CHAPTER V

SUMMARY, CONCLUSIONS AND AREAS CALLING FUTURE ATTENTION

SUMMARY

The study has been conducted among the Bengali Muslim boys of Barak valley with the primary objectives to examine their somatotype characteristics, pattern of growth and nutritional status. Another objective was to look into the variations between the different income groups and sexes regarding somatotype, physical growth and nutritional status. One of the major objectives was also to see how far the growth pattern of children belonging to the Bengali Muslim community differ from that of the other populations such as the Assamese Muslims, Assamese Hindus, the general Indian Muslims, and the general Indian Rurals.

A total of 1001 boys aged between 3 and 20 years were observed for 14 anthropometric traits. Subjects below 3 years of age have not been included because it is often seen that they get frightened to a concerning limit after seeing the anthropometric instruments, which makes the observation prone to errors. In order to look into the sexual dimorphism to a feasible extent, a total of 711 girls between the ages 3 and 15 years were also measured. The girls
who were upto ten years of age were observed for all the measurements like the boys, but the girls beyond 10 years could be measured only for their body weight and height. Apart from anthropometric measurements, income per person in each household, and family size were also recorded.

Statistical methods have also been applied in interpreting the data and the computer package – Microsoft-Excel - has been used, wherever deemed possible.

The results of the study can be summarized as under:

**SOMATOTYPES:**

The somatotypic trend during the older ages is not as uniform as it was found in case of children aged upto 10 years. Age variation regarding different components of somatotype was negligible, which may be because of the fact that during adolescence, the growth of all the body tissues which forms the existing morphological conformation, i.e., somatotype, follow a more or less similar pattern, thereby keeping the relative body composition uniform throughout the period.

As far as the overall trend of component distribution is concerned, uniformity of distribution starts manifesting from the age of 11 years, which continues till maturity with an increasing trend of ectomorphy.
A distributional overlap between some somatotypes may be attributable to genetic and environmental homogeneity of the Bengali Muslims of Barak valley.

The regular pattern of physique during the tender ages and the subsequent and serpentine reversals during the transition to adolescence in the present population may be attributable partly to genetic and partly to environmental factors.

From 3 to 10 years, ectomorphy dominates in case of boys, whereas, in case of girls, mesomorphy dominates, but closely followed by ectomorphy. There are very few balanced endomorphs. These results may have a bearing with the poor nutritional status of these Bengali Muslim children.

From the analysis of children belonging to different income groups, it has been found that neither the boys nor the girls show any difference regarding their somatotypes.

Balanced ectomorphs are the dominating types among the boys, whereas, among the girls, endomorphic mesomorphs are the dominating types.

In the present population, which is sedentary in nature and lower in mesomorphy without having any involvement in planned physical activities, sport prospect seems to be a far cry.

**PHYSICAL GROWTH AND NUTRITION:**

The analysis of height reveals a continuous increasing trend from 3 to 20 years, which is, however, not uniform throughout the period.
For height, among the boys, the velocity curve shows a sharp positive change in growth between 13 and 14 years, whereas, the same in case of girls is seen between 10 and 11 years. This sharp increase in the velocity curve is called adolescent spurt, which takes place on the average between 12½ and 15 years in case of boys, and almost two years earlier in case of girls as reported by several earlier authors.

Before the adolescent spurt, one or more spurts of smaller intensities could be noticed in the velocity curves. The spurt immediately preceding the adolescent spurt may be termed as the pre-adolescent spurt, which was also observed in earlier studies. Likewise, after adolescence also, one or more spurts are seen in all the measurements, which may be termed as post-adolescent spurts. The occurrence of post-adolescent spurt has also been reported earlier.

Like height, sitting height of the boys also shows its highest increment between 13 and 14 years. Among the girls, the highest amount of growth in sitting height is noticed between 3 and 4 years.

