

CHAPTER - VII

CONCLUSION AND SUGGESTIONS

The study of "Population and Food Supply" in Western Sangli District" is based upon the data of 24 representative sample villages. This study reveals the population characteristics, existing pattern of landuse, nutritional standard of the people and prevailing nutritional deficiency diseases in these villages. The "Diet Survey" was conducted for assessing the nutritional level of the people and nutritional deficiency diseases. Stratified selective sampling method was used for the selection of villages and for the selection of household in each village. A comprehensive questionnaire for diet survey was prepared. Interviews of medical officers of primary health centres were conducted for the assessment of nutritional deficiency diseases, their number and their intensity.

The population of Western Sangli district was 10,19,989 in 1971 which increased to 12,38,868 in 1981. Population of study region is increasing at a faster rate than the district's total. The crude population density varies from 547 persons per sq.km. in Miraj tahsil to 205 persons per sq.km. in Shirala tahsil. Walwa tahsil recorded highest rural population density, whereas Shirala recorded lowest. Man-land ratio is highest in Miraj tahsil, which indicates heavy population pressure on soil. Shirala is a sparsely populated tahsil. Hence man-land ratio is less. Walwa and Miraj tahsil have recorded highest agricultural density. Tasgaon and Shirala tahsils have low agricultural density. The highest nutritional density is observed in Walwa

tahsil. Miraj and Tasgaon tahsil have medium nutrition density; Shirala has low nutritional density. Nearly 70 percent population is rural and 30 percent is urban. Urban population is more in Miraj tahsil due to Sangli-Miraj-Madhavnagar urban area. Sex ratio of study region is 950. In Shirala tahsil there are 1066 women per thousand men. It is because male population has migrated towards Bombay and other cities. The sex ratios of Tasgaon and Walwa tahsil are near to average and Miraj tahsil has recorded below the average. The literacy rate in Western Sangli district is 51 percent. Miraj tahsil has highest literacy, followed by Walwa, Tasgaon and Shirala. Out of the total population of the study region 32 percent are cultivators, agricultural labourers, livestock, forestry, fishing, hunting, plantation, manufacturing, construction, trade, communication and other services. Out of this working population, 64 percent are cultivators and agricultural labourers. The dependancy ratio is highest in Miraj tahsil. Walwa, Tasgaon, Shirala have nearly 60 percent population as dependent. High dependancy ratio shows poor economic development and low nutritional level.

Land is the basic resource and is the basis for agriculture. Agriculture is the main occupation, where nearly 70 percent of the population directly depends upon it. More than 70 percent of the total area of Western Sangli district is under cultivation. The remaining area is occupied by forest, pasture, other grazing land, culturable waste, land under misc.

tree crops, area not available for cultivation and other fallows. Out of the total area 74.54 percent is net sown. Miraj tahsil has recorded highest (77.75%) new sown area, followed by Walwa (77.15%), Tasgaon (72.93%) and Shirala (69.45%) tahsils. Area sown more than once is very less in all the tahsils. It ranges from 6.26 percent in Walwa tahsil, 5.55 percent in Tasgaon tahsil, 4.76 percent in Shirala tahsil to 3.61 percent of the net sown area in Miraj tahsil. It indicates the poorly developed state of irrigation facilities and the dominance of dry farming. More than 20 percent of the net sown area of Walwa, Tasgaon and Miraj tahsil is irrigated. Most of the area enjoys irrigation facilities in Kharif season. There is a great shortage of water in Rabi season. Hence area sown more than once is small in all tahsils.

The major Kharif crops are jowar, rice, bajra, maize, ragi, redgram, moth beans and groundnut whereas wheat, rabi jowar, bengal gram are the Rabi crops. More than 50 percent of the gross cropped area is devoted to cereal crops such as jowar, rice, wheat, bajra, and maize. Jowar is the chief crop of the region. Rice is also an important staple crop. About 10 percent of the gross cropped area is under pulses. Redgram, bengal gram, and moth beans are the important pulses. Nearly 14 percent of the total gross cropped area is under oilseeds in which groundnut occupies 13 percent of the total gross cropped area.

Sugarcane is the chief commercial crop of the region. Nearly 10 percent of the total cropped area is under sugarcane. Walwa, Miraj and Tasgaon are important in sugarcane cultivation. Other commercial crops include cotton, tobacco, turmeric and chilli. The area under sugarcane is increasing day by day; whereas area under foodgrains is nearly constant. In the period between 1965-66 to 1979-80, area under sugarcane increased 21 times more than foodgrains. This indicates the impact of commercialization in agriculture. Commercialization in agriculture adversely affects the foodgrain production of the region.

As compared to the growth of population the agricultural production is not keeping pace with the population growth. Though the agricultural production of the study region has improved, the problem to feed the increasing population continues. The per caput daily consumption of foodgrains is below the standard requirement. Considering the total population (including urban population) the per head per day availability of foodgrains is about 216 grams and of cereals and pulses of 30 grams. That means deficiency is 154 grams of cereals and 40 grams of pulses to the standard requirement. The average per capita per day availability of foodgrains of Tasgaon tahsil is 320 grams of cereals and 51 grams pulses; for Walwa tahsil 213 grams of cereals and 26 grams pulses; for Miraj tahsil 150 grams of cereals and 24 grams pulses and for Shirala tahsil 245 grams of cereals and 17 grams pulses. Rural population is the active force

in agricultural production. Considering the only rural population, per head per day availability of foodgrains in Western Sangli district is 308 grams of cereals and 42 grams of pulses; the deficiency is about 62 grams of cereals and 28 grams of pulses to the standard requirement. The rural population of Tasgaon tahsil has sufficient quantities of cereals i.e. 7 grams above the standard requirement. But pulses deficiency is about 11 grams to the standard requirement. In Miraj tahsil per capita per day availability of foodgrains is 319 grams of cereal and 50 grams of pulses, for Walwa tahsil 260 grams of cereals and 32 grams of pulses. The figures of Shirala tahsil are the same, because all the population is rural.

