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GOVERNMENT OF MAHARASHTRA



**Health and Nutrition Problems
of the
Primitive Tribes
in
Maharashtra**

BY

**Tribal Research & Training Institute,
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P R E F A C E

While identifying the problems of the most primitive and isolated Scheduled Tribes of Maharashtra and suggesting measures to overcome them, the problems of their health and nutrition assumed paramount importance. The investigating officers Sarvashri P.S. More and N.S.Hazari who worked on the Katkaris and Kolams respectively have brought out astounding revelations about their health hazards. The conditions of Gonds was probed by me. The findings and suggestions brought out in the study merit consideration for urgent implementation.

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CHAPTER I

PART I

HEALTH CONDITION OF THE MADIA GONDS IN MAHARASHTRA

The Madia Gonds suffer from many chronic diseases, the most prevalent of which are water-borne. The drinking water supply in many of the tribal areas is very poor. In the forest regions of Chandrapur District especially around Bhamragad, Laheri and Kuwakedi area, people have to go down the hills to get the water. Even when water is available, it is often dirty and contaminated. Consequently, the tribals are easily susceptible to intestinal and skin diseases. Incidence of Diarrhoea, Dysentery, Cholera, Ghineaworm is not uncommon. Tuberculosis which is intensified by nutritional deficiency, so common among the Madia Gonds, is found in the hilly and forest areas. The tribals have not yet developed an immunity and when they come in contact with new diseases, they fall an easy prey to them. The incidence of T.B. seems to be more for that reason. Semi-starvation condition or inferior diet and unhygienic conditions do result in contacting tuberculosis. The Madia Gonds have both these factors in greater percentage and, therefore, the incidence of T.B. among them is found more. The T.B. patients in the Madia Gonds do not avoid the close contacts of their family members and as such others are also affected by this disease.

One of the horrid diseases of which the tribal is mortally afraid is Yaws which occurs more in Chandrapur District where the Madia Gonds are predominant. Leprosy has not spared the Madia people. There are some villages where leprosy is rampant. For example, the village across the river near the forest rest house at Bhamragad, has a population of only lepers. Due to remoteness this village is left completely without any medical care and people there have to lead a life of great agony and neglect. The incidence of small pox is still a major item in the area. The tribals even to-day do not get their children vaccinated after intervals. Skin diseases are found prevalent on a larger scale and more particularly among the small children and aged persons. Scabies, ring-worm, anaemia, venereal diseases are also common among the Madia Gonds. Different types of fevers, cold and cough, dysentery, typhoid are also found responsible to cause sickness as well as dieing the people.

One of the most important problems in connection with health is the addiction of the Madia Gonds to spirituous and intoxicating liquor and drinks.

It is generally believed that the tribals are averse to modern medical treatment and that they take to superstitious cures and Bhagat's magic formula. The situation in this behalf is more alarming in primitive and more backward tribes like Maida Gonds of Bhamragad. In other areas the situation is not as alarming. Given the general health education and facilities, they are willing to avail of the same.

In obedience of religious belief deeply rooted in them, the Madia Gonds invariably call on their village priests and Magic men in every case to illness and resort to magico-religious devices instead of taking medical help. Many of sick persons die at the hands of the village priests and magic men, who always diagnose anger of some diety or spiritry as causing the illness and eventually forbid people from other help.

The present economic condition does not permit the tribals to have nutritious and sufficient diet and in the circumstances they have to live half-starved many times. Moreover, inadequate facility of clean drinking water can be added to it.

The facilities which are provided at present are too inadequate to meet the situation. There is certainly a great need to start and maintain health centres fully equipped in remote areas.

1.2 Health, hygiene, food supply and nutritional needs in sironcha, Bhamragad Area

In Bhamragad area a (Sironcha Tahsil), the following important points with some of the health problems are emerged.

Child mortality rate is very high. Married Adivasi women undergo 10 to 12 deliveries. Children, who eventually grow to adulthood, were only 3 to 4 per family. Obviously there is no awareness of family planning in these regions.