Unlike the other two linear measurements, lower extremity of the boys has experienced a negative growth during two different years of life, which is evident in the velocity curve. For this negative growth in lower extremity of boys, the cross-sectional nature of the data may be held responsible. Like height, for sitting height and length of lower extremity also, the boys have adolescent spurt between 13 and 14 years. Pre-adolescent spurts and the post-
adolescent spurts are also clearly visible in the velocity curves of lower extremity length.

The body weight of boys had the highest increment between 13 and 14 years. For body weight, the boys have adolescent spurt between 13 and 14 years, and the girls have it between 12 and 13 years. This difference regarding the occurrence of adolescent spurt of boys and girls supports one of the earlier researches that although growth of nearly all the skeletal dimensions accelerates at adolescence, the increase in growth rate is not uniform throughout the skeleton. Neither it starts simultaneously in all parts of the body.

Horizontal head circumference among the boys shows a serpentine trend, showing increase at some ages, while decrease in mean values at others. Unlike the linear measurements or body weight, there is no distinct spurt for head circumference between 13 and 14 years, which may be attributable to the different paths followed by head growth and linear measurements. The negative growth of head circumference at some ages, may be attributable to the cross-sectional nature of data.

Relaxed mid-upper-arm circumference among the boys shows the highest increment between 13 and 14 years. Whereas, the same among the girls is seen between 3 and 4 years.

Growth of chest circumference among boys is highest between 13 and 14 years and the same among the girls is between 3 and 4 years A negative
growth, like what is seen in case of lower extremity length and horizontal head circumference, is also seen for chest circumference, which may be attributable to the cross-sectional nature of the data.

The pattern of growth in calf circumference is similar to that in case of chest circumference. A clear spurt is noticed from 13 to 14 years, a feature common to all the circumferential measurements among the boys except for head circumference. A slight negative growth is also noticed among the girls between 5 and 6 years. As in case of other measurements like lower extremity length, horizontal head circumference and chest circumference, and each time the only possible explanation is that the data is cross-sectional and prone to sampling error, which may not be out of place as far as the nature of the data is concerned.

Like most of the other measurements in case boys, maximum increment of humeral diameter for any year is also that between 13 and 14 years of age. Unlike the picture in case of boys, a negative growth is observed in case of girls, which may be attributable to the sampling error.

Like most of the other measurements in case of boys, maximum increment of femoral diameter is also seen between 13 and 14 years of age and that in case of girls is seen between 7 and 8 years of age.

From the distance and velocity curves adolescent spurt can be noticed between 13 and 14 years for the diameters of humerus and femur in case of boys, which is also seen in case of other anthropometric traits of the boys.
The values of growth gradients reflect that more than 50% of growth has already been finished at 3 years for all the measurements barring lower extremity length and body weight.

All the skinfold measurements had shown increase in mean values for some years and decrease for others. Neither the positive nor the negative growth in skinfold thickness were uniform, as a result of which both the distance and velocity curves look similar. The inconsistent reduction in skinfold values is also seen in case of girls.

The pattern of growth for supraspinale skinfold is somewhat different from the other trunk skinfolds. The boys' supraspinale skinfold decreased by 1.55 mm from 3 to 10 years. However, by the end of 20th year, the overall reduction in mean value is 0.93 mm (from 5.06 mm at 3 years to 4.13 mm at 20 years) in case of boys.

