Nutrition and Food Habits in Indian and African Population: An Anthropological perspective

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Introduction

- Nutrition is the science that explains the role of food and nutrients in the human body during growth, development and maintenance of life.
- Nutritional status refers to the nutritional state of the body, as expressed according to scientifically tested parameters such as weight, height, age or combinations of these. Using these parameters, an individual can be assessed as having good or poor nutritional status.
- Nutrition security is influenced by a wide range of factors that may lead to inadequate or excessive nutrient intakes or may impair nutrient utilization.
- The factors most directly influencing nutritional status are analysed under the categories of food security, health, knowledge and care.
- Each of these is essential to attain good nutritional status, and they often interact with each other.

Environmental condition of Africa

- Highly vulnerable to climate change, particularly south of the Sahara .
- The southern region and its western margins are expected to see rainfall decrease.
- Issues include desertification, problems with access to safe water supply, population explosion and fauna depletion.
- The African continent will be the most affected by climate change, according to the Intergovernmental Panel on Climate Change (IPCC).
- Usable land is decreasing as the number of people who need it is increasing.
- There is a direct impact on crops and livestock from “increased flooding, drought, shifts in the timing and amount of rainfall, and high temperatures” and indirectly through “increased soil erosion from more frequent storms or through increased pest and disease pressure on crops and livestock caused by warmer temperatures.”
- On top of food being more difficult to grow, extreme weather impairs transportation for access to food. Food spoilage as well as pest and pathogen damage become more likely when food deliveries are delayed or blocked.
- Agriculture is the backbone of the economies of most sub-Saharan African countries.

Source:https://mg.co.za/article/2019-09-17-00-for-communities-in-south-africa-climate-change-is-now/

Nutrition and Food habits

- 70 % of the total daily energy supply (DES) is obtained from carbohydrates, 10 % from protein and the remaining 20 % from fat.
- 5 % of the DES is obtained from animal sources in West Africa. Animal fat appears to be an insignificant component of the fat supply in West Africa.
- Majority of adults, ranging from 79 % in Guinea to 96 % in Nigeria do not consume adequate amounts of fruit and vegetables daily.
- African diet largely based on starchy crops (i.e. cereals, roots and tubers).
- Urbanization caused shift in the composition of dietary staples from locally produced coarse grains such as millet and sorghum to imported wheat and rice.
- Among young African women students, urban women consume significantly more sugar and confectionery and significantly less legumes and maize meal than do rural women.

Dietary Intake

- Staple cereals such as maize, sorghum, millet and rice are eaten.
- The main staples include roots and tubers, bananas and cereal grains and legume.
- Grains form the bulk of food consumed in Africa.
- Sorghum is a traditional grain crop of most communities living in arid and semi-arid regions of Africa
- Finger millet has been cultivated in Africa since ancient times and it is the traditional food of many communities.
- Meal frequency is adapted to lifestyles and work patterns of the family.
- In humid regions of east and central Africa, the abundant green bananas and plantain are used as the base of the main dish.
- Consumption of animal products especially milk and meat increases with income and urbanization.
- On average, meat and meat products take up to 3.2 percent of the dietary energy requirements (DES) in sub Saharan Africa.
- The fat or oil content of many African diets tends to be low.