It is virtually impossible for the Adivasis to afford modern medical care. It is, therefore, important that one should consider extending medical care with the help of cheap Ayurvedic medicines which could be prepared from local flora. It would also be useful to extend health care through training the village headman, medicineman and the senior woman from each village who normally conducts delivery of babies. The concept of "Bare-foot Doctor" could be extended to the forest villages by motivating/ training the village headman himself to serve as a bare-foot doctor. A small honorarium/fee may be paid for such service. Administration of household remedies for most common diseases could be taught to these headmen. Common diseases, arising mostly through exposure, bad hygiene, unsatisfactory housing, under-nourishment, malnutrition, insufficient and unhygiene water supply, will have to be treated.

1.3 Public health, hygiene and housing

Most of the Madia village huts are mud huts. Hardly any light percolates through these huts and they are, therefore, exceedingly dark. There is scope for providing better houses through the Govt's programme for rural housing. There is tremendous water scarcity also. Lack of availability of water would be one of the causes for poor hygiene and health.

1. 4 Food Supply and Needs

The major source of food for the Adivasis is Paddy (Dhan). Apart from growing paddy. Adivasis have small plots of land around their houses where they usually grow a small kitchen garden, consisting usually of beans, tubers and white gourd (Dudhi)

In most weekly bazars, dried fish seems to attract a large number of buyers. Fish appears to be the major source for protein for forest tribes. There is a good potential for fisheries in natural ponds and ponds which may be created by nullah bunding in forest regions. As in West Bengal, such ponds could serve not only as a source of clean water for health and hygiene but also for taking two crops and for fishing. Indeed the fish thus made available from such ponds and lakes could be the major source of protein for Adivasis and through it the health of the forest people is likely to improve.

As regards cooking oil, there seems to be a great scope for mahua and mesta oil extraction. The Adivasis do use mahua fruits as a supplement to their food and to some extent mahua oil also. However, there is a great scope for cultivation of mesta in forest regions and oil derived from mesta fruit should be an excellent source for vegetable cooking oil. The Adivasis hunt almost anything that moves and eat it. If alternative foods are made available they may not be required to go in for such undesirable and wasteful methods for procuring food.

PART II

Genetic problems of the Madia Gonds

A survey was undertaken in collaboration with the Genetic Division, Medicine Department and Bio-Chemistry Department of the B.J. Medical College, Pune to study the anthropogenetic status of tribal population group A Madia.

The members of the research team headed by Dr. S.L. Kate visited the village Kasansur, Chandrapur District near the boundary line of Maharashtra and Madhya Pradesh. 105 blood samples were collected from this group for study of various genetic markers. Red Cell enzyme G-6-PD deficiency was studied in the field and the prevalence was 14.4%. Similarly the incidence of sickle cell hemoglobin was studied by using mini electrophoretic unit designed in the genetic laboratory. The incidence of sickle cell trait was 21%. Such a high incidence of sickle cell hemoglobin and G-6-PD deficiency is also detected amongst the other tribal population groups like Katkari, Bhils and Pawaras residing in hill areas which are hyperendemic or mesoendemic for Malaria. These tribal population groups have been possibly exposed to malaria infection for the last several years and as a result of this, such a mutation might have occurred in them. The heterozygous advantage in affording protection against malaria is known and this possibly must be the genesis of such a high incidence of sickle cell gene.

This, thus, not only becomes a problem for the geneticist but also to the public health authorities. Surveys of this nature covering the entire tribal population of this state would certainly be rewarding.

Part III

Nutrition condition in Tribal Areas of Gadchiroli and Sironcha Tahsil of Chandrapur District

Nutrition Survey (Diet Survey and Nutrition Assessment) was conducted by the Public Health Institute, Nagpur in the tribal areas of Chandrapur District with a view to define the diet, dietary pattern and the prevalent malnutrition in the population. The following villages from Sironcha and Gadchiroli Talukas of District Chandrapur were selected for the purpose.

| <u>Taluka</u> | : | <u>Village</u> |
|---------------|---|-----------------------------|
| Sironcha | | Bamni (Vankatpur); Tekada |
| Gadchiroli | | Mandetola; Chatgaon |

Sample study

238 households were covered for nutrition assessment after systematic random sampling. Out of these 29 families were taken for diet survey.

The samples were subjected to the following investigations.