Though sexual dimorphism of variable degrees for all the anthropometric traits is evident from the initial analysis, from t-test, the difference is found significant for some age groups, but not for others without any uniform pattern. For example, for height, the 13-year-old girls are found significantly taller than their age matched boys. On the other hand, the girls who are aged 14 and 15 years are significantly shorter than the boys of the same ages. The girls aged 3, 9 and 10 years are significantly shorter than their age-matched boys for sitting height. The 4-year-old girls are found to have significantly longer lower extremities than their age matched boys. Whereas, the boys who are aged 6 and
8 years have significantly longer lower extremities than their age matched girls. The 6 and 9-year-old girls are found significantly lighter in body weight than their age matched boys. On the other hand, the 13-year-old girls are significantly heavier than the boys of the same age. The 4-year-old boys have significantly wider humerus than the girls. The boys of all ages from 3 to 10 years have significantly wider femur than their age matched girls. All but the 4-year-old boys have significantly higher head circumference values than their age-matched girls. The boys aged 9 and 10 years have significantly higher values of mid-upper arm circumference. The 3 and 7-year-old boys have significantly higher chest circumference values than the girls of the same age categories. No statistically significant difference between the sexes exist for calf circumference. The girls have significantly higher skinfold values at triceps than the boys at 4, 5 and 10 years of age. The girls aged 4 and 8 years have significantly larger subscapular skinfold values than their age matched boys. Whereas, the boys aged 5 and 9 years have significantly larger subscapular skinfold values than their age matched girls. Statistically significant sexual dimorphism for suprailiac skinfold is evident from t-test for all ages (girls showing significantly higher values) except for 6 years. From 7 to 10 years, the girls are seen to have significantly higher values for supraspinale skinfold than the boys of respective age categories. Statistically significant sexual dimorphism for calf skinfold is evident from t-test only at 10 years of age, wherein the girls have larger values than their age matched boys.
The data on height and weight for the present study have also been compared with other groups of children of the same state as well as some nationally representative groups of children.

The height of the Bengali Muslim boys is found to approach the 5th percentile of the NCHS at 3 and 4 years, after which they fall below the 5th percentile of the NCHS up to 13 years. At 14 and 15 years, the Bengali Muslim boys lie in between the 5th and 10th percentiles of NCHS, after which they again fall below the 5th percentile of the NCHS and remain so till the end, i.e., 18 years. The 50th percentile of the Bengali Muslim boys' weight fall below the 5th percentile of the NCHS for all the years under consideration.

The height of the Bengali Muslim girls is found to approach the 5th percentile of the NCHS at 3 and 4 years, after which they rise approaching the 10th percentile of the NCHS at 5 years. Thereafter, the height of the Bengali Muslim girls go criss-crossingly with the 5th percentile of the NCHS up until 9 years. Their height again falls below the 5th percentile of the NCHS and finally coincide with the 5th percentile of the NCHS at 15 years. The weight of the Bengali Muslim girls is found below the 5th percentile of the NCHS at 3 and 4 years, after which they rise up to the 5th percentile of the NCHS at 5 years. Thereafter, the height of the Bengali Muslim girls falls below the 5th percentile of the NCHS, remains so up until 14 years, and finally coincide with the 5th percentile of the NCHS at 15 years.
The Bengali Muslim boys are found to be lighter in body weight than their Assamese Muslim counterparts for all ages considered. However, the 19-year-old Bengali Muslim boys are found heavier than the Indian Muslim children of the same age. For the other age groups, they are found lighter than the Indian Muslim children. When compared with the Indian rural children, the Bengali Muslim boys are found lighter from 4 to 13 years age category. From 14 to 20 years, they are found heavier than the general Indian rural boys.

The Bengali Muslim girls are lighter than the Assamese Muslim girls for all the ages under consideration. They are, however, heavier than the Indian Muslim girls for all ages except for the last age group, i.e., 15 years. When compared with the Indian rural girls, they are found heavier at 5, 13, 14 and 15 years, whereas, from 6 to 12 years, they are found lighter.

The three-year-old Bengali Muslim boys are taller than the Indian Muslim as well as Assamese Muslim boys of the same age. For the rest of the age categories, they are found to be shorter than both Assamese Muslim and Indian Muslim children. The Bengali Muslim children, when compared with the Indian rural children, they are found to be taller at 4 and 5 years. From 6 to 13 years, they are shorter, whereas, from 14 to 20 years, they are again taller than their Indian rural counterparts.