Good nutrition is the basic component of health. The results of diet survey reveal that most of the village population is facing the problem of malnutrition and under-nutrition. Persons below 2000 K.Cal. intake are found in all villages. Most of the villages have large population consuming between 2000 K.Ca. and 3000 K.Cal. intake per day. A few villages have recorded persons consuming above 3000 K.Cal.intake per day. Out of the 24 villages not a single village has balanced diet. Qualitatively speaking the diets contain predominantly cereals and pulses and lack in the essential requirement of protective foods, i.e. vitamin, minerals, etc. Nearly 67 to 74 percent of the calories are obtained from the carbohydrates and cereals constitute about 80 percent of the total carbohydrates.

The consumption of animal foods like milk, meat, fish, even eggs is very less. The green leafy vegetables and fruits are not normally seen in the diet. The result is widespread malnutrition. Among these 24 villages, six villages, viz. Ankalkhop, Nagrale, Haripur, Kundal, Rethare Harnax and Shirgaon are facing the problem of malnutrition and remaining 18 villages are facing the problem of undernutrition. This indicates the low nutritional level and the extent of poverty in the community.

Qualitative and quantitative deficiencies in the diet could cause deficiency diseases. The consumption of unsatisfactory diets is reflected in malnutrition and undernutrition in low and middle income groups in the study region. Among the protein caloric malnutrition Kwashiorkor is dominant especially more in children. Anaemia is dominant in Shirala tahsil. Calcium deficiency diseases like dental decay, badly formed teeth, reduced growth are observed in the study region. Among the vitamin deficiency diseases night blindness (vitamin A), Scurvy (vitamin C), Pellagra (niacin), Rickets (vitamin D) are observed in the study region. Among the other nutritional deficiency diseases Diarrhoea is wide spread in the villages.

To overcome the problem of food supply, nutritional deficiency and deficiency diseases, following are some of the measures, that can be recommended.

1. The agricultural production must be increased by the application of new agricultural technology which implies the use

of high yielding varieties of seeds, adequate use of chemical fertilizer and proper irrigation facilities, coupled with the use insecticides and pesticides. A large number of poor and middle class farmers of the study region could not adopt this new technology in their agriculture and yield per hectare is low. So it is essential to supply proper agricultural inputs, particularly to the weaker sections of the society.

2. Agricultural holdings of the study region are too small and fragmented, for the application of modern techniques and has resulted in low production. The land consolidation in the study region is attempted. However, it is again necessary to improve it.

3. With introduction of "Green Revolution" new varieties not only provide higher yield but they need shorter growing season also. They are more resistant to drought, pests and diseases. This vertical development would help to keep pace with the growth of population.

4. Commercialization in agriculture has adversely affected the foodgrain production of the region. Due to commercialization of agriculture people may get money, but they cannot purchase essential goods for the balanced diet. As suggested under item number nine below the spatial unit (village, tahsil or basin) should have well complementary cropping pattern. The farmers should be induced to grow such type of complementary cropping pattern as far as possible under existing geographic condition.



5. The small farmers are the people of small means. They take loans from the money-lenders at exorbitant rates of interest. So credit facilities must be made available to these small farmers. The co-operative movement can succeed in it. Now government is providing agricultural inputs to the farmers below the poverty line. The same facilities should be extended to other small farmers.

6. All types of irrigation facilities must be developed, they will help for double cropping and ultimately increase the foodgrain production.

7. It is necessary to establish a network of extension agencies, so that the available agricultural technology of improved varieties and management practices could be taken to the doors of the farmer.

8. It is necessary to explore the possibilities of changes in the present cropping pattern to have more calories. It is necessary for the agricultural scientists to develop new varieties of crops which will yield a better nutritional return.

9. There should be balanced cropping pattern for the balanced diet of the people. The geographical conditions of the study region have already indicated the base for the growth of bengal gram, green gram, red gram, moth beans. These crops are capable of making of the deficiencies in the balance diet of the region. Therefore as a collective decision, the cropping pattern, which

is dominated by certain commercial crops, should be properly planned. If these deficiencies are made up through this cropping pattern the problem of unbalanced diet could be solve to a certain extent.

10. Attention has been drawn to huge losses that take place during and after the harvest. The post production loss is about 30 percent and therefore high priority needs to be placed on research to reduce the post production losses.

11. The consumption of animal foods, green leafy vegetables and fruits is very low all over the region. Mixed farming should attempted. The emphasis should be on milch animals, which should be treated as our farming partners. Every farm should aim at being a true unit of husbandry, which will include both crop husbandry and animal husbandry. Crop husbandry will not be limited to cereals or pulses, except where there is no irrigation and very little rainfall. Every farm must produce vegetables and fruits also.

12. Education in nutrition is necessary for balanced diet and for precaution against diseases. Education has direct relation with awareness about nutrition. Education, publicity, persuasion and even legislation will be needed for the awareness about nutrition.

13. Nutrition alone is not enough, if their surroundings are unhealthy it will cause deficiency diseases. Therefore the

health and sanitary precautions are also the factors which are to be carefully looked after.

14. Location study of deficiency diseases would also prove useful for locating certain health centres. Especially in Shirala tahsil, very few villages have primary health centres. It is essential to open new health centres in this tahsil.

15. Preventive checks should be adopted such as distributing vitamin drops, especially vitamin A drops to the children. Medical extension services should reach to the door of every household. Medical camp should be conducted for affected regions. Eye camp, disease investigation camps should be organised.