- | | | | |
|----|---|---|---|
| 1. | Clinical assessment | - | 238 families |
| 2. | Anthropometry | - | 238 families |
| 3. | Diet survey | - | By one day weightment method in 29 families |
| 4. | Collection of relevant background information | . | |
| 5. | Duration | - | 8 days. |

Chandrapur District

In all 952 members forming 38.5% of the total population of the four villages were covered under nutrition assessment. There were 425 males and 527 females. The children below the age of 14 formed 49% of the covered population. (See Table 1.1 and 1.2).

Majority of households belonged to low socio-economic group. Village Tekada, the biggest village in the group, was on the border of Andhra Pradesh and hence it was more influenced by the tradition of that State.

Pattern of food intake

The data is presented in Table 1.3.

1. Cereals and Millets

Main staple food in Chandrapur District appeared to be rice. Sometimes there was inclusion of Jowar as second cereal in the diet. Wheat was rarely used.

Average per capita consumption of cereals ranged from 196 gms. to 875 gms. a day. 41% of the families showed cereal consumption below the recommended level.

2. Pulses

Main pulses in the area are found to be field beans, cowpeas and green gram dal.

Average per capita consumption of pulse ranged from 7grms. to 250 gms. a day. 51% of the families consumed pulse below the recommended level.

3. Leafy vegetables

only 2 families out of 29 surveyed families showed consumption of leafy vegetables on the day of survey. This consumption was very low.

4. Roots and tubers

Only onions and potatoes were available. The consumption ranged from 3gms. to 55 gms. per capita per day. Eight households showed nil consumption on the day of survey. All showed consumption below the recommended level.

5. Other vegetables

Ash gourds and brinjals were available. The average consumption per capita ranged from 7 to 250 gms. a day. 22 households showed nil consumption on the day of survey.

6. Fruits

Only temburs and raw mangoes were available. Only 2 households showed consumption of fruits on the day of the survey. This consumption was much below the recommended level.

7. Milk and milk products

13 families showed nil consumption of milk and milk products on the day of survey. The rest of the families showed consumption much below the recommended level.

8. Flesh foods

Only 2 families showed nil consumption of fleshy foods. Rest showed consumption of fleshy foods i.e. meat and fish. The average consumption per capita ranged from 2 gms. to 137 gms. a day.

9. Fats and oils

Consumption was much below the recommended level in all the households.

Nutrient intake

1. Calories

Average consumption of calories ranged from 994 to 4106 per capita per day. 76% households showed consumption below the recommended level.

2. Proteins

Average consumption of proteins ranged from 33 gms. to 144 gms. per capita per day. 10.3% households showed consumption below the recommended level.

3. Calcium

Average consumption of calcium ranged from 100 mg. to 800 mg. per capita per day. 79.4% households showed consumption below the recommended level.

4. Iron

Average consumption of Iron ranged from 10 mg. to 65 gms. a day. 31% households showed consumption below the recommended level. One household showed consumption upto 101 mg. per capita per day. It is due to consumption of 2 kg. Mcha flowers by all the five members of the family.

(100 gm. Mcha flowers give 15 mg. Iron).

5. Vitamin "A" (Carotene)

Average consumption of Vitamin "A" (Carotene) ranged from 19 to 1127 mg. All the households showed consumption much below the recommended level.

Protein Calorie adequacy/inadequacy

19 households showed adequacy of proteins associated with inadequacy of calories. 7 households showed adequacy of both calories and proteins. 3 households showed inadequacy of both calories and proteins. None showed adequacy of calories with inadequacy of proteins.

Nutrition assessment

On clinical assessment, about 37.6% of individuals showed one or more signs of nutritional deficiency. Most common deficiencies observed were :-

1. Vitamin "A" deficiency
(conjunctival xerosis
and bitots spors) 15.4%
2. Annaemia 14.1%
3. Knock-Knees 3.15%
4. Angular stomatitis 1.26%
5. Frontal bossing 1.00%
6. Lental caries 11.65%

Vitamin "A" deficiency (Conjunctival Xerosis and Bitots' Spots) were observed in 15.4% of the total individuals. It was mostly seen in pre-school and school age population affecting 16.7% and 35.4% respectively.

Anaemia was observed in 14.1% of the total individuals. It was mostly seen in adult population (14.4% in adult males and 30% in adult females).