https://oldwayspt.org/traditional-diets/african-heritage-diet

Nutritional problems in Africa

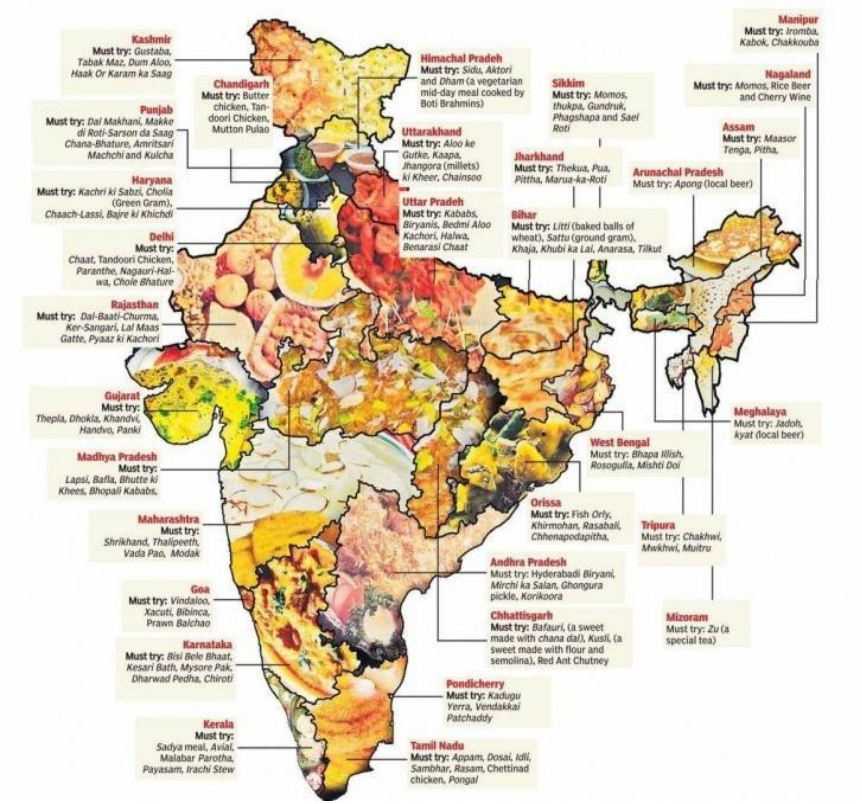
- Double burden of malnutrition (DBM) with high levels of undernutrition and a growing burden of overweight/obesity and diet-related (NCDs).
- The prevalence of undernourishment in sub-Saharan Africa rose from 181 million in 2010 to 222 million in 2016.
- Prevalence of stunting among children under 5 years of age decreased between 2000 and 2017, the number of affected children increased from 50.6 to 58.7 million due to population growth.
- The prevalence of wasting in 2017 was 13.8 million children, of whom 4 million were severely wasted, showing that undernutrition remains a serious public health problem in this region of the world.
- Poverty-related factors, such as food insecurity and infectious diseases, persist as drought, floods, and protracted humanitarian crises continue to mark the face of Africa.
- Reduced physical activity and the early onset of puberty predispose girls to high adiposity. Diet-related NCDs are now among the main causes of premature death.
- Key issues are population growth and food supply.
- Africa is the only continent where population growth rates (currently 3.1%) have not yet started to decline.
- Anaemia in women of reproductive age show high prevalence in many west African countries with regard to breastfeeding.
- Vitamin A deficiency remains a major health hazard in Sub Saharan Africa.
- Lesser growth for age is widespread and is a major health concern in Africa
- 57 percent or more of the population cannot afford a healthy diet throughout sub-Saharan Africa and Southern Asia
- Food insecurity leads to massive migration to find usable land and is sparking conflicts over territory, such as in Nigeria and Kenya.
- More than 10 million people in Nigeria, Somalia, and South Sudan are on the verge of starvation

Health problems

- The average prevalence of overweight in under-fives is 4.9% - the second lowest across all regions.
- The prevalence of stunting in under-fives is 30%, this is greater than the global average of 21.9%. unregulated marketing of cheap processed foods.
- Alcohol consumption is also rising, and follows the rapid urbanization occurring in some countries
- As to physical activity, in South Africa approximately half of the population now live in urban areas.
- All African countries are short of money with consequent severe restrictions on health promotion and practices.
- Prevalence of wasting in under-fives of 7.1% is less than the global average of 7.3%.
- The region's average low birth weight prevalence of 13.7% is less than the global average of 14.6%.
- For example, in Nigeria only one-tenth of the population can afford to seek help at clinics and hospitals.
- In Uganda, the equivalent of US$3 a head is being spent annually on total health services, compared with the US$17 required for the repayment of their national debt.
- In Kenya, cuts in spending have evoked a rise in sexually transmitted diseases and a fall in the rates of clinic use, with increases in the spread of HIV and AIDS.
- In Harare, Zimbabwe in recent years, both infant and under-5 years of age mortality rates have doubled.
- In South Africa, the intensifying of primary health care, inter alia, has augmented burdens on the tertiary health services.

INDIA

- World's largest producers of milk & pulses and ranks as the second-largest producer of rice, wheat, sugarcane, groundnut, vegetables, fruits, and cotton.
- 14 per cent of India's population is undernourished, according to 'The State of Food Security and Nutrition in the World, 2020
- In addition to all this, as per Global Hunger Index (GHI) 2019, India has been ranked 102 out of the qualifying 117 countries that were assessed.



https://www.indiatimes.com/culture/food/someone-created-a-map-of-india-with-the-best-foods-to-eat-in-each-state-251809.html

