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## Education for Poverty: Information against Hunger and Obesity in India

“As a nation we must prevent hunger and cold to those of our people who are in honest difficulties.” Herbert Hoover had the right idea when he said this, but still his scope was limited. First, he refers to a nation helping those within that nation which limits what we can do. The world needs to help the world; that’s why organizations like the United Nations have been set up. Second, Hoover’s statement raises questions about what hunger truly is. The American Heritage Dictionary defines hunger as a strong desire or need for food. The main causes are lack of food and improper nutrition. Lack of food is an everyday occurrence for many people, especially in developing countries where poverty rates are high. Poverty increases lack of food. That fact should not surprise anyone. What is more and more surprising is the number of people who are overweight and obese who have improper balances of nutrients, even in countries with high percentages of impoverished and undernourished people. Hunger and obesity can coexist because of a lack of nutritious food and a lack of education about healthy lifestyles. Hunger is prevalent in many countries, including India. India has recognized the problems of hunger and poverty, and has begun to work against them. Obesity is another problem facing many countries, including India. Obesity is much harder for India to deal with because the problem of obesity magnifies the problem of hunger. For example, India has nearly as large of a percentage overweight people as the country of China, and they are the two most populous countries in the world, but India has five times as many underweight people as China, and nearly ten times as many severely underweight people. How can a government tell people who have never had enough food in their lives that they must not only pay attention to how much food but also what kinds of food they are eating? Even in countries like the United States, where the number of people below the poverty line is small, there is still not enough consumer awareness to watch what kinds of foods people eat. This is why education is so important to helping combat hunger, obesity and poverty. Education about proper nutrition, lifestyles, and exercise can affect more change than simply handing out food. Consequently, countries like India stand to gain greatly from better education in these areas.

India falls in the low income class according to the World Bank. It is the second most populous country in the world, after China. Extended families are very common, sometimes with several generations living together. The 1991 Indian Census suggests an average of 5.57 people per household in 1991, and estimates now range from 4 to 6 persons per household. The average woman now has three children, meaning most families are two parents with children and sometimes other relatives. Households tend to be larger in rural communities, and 74.3% of people live in rural areas. In many families, older family members still arrange marriages for younger children. Girls are expected to marry and have children and are not allowed to divorce or remarry. So many people have dependents, children or older family members, that the average income is not enough for their needs. The main businesses are agriculture, services, and industry, and the per capita income is \$3,262. Generally, it seems that the per capita income is not enough to provide food for more than one individual.

The 1991 census in India showed that 37.3% of the population is age 0-14, 39.8% 15-39, 18.4% 40-64, and 4.1% over 65. The average life expectancy is 64.3 years. There are more men than women, in an approximate 1.08 to 1 ratio. Girls tend to get less education than boys. Education levels in all people vary greatly, but over age 7, the literacy rate is 52.2%, which is good compared to the rest of southern Asia. 21% of the population is undernourished and the average person consumes 2420 kilocalories per day. As far as diet goes, “Studies conducted by the National Institute of Nutrition in Hyderabad, India, have shown that the primary deficiencies in the diet of people in India are mainly calories, vitamins, and

minerals” ([www.unu.edu/unupress/food/8F021e/8F021E05.htm](http://www.unu.edu/unupress/food/8F021e/8F021E05.htm)). Reducing poverty allows people to buy more food and more nutritious food, thereby fulfilling these deficiencies.

There is a certain level of poverty at which a family or individual cannot buy the necessary amount of food to sustain him/her/itself. People who depend on agriculture may find it even more difficult to find day to day money or goods on which to sustain themselves, as they have one or two harvests per year. Poverty affects the environment to the extent that impoverished people tend to reside in unsanitary living conditions. This in turn increases disease, making it hard to work and earn money to buy food. Any of the rural areas these people inhabit will also not be cleaned up by sewer and water facilities as it might be in higher income neighborhoods or urban areas.

Poverty is caused by unemployment and underemployment, as well as gender and class inequities. Hunger is caused by poverty and inadequate access to food. Obesity can be caused by lack of money to buy nutritious food, or simply by inadequate access to it. As these causes are eliminated, the problems of poverty, hunger, and obesity will disappear.