Knock knees, epiphyseal enlargement, beading of ribs, frontal bossing, potbelly etc. were seen mostly in preschool population affecting 15.2% population.

Protein Calorie Malnutrition

In order to decide whether the child below the age of 5 years is a case of Protein calories malnutrition or not the following formula was applied.

$$\frac{\text{Wt. (in Kg.)}^2}{\text{Ht. (in cms.)}}$$

If the product is below .0015, the child is considered as suffering from PCM.

Thus, it was found that 81.5% (181 out of 222) were suffering from PCM.

Comments

It is seen that the diet is mostly deficient in calories, calcium and Vitamin "A". Proteins were adequate. Main nutritional deficiencies were protein-calorie Malnutrition, Anemia, Vitamin "A" deficiency.

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Table 1.1

General information about the four villages surveyed in Chandrapur District

| District | Name of Block | Name of villages | Population 1971 census | No. of families surveyed | Diet Nutrition Survey Assessment | Total Population surveyed | Population selected | Population covered for Nut. assessment. | Total Pop. Population % |
|------------|---------------|------------------|------------------------|--------------------------|----------------------------------|---------------------------|---------------------|---|-------------------------|
| Chandrapur | Sironcha | Bamni + V. Pura | 337 | 5 | 32 | 32 | 211 | 138 | 35.6 65.4 |
| | | Tekada | 1408 | 14 | 134 | 134 | 782 | 524 | 37.2 67.0 |
| | Dhanora | Chatgaon | 322 | 5 | 32 | 32 | 158 | 112 | 34.7 70.8 |
| | Dhanora | Mandatola | 354 | 5 | 40 | 40 | 213 | 178 | 60.1 83.5 |
| Total | | 2471 | 29 | 238 | 238 | 1364 | 952 | 38.5 69.7 | |

Table 1.2

Age and sex wise distribution of the population surveyed in four villages of Chandrapur District

| Age Group | Males | Females |
|-----------|---------|---------|
| Above 1 | 12 | 14 |
| 1 to 2 | 54 | 58 |
| 4 to 6 | 60 | 59 |
| 7 to 9 | 49 | 53 |
| 10 to 12 | 42 | 41 |
| 13 to 15 | 18 | 14 |
| 16 to 18 | 8 | 21 |
| Adults | 199 | 267 |
| Total | 425 45% | 527 55% |

49%

Table 1.3

Statement showing the consumption pattern of foodstuffs and nutrients

| <u>Foodstuffs</u> | Average | Range | Below the recommended level |
|---|---------|----------|-----------------------------|
| <u>Nutrients</u> | | | |
| Cereals (Gm.) | 462 | 126-876 | 41% |
| Pulses (Gm.) | 64 | 7-250 | 51% |
| Vegetables (Gm.) | 0.7 | - | 100% |
| Root vegetables (Gm.) | 15 | - | 100% |
| Other vegetables (Gm.) | 17 | - | 100% |
| Fruits (Gm.) | 0.1 | - | 100% |
| Milk (Gm.) | 37 | - | 100% |
| Oil and fats (Gm.) | 13 | - | 100% |
| Fleshy foods | 31 | - | 100% |
| <hr style="border-top: 1px dashed black;"/> | | | |
| <u>Calories</u> | 2183 | 994-4106 | 76% |
| Proteins (Gm.) | 71 | 33-144 | 10.3% |
| Calcium (mg) | 300 | 100-800 | 79.4% |
| Iron (mg.) | 32 | 10-65 | 31% |
| Carotene (mg) | 326 | 19-1127 | 100% |

.16

.16.

Statement showing protein calorie adequacy/inadequacy

| | | | |
|--------------------|---|--------------------|-----|
| Protein adequacy | } | Protein adequacy | } |
| Calorie adequacy | } | Calorie inadequacy | } |
| | 7 | | 19 |
| Protein inadequacy | } | Protein inadequacy | } |
| Calorie inadequacy | } | Calorie adequacy | } |
| | 3 | | NIL |

CHAPTER II

Part I

Health and Nutrition condition of the Katkaris

The Katkari Tribe is one of the primitive and backward tribes of Maharashtra. They are also known as Kathodis. Their sub groups are known as Son-Katkaris or Son Kathodis and Dhor Katkaris or Dhor Kathodis. The word Son indicates gold or superior and, therefore, the Son Katkaris or Son Kathodis consider themselves superior to the Dhor Katkaris or Dhor Kathodis. The community has exogamous divisions like Pawar, Jadhav, Waghne, Missal, Hilon, Kukna, Lukhan Madka etc. The name Katkari appears to have been derived from the Marathi word "Kath" (Catechew) and "Kari" meaning maker. It means maker of catechew. It is, thus, an occupational name.