Food Habits

- India’s poly-geographic terrain and pluralistic cultural background, offers a high variety of alimentary differences, like cereals, pulses, vegetables, fruits, milk and milk products, including also categories of minor national consumption, like meat and poultry, roots and tubers, fats, nuts and oils.
- ‘Plant-based/animal food-based pattern’ is followed in India.
- Indian diets are cereal-based, determined by what is grown in the different regions. The cereal item is the primary food, and other components of the meal like lentil, vegetable, and meat curries are regarded as side dishes.
- The fiber content of diets of pregnant women in India was 14.4 g/1000 kcal.
- It has been concluded that as income rises, households generally di- versify their food consumption pattern by shifting towards high-value and high-quality food items.
- Indian diet includes long-grain rice, wheat, legumes in the form of dried beans, peas and lentils (Dal, also called pulses), fermented dairy products, clarified butter (ghee), and distinctive seasonings used to make masalas or curries.
- Greatest differences in diet exist between southern and northern India.
- Many Asian Indians follow a vegetarian diet that includes consumption of milk products, although the definition of vegetarian is varied depending on geographical region, religion, and availability of food.
- Asian Indians typically eat two full meals with substantial snacks.
- A meal is not considered a true meal unless the traditional staple is prepared in the traditional manner, such as boiled rice in the South and roti in the North.

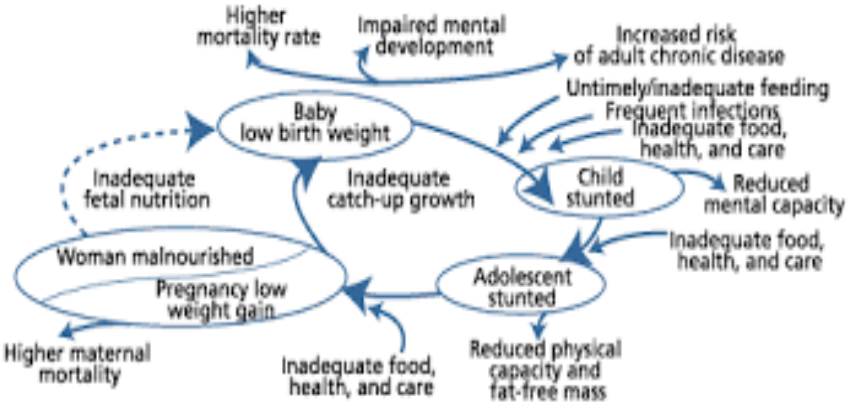
Environment

- Indian agriculture, and thereby India's food production, is highly vulnerable to climate change.
- About 65% of India's cropped area is rain-fed. With its huge and increasing population and rapid rate of urbanization.
- The main causes of soil (or land) pollution is soil erosion, excessive use of chemical fertilisers and pesticides.
- The irrigated land is losing gradually its fertility by converting into saline alkali soil.
- Agricultural progress in the last decade has made India self-sufficient in major food grains.
- Human population growth and cultivation of forest land are increasing day by day.
- Food insecurity, mostly seasonal, was confined to poorer segments in remote areas; hunger had been reduced and energy needs met by food grains.

Source: https://blog.ipleaders.in/poor-implementation-environmental-laws/

Nutritional problems

- The Indian population has the highest prevalence of diabetes worldwide, hypertension and exhibits high-risk metabolic profiles at younger ages and lower body mass index (BMI).
- High levels of child malnutrition in India with that of Sub Saharan countries.
- Low dietary intake is the major factor responsible for undernutrition Potable water supply and sanitation are critical for prevention of infections.
- India is in the midst of a nutrition transition.
- High prevalence of low birth weight, high morbidity and mortality in children and poor maternal nutrition of the mother continue to be major nutritional concerns in India.
- Despite the achievement of national food self-sufficiency, new challenges have emerged: Slowing agriculture growth, climate change, land degradation and shrinking bio-diversity. Large tracts of farmlands in India have become barren due to imbalanced fertiliser use and excessive use of a single fertiliser, urea.



Source: https://www.prb.org/nutritionofwomenandadolescentgirlswhyitmatters/

What can be done?

- This requires collaboration between the health sector and other sectors responsible for nutrition-sensitive programmes such as agriculture, education, social welfare, water and sanitation, labour, and trade.
- According to the Second WHO Global Nutrition Policy Review actions to prevent obesity and diet-related NCDs in Africa consist largely of diet/nutrition counseling, media campaigns, nutrient labeling, and issuing of dietary guidelines.
- However, to achieve higher public health impact, countries need regulatory measures to drive consumer choice toward healthful foods and/or decrease the desirability of unhealthful options.
- South Africa is implementing a tax on sugar-sweetened beverages as part of the national strategy to prevent and control obesity
- Kenya where legislation was enacted to regulate the marketing of breast milk substitutes and create a supportive policy environment for its implementation
- The African region needs to enforce food labeling, restrictions on health claims of products, and reformulation of products so that consumers can make informed choices. In view of the increasing importance of micronutrients identifying functional or protective foods consumed in different rural communities of India is essential.

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Acknowledgments

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