The Bengali Muslim girls are found shorter than the Assamese Muslim girls for all ages except for 4 and 5 years. They are found heavier than their Indian Muslim counterparts from 3 to 5 years, but lighter from 6 to 15 years. A
comparative analysis of Bengali Muslim girls with the Indian rural girls reveals that they are taller at 5 years, then shorter from 6 to 12 years and again taller from 13 to 15 years.

The irregular differences between physical growth pattern of the Bengali Muslims and the national samples may be attributable to the genetic as well as environmental heterogeneity of both Indian Muslims and Indian rural. Whereas, the samples of Assamese have been drawn from among the people living in homogeneous condition, and the pattern of difference between them and the children under present study is more or less uniform, with the Assamese Muslims performing better. Such a difference apparently seems to be due to disparities in economic condition.

An assessment of the nutritional status of the preadolescent Bengali Muslim children is carried out. The prevalence of malnutrition as detected by different parameters is not in agreement with each other. Malnutrition is most prevalent as per body mass index, followed by weight-for-age, mid-arm/head circumference ratio, height-for-age and malnutrition is least prevalent as per weight-for-height. However, weight-for-age comes out to be more sensitive, and has been used to discuss the prevalence of malnutrition. It is most frequently used and the most immediate, simplest and direct assessment of growth expressions and an inadequate nutritional condition could be obtained through it. The analysis of nutritional status as per weight-for-age reveals that the overall percentage of malnutrition is more among the boys (81.46%) than among the girls (79.25%) during their pre-school ages. During their early
school ages also, the overall percentage of malnutrition is more among the boys than among the girls, though the difference is very slight. The prevalence of malnutrition is much higher among the early school-age children than their pre-school-age counterparts in both the sexes. This may be attributable to the prolonged duration of breast-feeding during the tender years as well as the involvement of early school age children in agricultural chores. Chi-square test could not establish any significant sexual dimorphism regarding nutritional status as per weight-for-age which may be attributed to the similar treatment of parents to their wards irrespective of sex in matters relating to food and other related social factors influencing the final nutritional status resulting in growth deficits. The economic condition of the households mainly falling under lower socio-economic stratum may be a major factor underlying the poor nutritional condition of the Bengali Muslim children. This again gets compounded with the large family size.

CONCLUSIONS AND AREAS CALLING FUTURE ATTENTION

During adolescence, the growth of all the body tissues which forms the existing morphological conformation, i.e., somatotype, follow a more or less similar pattern, thereby keeping the relative body composition uniform throughout the period. Uniformity of distribution starts manifesting from the
age of 11 years, which continues till maturity with an increasing trend of ectomorphy. Any distributional overlap between some somatotypes may be attributable to genetic and environmental homogeneity of the Bengali Muslims of Barak Valley. The regular pattern of physique during the tender ages and the subsequent and serpentine reversals during the transition to adolescence in the present population may be partly to genetic and partly to environmental factors.

Poor economic condition may have a bearing with high ectomorphy. A population, which is sedentary in nature without having any involvement in planned physical activities, may be lower in mesomorphy.

Prolonged duration of breast-feeding may have a part in the occurrence of higher endomorphy, better physical growth and better nutritional status during the tender ages, even some years beyond the cessation of breast-feeding. These effects of prolonged breast-feeding, however, reduces with the increasing ages. This may be triggered by more emphatic environmental insults including the children’s involvement in strenuous chores.

The phenomenon of female buffering may cause better growth pattern in some of the linear measurements. However, the seasonal variation in different measurements sometimes makes it difficult to clearly discern the positive influence of female buffering. Children have a natural, endogenous rhythm for growth in weight that is independent of the seasonal rhythm of growth in height.
The differences with respect to nutritional status of infants and young children between households with nearly similar dietary and socio-economic status can arise from differences with respect to duration and intensity of breast-feeding, the time of introduction of supplements, and the nature and amount of such supplements. Relatively small proportion of the overall family diet can make a significant difference to the level of adequacy or inadequacy of the diet of the young child.