The Katkaris are predominantly found in Thane, Kolaba, Nashik and Ratnagiri Districts. According to 1961 census, their population in Maharashtra was 140,672. It has been increased to 146,785 in 1971.

The Katkaris are the poorest among the Scheduled Tribes of Maharashtra. Their hereditary occupation is catechew making. But most of them are now seen making charcoal. Only 25% of the population possesses lands. As the lands are mostly rocky and less fertile in Katkari area, 75% of the population work as agricultural labourers with non-tribal landlords, and as forest labourers with non-tribal contractors in the forest.

They also work as casual labourers on the road construction works. The women folk gather firewood and other minor forest produce and sell in the nearby markets.

Diet

The never-changing diet of the Katkari is "Nachani" and "Waraichi Bhakari" eaten with little chillie powder. Dry fish is the only change which they generally buy in weekly markets. When the rivulets are flowing fresh fish could be had for their food. Occasionally crabs too are netted by them. Forest game has become rare. Rabbits, porcupines, lizards have become a rare phenomenon. Even to-day some Katkaris dig rat holes take their store of grain, catch them also and eat them up if there is no food to eat. The child, sick persons, old men, expectant and nursing mothers share the same food among the Katkaris. When there is no rice or bread they drink Kenji - a kind of rice grue. Milk is a luxury even for small children. Now they have taken to tea drinking. With wheateyer tea dust and jaggery they drink decoction. Their general needs for food are Jowar, Bajri, Warai, Nagli; Some spices, little or no oil, jaggery etc. The Katkariis do not, however, forget to buy tobacco. Very often they have to go without meals, they fill their belly with bitter jungle roots and water.

Health

A vast majority of the rural population has just to depend upon the traditional treatment with indigenous materia medica. The Adivasis generally believe in with doctor who cures their ailments through chanting and sometimes by giving certain medicinal herbs. The Katkaris are generally healthy and strong due to the fresh and open atmosphere they live in. Scarcity of water is their main headache. They have often to use water from closed ponds, which is apt to be contaminated and their ailments are generally waterborne. Skin diseases are generally rampant amongst them. They are also caught up in the horrid jaws of tuberculosis and other such killers due to under-nutrition or malnutrition. They are not inclined to go to the hospital unless their ailment takes a serious turn. Despite a network of primary health centres and mobile medical units we have not been able to reach the sick adivasis. This fact has been amply proved during the investigation when it was observed that at no place did the health machinery ever reach a Katkari hut for deworming their children or immunising them against the octopus of Tetanus, hooping cough and diphtheria. The developmental machinery, however, has been very prompt in achieving as many as 20 to 25 cases for ^{vasectomy} and tubectomy in a single Katkari hamlet. The reason is the targets imposed upon the staff. It seems that such compulsion has fallen short in reaching the developmental benefits to the Katkaris.

The Katkari, having the knowledge of medicinal herbs, keeps it a secret. Sometimes he does not even know the name of the herb. They are only intimate with it. This knowledge of tribal medicine is limited to cure alone. It does not extend to prevention. Working in dust and mud and day and night they do not have enough water to wash their body nor to speak of soap which they can not afford. Lack of nutritious food and living in unhygienic and unventilated huts, the Katkaris are exposed to several health hazards. Once caught in it, they do not have the required power to withstand it. Their food hardly contains any vitamin element.

Health standard

The Medical Officer, Mandangad, conducted a survey in the villages Mandangad, Dapoli and Mhapral from Ratnagiri District amongst the Katkaris and its broad findings are given below:-

1. The physical stature and general condition of health of the Katkaris is fairly good.
2. The growth rate of Katkari children in early stages is retarded.
3. Healthiness of eyes, ears and other organs is fair.
4. Regarding nutritional content in the diet of the Katkaris the report points out deficiency of fat and proteins and absence of vitamins.
5. Fertility is good.
6. The Katkaris do not practice spacing of Children.
7. The reproductive age of Katkari women is given between 16 to 40 years.