Poverty also affects women and female children the most. A combination of poverty and class structure cause more maltreatment of female children, including neglecting infants and children, underfeeding young girls, killing infants, or aborting fetuses, only based on gender. This makes the male to female ratio rather high in India, 1.08 to 1. Fewer females live to adulthood and this can limit reproduction of the next generation. Women cannot support families as easily as men can, so women do not play as large of a part in economic decisions. Poverty can result from women not being financially independent (<http://www.jadski.com/kerala/f1famaliesinindia.htm>).

Poverty is an economic problem that requires economic policy to reach a solution. Poverty plays a big part in determining economic policy. Unemployment is a major cause of poverty, so economic policies aimed at providing employment help greatly in reducing poverty. The entire point of having economic policies is to make sure everyone gets enough. Money changes hands as required by economic policy, so economic policy should be and is designed to put that money into the hands of people who need it. An example from America is the recent situation with Hurricane Katrina. Displaced and poor individuals are receiving federal money to help repair their homes and afford food, shelter, and other essentials while they wait. The poor are making a huge impact on economic policy. Money in the hands of the impoverished allows them to buy food, reducing overall hunger.

Hunger is a major problem in India. One-fifth of the population is undernourished (21%). The Indian Gross Domestic Product is very large, but per capita it is small because of the huge population. There are many food programs, some from the National Institute of Nutrition, that distribute food and help farmers grow higher yielding crops. However, more food does not always mean more nutritious food, and programs cannot serve everyone. Calorie intake is only part of the problem even though it causes hunger. Excesses of refined sugar and animal based oils and fats combined with lack of physical activity can cause obesity, and Vitamin and mineral deficiencies like Vitamin A and Iodine also cause health problems in overweight people who then become a burden on the health care system and the economy. The environment can be affected by the types of crops farmers choose to plant, due to leeching of nutrients from the soil. Knowledge of the new crops is vital to maintaining the environment in its current state. Biotechnology is being employed to create food, and India has taken this plight very seriously, creating a Department of Biotechnology within the national government. This department is able to look at the effects of creating new species of plants from the point of view of affecting the economy, environment, and the people of India. Because so many people rely on agriculture in rural areas (70%), this department is very important in determining these people's economic status.

The current poverty situation is fairly severe. As of 2000, 30.2% of the rural population and 28.6% of the total population was below the national poverty line (FAO Statistics Division). In the same year, 35% of the population lived on less than one US dollar per day. However the poorest one-fifth of the population held 8.9% of the national income. This may seem small, but the same value for the United States was 5.4%, showing a greater disparity in incomes in the US than in India. In other words, while Indians do not make as much money, there are not as many extreme cases of poverty or wealth. The World Bank reports that as of July 2005, as many as 260 to 290 million people in India lived in poverty.

The absolute number of people in India who are undernourished increased between 1996 and 2001, from 203 million to 221.1 million. This was after a decrease in the previous five years of nearly 12.8 million (FAO Stat div). However, the percent of undernourished people is decreasing, so depending on what values are reported, the situation may look good or bad. Unfortunately children seem to be off to a particularly bad start in India. In 1999-2000, 47% of children under age five were moderately or severally underweight, and 18% were severely underweight. The bottom line is that India needs to reduce absolute number of people that are malnourished, including the hungry and obese.

Obesity currently affects over a billion people worldwide (FAO Statistics Division). Perhaps not surprisingly, obesity is more prevalent in large cities. The main measure of obesity is Body Mass Index. A BMI of 25 or above is overweight and 30 or above is obese. Some effects of obesity are increased susceptibility to diseases like diabetes, and a greater chance of getting some types of cancer. The problem of obesity can be solved by educating people on healthy food and lifestyles and in some cases by providing more income to buy more nutritious food.

Reducing poverty provides income for people. Income generally means the ability to buy more food and higher quality food. Higher quality means more nutritious, or having more of the necessary vitamins or minerals. Also, income means farmers may be able to grow different crops so that the fields can gain back some of the nutrients they may have lost. Income allows people to feel more secure. The main difference between living below the line of poverty and above it is the amount of security in case of problems. Farmers do not have to worry as much in years of drought if they have saved money from extra income in previous years.