Malnutrition is the most rampant problem of the study area. The study of the sample children reveals that it affects more than two third of the children. The prolonged state of malnutrition affects the general deterioration of health of the people in general and children in particular. Poor physical growth, underweight, low working capacity, inactiveness and several deficiency diseases can be the immediate affects of this level of malnutrition. These may cause lasting physical and mental debility, which undermine health and efficiency and result in enormous sufferings to the people. It is also quite likely to erode human resources needed for economic development of the area. In consequence, agriculture, the mainstay of their livelihood is also likely to suffer.

Dietary inadequacy of the children under the present study is quite explicit. Though infection is not directly explored in relation to growth faltering or malnutrition, its potential affect on the health status of these Bengali children offers our concern if we consider the environmental condition under which they live. Likewise, regulatory influence on the growth
performance and nutritional status of these children is also implicit as the intensity of regulatory influence is guided largely by hygienic and dietary condition.

Higher ectomorphy with the increase of age, poor growth performance and high incidence of malnutrition appear as multifactor entities among the Bengali Muslims of Hailakandi district owing mainly to poor economic condition, lack of awareness about health related matters and occupational bottlenecks.

Mature sciences are noted for their ability to synthesize several hypotheses that have been independently verified into comprehensive theories, which can explain the known data and, in turn, indicate the kind of observations that could be made in further research. Human auxology has already attained such a stage of its development. The relationship between nutrition and physical growth, physical development and chronic disease, and environmental stress and growth, among other topics, are being actively pursued although, unfortunately a large number of purely descriptive and exploratory studies are still being produced without any express attitude for guiding action. Therefore, from the findings of the present study, an attempt has been made to identify some areas of future research/action for the benefit of the target population.

Somatotyping is useful for grossly describing the structural requirements for various sports. It is also useful in helping to guide both children and adults
to sports appropriate for their present and potential somatotypes (Arnot and Gaines, 1984). Somatoplots from studies of athletes have established the most common somatotype distributions for individual sports. The distributions of young athletes who are still growing are similar to those of older athletes. The elaborations of somatotypes of young athletes are reasonably predictable. In addition, appropriate dietary and exercise regimens help toward developing optimal somatotype characteristics in young and growing athletes. Existing somatotype data are useful as guidelines for sport selection and choice of training appropriate to the enhancement of desired somatotype characteristics (Carter and Heath, 1990). Therefore, any further auxological investigation if substantiated with somatotype data may serve a great deal in identifying sports prospects thereby promoting sports participation in this remote part of India.

The protein hunger, especially in a developing country like India can largely be satisfied by systematic development of livestock production through the consumption of different products like milk, meat and egg, which is handled by the veterinarians. The gap between the demand and supply of these products is so high that there is a pertinent necessity and scope for the improvement of the production of these products. The manpower position from this profession can be best understood by citing an example – there is only one veterinarian for every 13,000 cattle instead of 5000 cattle, which is optimum (Majumder, 2003). With the entry of private entrepreneurs in the field of commercial production of milk, egg and meat, the need of veterinarian is increasing manifold. Veterinarians are engaged in research activities of all
disciplines of Biological Sciences like pharmaceuticals, biotechnological researches including engineering, vaccine production, cloning, bio-diversity, wild life conservation and evolution of hybrids, and naturally human auxology should not be set apart for the greater interest of capitalizing on it in development/welfare perspective.

Children under 5 years of age usually represent the sub-population most likely to suffer inadequate growth and high levels of mortality due to malnutrition and diseases in populations living under conditions of environmental stress. However, birth weight and early childhood growth are also affected by maternal size and nutritional status. Studies in adult nutritional status in such populations can provide information about the long-term effects of early childhood growth deficit on the growth of subsequent generations. In addition, data on adults can be used to examine the issues of whether females are “buffered” from environmental stress relative to males in terms of final adult body size, and the impact of such buffering (the equivalent of living in a better environment) on within-population variation in adult body size. To this end, any further study should have an adult sample as an addendum to the investigation of physique, physical growth and nutritional status of children.