8. Family planning practices - They do not have any traditional methods of family planning. Vasectomy operations have been done over 80% of the Katkari males of the area.

Health Services

1. No special campaigns have been undertaken from the earliest days of the contact of the group with outside world.

2. No special health survey was conducted in the past to understand the health problems of the Katkaris.

3. The Katkaris were covered in routine campaigns for eradication of mass killers like malaria, cholera, small pox etc.

4. There are no specific regular health services started for the Katkaris.

5. All kinds of health services are provided at the primary health centre.

6. Utilisation of services as indoor patients is occasional while outdoor utilisation is normal.

7. The Katkari habitat being approachable, there are no natural barriers for the utilisation of health services.

8. During epidemics health care is extended at the primary health centre.

Part II

Genetic findings on the Katkaris

The genetic division of the Department of Medicine of the B.J. Medical College, Pune, was requested to conduct a study on the genetic condition of the Katkaris and make available their expert opinion for being incorporated in the monograph on the Katkaris commissioned by the Tribal Research and Training Institute.

The study team covered seven Katkari village from Kolaba District viz. 1) Khopoli 2) Chowk 3) Khalapur 4) Kune 5) Homdi 6) Apti and 7) Khadkiwadi. 1009 Katkaris (623 males and 375 females) were covered.

The team studied the frequency of the following genetic marks :-

- 1) Hemoglobin blood groups
- 2) Red cell enzymes
- 3) Serum protein groups
- 4) Dermatoglyphics P.T.C.
- 5) Testing colour blindness.

The Katkari group showed 1) **High incidence** of red cell enzyme 2) Deficiency of glucose 6 phosphate dehydrogenase. 3) Abnormal hemoglobin known as sickle cell hemoglobin.

Approximately 10% of this population carries these abnormal genes in them. The abnormality of these two genes gives rise to haemolytic anaemia with all its known complications. The team has also recorded high rate of infant mortality and congenital malformation like poly and syndactyly.

The Katkari group showed :-

- 1) High incidence of red cell enzyme
- 2) Deficiency of glucose 6 phosphate dehydrogenase
- 3) Abnormal Haemoglobin.

4)
The abnormality of these two genes expose the
Katkaris to :-

- 1) Haemolytic anaemia with all its known complications
- 2) Drug deficiency
- 3) Multiple nutritional deficiency
- 4) Infant mortality
- 5) Congenital malformation
- 6) Ultimately dragging the Katkari group to extinction.

Each of these hazards needs special preventive and curative measures which the Department of Medicine is prepared to work in collaboration with the Department of Tribal Welfare. They are willing to formulate special programmes for curative and preventive measures to combat the abnormal genes found amongst the Katkaris, for which they have adequate staff.

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CHAPTER III

Health Condition of the Kolams

The Kolam Tribe

The Kolams returned the highest population of 55,900 in Maharashtra. Of these, 49,660 persons are returned from Yevatmal District, 2656 from Chandrapur District, 3474 from Nanded District. The Kolam population is concentrated (90%) in Yevatmal, Kelapur and Wani Tahsils of Yevatmal District which constitute a compact area of about 2855 square miles forming the eastern part of the district.

In Yevatmal where Jowar is grown, their staple food is Jowar Bhakari with tur dal. In Chandrapur District they take pej (gruel) of rice flour. Tur and Mug in Yevatmal district and Udid and Lakholi in Chandrapur District are common. Poor Kolams who cannot afford dal, eat Kodo, Kutki with chatani. Roots of various edible plants among which ralalu, matalu, surankhand, karukand and gudda (Bamboo shoots) are common. The Kolams in some area eat thor kakadi and Ghorkakadi which are wild roots growing in the jungle. The fruits of "Tendu" char, Mango, tamarind, avala, jamun, bel, umbar, mauha and ber are popular. When there is no stock of grain the Kolams eat these fruits and flowers.

