRITION AND MALNUTRITION:

India is one of the main malnourished and under nourished country of the world where one out of two Indians suffers either from malnutrition or under nutrition or both (Sukhatme, 1967). Malnutrition mainly occurs due to lack of vitamins and minerals in the diet, while under nutrition occur due to lack of calories in diet.

In the area under study none of the selected families reported satisfactory diet in any respect. Deficient diet in respect of calories, proteins, minerals and vitamins were found almost every where in the study area. Deficient diet leads to low resistance power to the body against diseases and creates various diseases and causes poor health.

In the rural area of Solapur district, malnutrition is widely spread and it may be due to low economic, low availability of foods, tradition, ignorance etc. The intake of Cereals except rice is very low. On the basis of field survey it has been find out that the main suffers of malnutrition and under nutrition are children, old people, and women. Malnutrition during childhood days is very serious because human reaches 90% of normal structural development in the first four years of age. The majority of infants are suffering from different malnutrition disorders.

NUTRIENTS DEFICIENCY DISEASES:

Complete or partial absence of nutrients generally leads to deficiency diseases. Common deficiency disorders gathered from the doctors are:

1. Vitamin A - Night Blindness, dryness of cornea, total blindness, . Skin

diseases
2.Thiamine (B1) - Constipation, nausea, depression.
3.Riboflavin (B2) - Fissures at the corner of mouth
4.Calcium - Teeth disorders, bone deformities

Slow and poor growth, night blindness, eye sight problem, bone deformities, gum bleeding, anemia, weakness etc. are the common disorders due to deficient diet. Vitamin D deficiency occurs in vegetarians and alcoholics (Satyanarayana 2003).

CONCLUSION AND SUGGESTIONS:

If the prevailing dietary habits continue, the district will not see any improvement in human resource. On the other hand day by day the condition will go on getting worse. The Solapur district will have to deal with incapable (both physically and mentally) population. The human development index will be at the low. One of the important objectives of the study is to suggest ways to improve the dietary habit of the area. Thus it may be concluded that given below

1.The most important suggestion is to change the cropping pattern of the area. Such crops which are rich from nutritional point of view should be introduced by the government and the agricultural organizations.
2.Government officials, health department officials, agricultural university professionals should all jointly take the initiative towards encouraging the people of this district for the same and making them aware of the necessity of a balanced diet. Camps, meetings, get together; street plays etc. involving the villagers can be held towards making the mass aware of balanced diet.
3."In order to achieve improvements in nutritional level, the geographer should consider the triangular conflict – man, land and cattle (Mukherjee, 1938)". The study area has one of the highest numbers of cattle, though this positive side is not purposely utilized by the people of this region. For vegetarians the most important source of protein is milk, which may be increased both in quality and quantity. At the same time proper attention must be given to see that regularly milk and milk products like paneer is included in the diet. In the study area though curd is regularly an important part of diet but consumption of milk in its original form is less except kids.
4.Poultry Farming, pig and goat rearing can also be the other options (which will cater to the needs of the non-vegetarians) especially for the marginal and landless farmers. Dhangar, Koli, Banjara community in the district traditionally undertakes sheep and goat rearing activity. The area in Malshiras, Sangola, Akkalkot, South Solapur and Madha block wise are best suited for goat rearing.
5.Besides other factors, illiteracy also plays a vital role in the low nutritional level. Whatever nutrient is available in their food is also lost due to faulty cooking methods. Moreover use of too much of oil and spices while cooking creates adverse effects.
6.Finally, it must be remembered that improvement in nutritional levels cannot be achieved so easily. Improvement must be made in relation to the existing dietary patterns. Further education of the public with regard to the importance of balanced diet and way of its incorporation is essential.
7.It is hoped that the government officials and NGOs rise up to the occasion and take the necessary measures to overcome the situations.

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