A truly integrated bio-cultural approach in nutritional anthropology, including longitudinal case histories of individual children and of populations, is necessary if we are to understand all of the interactions between culture and biology that result in observed patterns of nutritional status, growth and development, morbidity and mortality, and to use this understanding to design
successful intervention programmes to improve child health. It may not be possible, or necessary, to specify the exact contribution of each strand to the web, as they will be different for every child. It is possible to study and describe the web of causation, made up of many different factors that affect child growth and child health. To do so, however, requires that researchers begin from a bio-cultural perspective and have adequate training in both quantitative and qualitative research methodologies, training that enables them to see the faces behind the numbers.

Researchers interested in alleviating childhood malnutrition should get beyond simplistic measures of socio-economic status, and realize that all poor people are not the same – differences in individual and family circumstances have important effects on the health, nutritional status and survival of children. Not all family members have equal access to the household’s resources, nor do all parents put children’s needs first. This may be true even in a population like the Bengali Muslims of Barak Valley where discrimination regarding intra household food distribution is not apparent.

It should be acknowledged that malnutrition has no easy solution. Programmes to improve child health must address many, if not all, of the causes of malnutrition, including the disruptive forces of modernization. At the same time that multistranded programmes to eliminate risk factors are implemented, other programmes must be designed that strengthen the various strands of the safety net already operating in every community to ensure that more child survive and prosper.
Accurate estimates of body composition in children and youth are needed to study developmental obesity, provide better estimates of minimal and optimal weight for physical performance and health, and to study such factors as genetic, nutritional and physical activity on muscle, bone and fat development. Therefore, any further study on physique and physical growth, if comprehended with an accurate estimation of body composition, would amount to our better understanding of the health of a community.

Considering the vast heterogeneity of the population of North-east India, studies on fat patterning are necessary to determine the 'cut-off points' for various indices of fat patterning as risk factors for various diseases. This necessity has also been asserted earlier (Bose and Das Chaudhury, 2000) and should be addressed as early as possible.

Since children are considered to be the most valuable human resources of the society, child welfare has assumed a significant place in the national planning. India has adopted a national policy for children, which recognizes them as “the nation’s supremely important asset” and “their nature and solicitude as our responsibility”. The National Policy emphasizes concern and commitment to achieve full physical, mental and social welfare of the child. The National Policy on Children specially emphasizes investment in the development of the young child, particularly children from sections of the population in which first generation learners predominate. Knowledge about such services should be disseminated among the masses for obtaining their optimal benefits.
A child being the future man/woman has to develop the quality of a social being and has a right to demand for such development. Hence the adult members of the society including parents, teachers and anybody concerned in any way with the complete well-being of children have to provide them with the environment where they can grow and develop properly. A child, therefore, cannot be seen in isolation. It has to be seen in a broader social fabric. Again, the rural Bengali Muslim children of Barak Valley have their own social dynamics and extrapolation of these children into the "mainstream" children's context may not be always worthwhile. Hence, more population specific studies in the area may be valuable for guiding proper action.

Mortality and morbidity, being the two well accepted indices of health, an analysis of mortality and morbidity trends would help in gauging the status of child health, particularly of those during their infancy and early childhood. In view of this, any further study dealing with any health or development perspective like nutrition should incorporate this aspect too.

In order to see a child fully developed, it is necessary to take care of him/her from the very day of conception. In this case, the foetus can be taken care of indirectly by taking care of the mother. As long as the foetus is inside the mother's womb, it receives food materials directly from the nutrients of the mother's blood stream. These nutrients are obtained from her food through the process of digestion. Hence it is very essential to provide the mother with essential nutritious food. Hence, nutritional supplementation for the pregnant mother is a prerequisite for the health of an individual during his/her prenatal
stage. The same is true also for the lactating mothers. Breast-feeding is not only essential for the growth of the infants but also helps the involution of the uterus. Psychologically, it helps to develop the maternal instinct in the mother and gives a profound sense of security to the child. In a developing country like India breast-feeding is quite economical than feeding cow milk or any other baby food. However, it is also essential to provide the mother with adequate nutritious diet if she has to breast feed her child well. It is calculated that in comparison to whatever is spent on baby food for an infant a very less amount will be required to provide the nursing mother with adequate nutritious diet. Keeping these in mind, an assessment of childcare activities including dietary practices during pregnancy and lactation along with some ancillary variables like infant-feeding practices should be attempted in further studies.