The general state of health of the Kolams is very poor. This is due to the poverty which leads to malnutrition. The diseases commonly prevalent among them are influenza, leprosy, T.B. and skin diseases. The disease of Malaria and small pox has been markedly reduced due to the efforts and campaigns. The incidence of leprosy is very high amongst the Kolams. The affected persons live with other family members. They are not segregated from others. A noteworthy incident was noticed during survey that almost all the Kolams males having two three children have undergone the family planning operations. This is due to the pressure of the officials working in the block for completion of assigned targets. It is generally believed that tribals do not usually take to scientific medicines but they believe in superstitions and in Bhagat's magic. The Kolams are not exception to these beliefs.

the villages surveyed, it has been observed that the Kolams have started taking to medicines but at the same time they keep faith in Bhagat's cure. They get quickly dis-illusioned if they are not cured or if the case is proved fatal. The reasons why they do not come to the doctors is partly because of the expenditure to be incurred and partly because of they ~~have to travel~~ ~~benefit~~ ~~of~~ ~~the~~ ~~long~~ ~~distance~~. Thus for small complaints or initial troubles they can not afford to leave their villages in search of medicines. In difficult cases they go to a doctor in the nearby area for treatment. The

medical facilities at present available in Yevatmal Tahsil of Yevatmal District and Kinwat Tahsil of Nanded District are inadequate and hence it is difficult for the Kolams living in the interior villages to avail of the medical facilities.

In the seven villages surveyed none of the Medical facilities enumerated above are available.

In view of the position prevailing in the tribal areas of Yevatmal and Nanded District, the following suggestions have been made to overcome this shortfall.

1. No. of sub centres attached to primary health centres should be increased and these should be located in Kolam area.

2. More mobile dispensaries should be introduced to cover the interior habitats of the Kolams.

3. As far as possible local persons may be trained to work as medical personnel.

4. Adequate medicine requirements should be taken care of and there should be sufficient stock of medicines. Free medical aid should be provided to these groups.

5. Health education through the medium of films, magic lanterns regarding prevention of diseases, family planning, nutrition etc. should be imparted in these areas.

6. Special nutrition feeding centres should be established in the hamlets for the children of 0 to 6 age group and expectant mothers. These centres should be ran by the Government itself.

7. To assess the impact of this programme a periodical check up of all such children be undertaken.

8. The scientific analysis of herbal medicines used by the Kolams be done in the laboratory of Ayurvedic Research, and, if found useful, should be encouraged and introduced in the area.

9. The actual value attached to certain aspects of life in a community are of special significance for any innovation which is introduced in a cultural milieu. The agency introducing innovation or change must take into account the existing norms of the community, its beliefs and practices and its interpretation of certain phenomena.

NOTE ON HEALTH AND CLASSIFICATION OF DISEASES OF THE
TRIBALS IN MAHARASHTRA

1. The tribals suffer from many chronic diseases, the most prevalent of which are water-borne. The drinking water supply in many of the tribal areas is very poor. In the hilly regions of Maharashtra, especially in Nashik, Pune, Dhule, Thane and Chandrapur districts people have to go down the hills to get the water. Even when water is available it is often dirty and contaminated. Consequently, the tribals are easily susceptible to intestinal and skin diseases. Incidence of Diarrhoea, Dysentery, Cholera, Guineaworm is not uncommon. Tuberculosis which is intensified by nutritional deficiency, so common among the tribals, is found in the hilly and forest areas. The tribals have not yet developed an immunity and when they come in contact with new diseases they fall an easy prey to them. The incidence of respiratory diseases seem to be more for that reason. Scabies, ring-worm, small-pox, anaemia, venereal diseases are also common in tribal people.

2. It is generally believed that the tribals are averse to modern medical treatment and that they take to superstitious cures and Bhagat's magic formula. The situation in this behalf is more alarming in primitive and more backward tribes like the Madia Gonds of Bhamragad, Warlis of Talasari and Katkaris. The present economic condition also does not permit the tribals to have the nutritious and sufficient diet and in the circumstances they have to live half-starved many times. Moreover, inadequate facility of clean drinking water can be added to it.

The common diseases found in the tribal people are reflected in following Tables.