A further reaching implication of lessening or eliminating poverty is the ability to assist other countries, politically and economically. Politically, if India could eliminate poverty, or even greatly reduce it, India would set a magnificent example for every other country in the world because there is currently such a large amount of poverty. Every country has some poverty of one degree or another, and all of it needs to be managed. Economically, reduction of poverty means the freeing of resources for other projects like education, public works, or national defense, as India wishes. It also means the ability to invest in other developing nations in the same geographic area, such as Bhutan, Nepal, and Maldives.

My recommendation is a three faceted attack in which two of the facets address general malnourishment, the second of which also encompasses lifestyle and children issues, and one facet directly toward poverty. First, there should be a focus headed by, but not limited to, the government to produce more nutritious foods and make them available to all Indians. There are already departments of Biotechnology (DBT) and Sugar and Edible Oils (DSEO). I would like the DBT to step up in promoting food that has not only been genetically modified to yield more crops, but also on food that has been modified to have vitamins that Indians might otherwise lack. The DSEO should strongly encourage people to consume complex carbohydrates and vegetable oils over refined sugars and animal based oils and fats. Both of these will help to reduce the current amount of undernutrition by still providing policies on food that encourage calorie consumption, but will also reduce the current amount of obesity by having the government encourage people to make healthier choices both in what they grow and in what they eat.

Second, all students should be educated at school about the importance of eating habits. Education in India is not provided at the current time for all students, but already improvements have been made (World Bank). I would recommend a program that educated students about nutrition, including physical activity and eating the correct foods in good proportions. While many students do not lack activity when they are young, reinforcing good behavior patterns throughout several years of schooling may encourage students to remain active. Students should specifically be taught that being overweight results from an imbalance in intake and output of calories. There should also be reinforcement in that all food provided by the school should reflect these lessons, including moderate amounts of fat, vitamin and mineral-rich foods, protein, and fresh seasonal vegetables and fruits. This also means that all schools should have some kind of food program at school, even if it only encourages students to learn in order to get food. "Food for Education" programs already exist, and help poor students get food so that they can concentrate on learning. This educational component will also help prevent obesity in the future by promoting positive lifestyles now.

Third, key organizations within India that have the ability should provide more employment opportunities, especially to farmers living in rural areas. Farmers need this extra employment to supplement the income they get from harvesting once a year. Some programs instead might be changes to economic policy that encourage employment, like increasing minimum wage. The Center for Research on Sustainable Agriculture and Rural Development has recommended that an extensive rural works program be initiated, particularly for the benefit of rural farmers who need work to supplement their income. The program would include employment 100 days per year, and would supplement income enough to get many households above the poverty threshold ([www.mssrf.org/events\\_conferences/content\\_events/pedro.htm](http://www.mssrf.org/events_conferences/content_events/pedro.htm)). The center's plan is a good example of the type of comprehensive program that would help reduce poverty. Increasing income will make it so that the government is not so hard pressed to provide money in years of bad drought to the people who do not have enough savings to live through the next year.

India is a country of many languages, religions, and different people with different beliefs. Large and sometimes extended families live together. These beliefs have formed India into a class society generally based on money. Poverty is very common because the per capita income is not enough to support larger families. Poverty also strikes women and children harder than men because of this class society. Without more money distributed to people in India, poverty will remain common. Poverty is common, as is hunger, but surprisingly, the occurrence of obesity is quickly on the rise not only in India but world wide. Trends indicate that poverty may be in slight decline, but absolute number of undernourished individuals is on the rise in India. Education is not as good as in some places in the world, but India's literacy rate is relatively good compared to other countries in south Asia. Eliminating the causes of these three problems—poverty, hunger, and obesity—is the key to solving the problems. This should affect new economic policy about unemployment. Taking an aggressive stance against these problems will set an example for the rest of the world, particularly about the relatively new problem of obesity. My recommendation of three parts, producing more nutritious food and making it available, educating young students on food and physical activity, and providing employment opportunities, especially in rural areas, is an answer to the problems of hunger, poverty, and obesity in India.

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