Breast milk is a nutritionally complete food for human infants, the result of millions of years of evolution. Estimates of the nutrient requirements of the full-term infants during the first six months of life are largely based on the composition of human milk (Mclean, 1984). The prolonged breast-feeding by the Bengali Muslim mothers, which appears to be culture based, therefore, should be encouraged. At the same time, mothers should be provided an environmental condition conducive for good health so that they meet the optimum nutritional requirement, which in turn will allow them to breast feed their babies optimally.

Nutrition security cannot be achieved by relying just on one staple. Diets exclusively based on rice or wheat will be deficient in a range of
micronutrients, apart from being relatively poor in protein quality. Diversification of household diets is necessary, and any food production policy should aim at the achievement of balanced production and availability of a range of basic essential foods. The achievement of satisfactory levels of milk production in India is, for instance, highly conducive to nutrition security. ‘Operation flood’, which has now made India the leading milk producer in the world, is a striking example of what a developing country can achieve through the efficient implementation of a well-thought-out programme. The production of pulses and vegetables and fruits must now, likewise, be augmented.

Though it is claimed that during the last five decades there have been significant changes in the nutritional status of India’s population (Gopalan and Aeri, 2001), it cannot, however, be said that we have solved our nutrition problems totally; we have still a long way to go before we can claim that we have achieved optimal nutrition status for our people. The present study itself supports this statement by identifying a gap in our nutrition security.

The prevalence of protein-energy malnutrition (PEM) among children in South Asia (measured by under-weight) is the highest in the world. It is almost the double the prevalence in Sub-Saharan Africa. This high prevalence, together with the large population of the region, more than half of all malnourished children live in South Asia (101 out of 184 million) [Source: ACC/SCN Second Report on the World Nutrition Situation, 1992]. The findings of the present study also sends us similar message about the nutritional scenario of Hailakandi district. The Northeastern region of India has
a wealth of trained human resources that can contribute substantially to the advancement of the science of human nutrition and also can guide a path to uplift the nutritional status of children pertaining to some vulnerable age groups like the under-fives.

Raising the economic status of these Bengali households to a higher level can solve the problem of undernutrition to a great deal. It may be possible by creating opportunities for income. Nutritional status and poverty cannot be rectified without economic growth, particularly in the form of increase in income of the weaker sections. Notwithstanding, simply income generation may not be a magic wand with which all problems concerning health of a community will disappear. Lack of knowledge about health matters and inability of rural masses to identify the health needs and available health resources keep health services under-utilized. Poor socio-economic conditions, together with ignorance also prevent optimal utilization of health services. Therefore, generation of awareness regarding health matters among these rural Bengali Muslims is a pertinent necessity.

Likewise, just feeding a larger quantity may not carry us to pre-empt further occurrence of the problem of malnutrition which is rampant in the study area as of now. This is because as far as feeding behaviour is concerned, it is generally observed that the people living in remote villages of Barak Valley have a propensity to serve the food without sterilizing the container properly. Even in some houses it is found that the concept of safe drinking water does not exist, owing either to its non-availability or lack of awareness.
Monitoring as well as ensuring of the supply of safe drinking water, therefore, should be done in all the areas. At that, knowledge about proper eating and feeding practices should also be disseminated.

Messages relating to nutrition should be integrated in the curricula of campaigns and educational programmes. Some training on child health care and nutrition may be imparted particularly to the expectant and nursing mothers.