3. It is seen from the Tables that respiratory diseases are found very high in the tribals. Semi-starvation condition or

inferior diet and unhygienic conditions do result in contacting these diseases. The tribals have both these factors in greater percentage and, therefore, the incidence of T.B. among tribals is found more. The T.B. patients in tribals do not avoid the close contacts of their family members and as such others are also affected by these diseases.

4. The incidence of skin diseases is also a major item in tribal area and they are found prevalent on a larger scale and more particularly among the small children and aged persons. The tribals do not get their children vaccinated after intervals. Use of inadequate water for washing clothes, bathing and other uncleanness etc. are some of the reasons of skin diseases.

5. The third category of major diseases in the tribal area is gastro intestinal diseases, fevers including Malaria, Filariasis and Influenza etc.

6. Common diseases arising mostly through exposure, bad hygiene, unsatisfactory housing, under-nourishment, malnutrition, insufficient and unhygienic water supply will have to be treated urgently. Lack of availability of water would be one of the causes for poor hygiene and health.

Table I

TABLE I

Disease-wise distribution of patients treated during the first fortnight of February 1977 at Dharni Primary Health Centre (District Amaravati)

| Sr. No. of diseases | Broad classification : No. of patients treated | | | | Per centage |
|-------------------------------|--|-------------|-------------|---------------|---------------|
| | Males | Females | Children | Total | |
| 1. Skin diseases | 15 | 5 | 16 | 36 | 8.8 |
| 2. Gastro intestinal diseases | 2 | - | 11 | 13 | 3.2 |
| 3. Respiratory diseases | 53 | 42 | 43 | 138 | 34.0 |
| 4. Worm infections | - | 1 | 6 | 7 | 1.6 |
| 5. Injuries and wounds | - | 2 | - | 2 | 0.5 |
| 6. Fevers | 3 | 8 | 5 | 16 | 3.9 |
| 7. Others | 89 | 37 | 69 | 195 | 48.00 |
| Total | 162 | 95 | 150 | 407 | 100.00 |
| Percentage | 39.8 | 23.3 | 36.9 | 100.00 | |

TABLE II

Diseasewise distribution of patients treated during
the second fortnight of January, 1977 at Kasa Primary
Health Centre (District Thane)

| Sr. Broad Classification No. of diseases | No. of patients treated | | | | |
|---|-------------------------|--------------|---------------|-------|--------------------|
| | Males | Fe- males | Child- ren | Total | Per cen tage |
| 1. Skin diseases | 3 | 6 | 13 | 22 | 7.5 |
| 2. Gastro intestinal diseases | 14 | 8 | 23 | 45 | 15.5 |
| 3. Respiratory diseases | 18 | 9 | 15 | 42 | 14.4 |
| 4. Worm infections | 2 | - | 9 | 11 | 3.8 |
| 5. Injuries and wounds | 7 | 2 | 4 | 13 | 4.5 |
| 6. Fevers | 15 | 4 | 14 | 33 | 11.3 |
| 7. Others | 45 | 42 | 38 | 125 | 43.0 |
| Total | 104 | 71 | 116 | 291 | 100.00 |
| Percentage | 35.7 | 24.4 | 39.9 | 100.0 | |

TABLE III

Disease-wise distribution of patients treated during the second fortnight of February, 1977 at Primary Health Centre, Ettapalli (District Chandrapur)

| Sr. No. | Broad Classification of diseases | No. of patients treated | | | | Percentage |
|------------|--|-------------------------|---------|----------|-------|------------|
| | | Males | Females | Children | Total | |
| 1. | Skin diseases | 4 | - | 4 | 8 | 2.4 |
| 2. | Gastro intestinal diseases | 4 | 4 | 20 | 28 | 8.3 |
| 3. | Respiratory diseases | 24 | 18 | 31 | 73 | 21.7 |
| 4. | Worm infections | - | - | - | - | - |
| 5. | Injuries and wounds | 13 | 8 | 6 | 27 | 8.0 |
| 6. | Fevers including Malaria, Filariasis and influenza | 17 | 9 | 7 | 33 | 9.8 |
| 7. | Others | 80 | 55 | 33 | 168 | 49.8 |
| Total | | 142 | 94 | 101 | 337 | 100.0 |
| Percentage | | 42.1 | 27.9 | 30.0 | 100.0 | |