

**IS FEMALE ILLITERACY
A DETERMINANT FOR
CHILD MALNUTRITION:
AN ANALYSES OF
DEVELOPING COUNTRIES**

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Along with poverty, socio-economic backwardness is the main underlying factor leading to malnutrition among children. In developing countries inadequate unhygienic food, lack of medical facilities for children and their poor care by uneducated mothers results in unhealthy growth, suggesting a strong relationship between poverty and malnutrition. At times poverty underlies most undernutrition and malnutrition. Increased income usually enables poor families to get better access to health services, however, at the same time, there also lies a potential disconnect among them as well. If the families do not spend their increased incomes on good food and clean water, better curative and preventive health then malnutrition will obviously increase. Basically, mal nutrition results from relative or absolute deficiency of one or more essential nutrients.

Therefore, our hypothesis is whether improvement, provision or access in the social services like education improves malnutrition among children in real terms? If so, then to what extent and which particular area of the education sector demands attention and investment? The immediate response to the query revolves around the fact that if women or mother is empowered then the probability of having healthy children is quite high. At the same time, this female empowerment requires educational attainment for her. So, if she is educated, empowered and aware then she can exercise control over proper and adequate utilization of money. Thus, the reality is that, the two forces of social and economic factors should run parallel for overcoming malnutrition. This reduction in malnutrition in it's turn will lead to increases in income later on in life. Proper nutrition not only boosts household income but income growth at the national level as well. But the fact remains that the primary route is thought to be via education.

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Improved nutrition leads to better developmental levels in infancy for instance earlier age of school enrollment and better enrollment rates leading to high returns from investment in education. On the other hand, malnutrition reduces the return on investments in education in the form of late schooling, drop-outs and low enrollment rates. On the other hand, economically oriented measures also helps in the improvement of child's health status if they are targeted towards women in the form of improved access to credit and resources, land, water and education, then combined with programs aimed at empowering women that is strengthening their capacities and rights. In short, lack of power and influence on social decision-making processes with regard to women is an elementary component of an extended definition of poverty.

Consequently, the objective of this paper is to establish the relationships between malnutrition and economic development and secondly between malnutrition and social development by analyzing data from several developing countries across the world which comes in the lower income bracket. The paper is divided in the following sections: Section I gives background and introduction, Section II discusses situation in the context of Pakistan, Section III gives the South Asian Picture, Section IV gives data analyses and results, finally, conclusion and policy recommendations are given in the end.

The Indicators of health, fertility, and nutrition reveal the extent to which women are disadvantaged in our country. The lack of adequate prenatal care probably contributes to the extremely high incidence of low-birth weight babies. A major nutrition-related problem cluster is that of inadequate maternal child care. Women suffer social discrimination, which manifests itself in very low literacy rates, a large demand for domestic and poorly-paid productive labor, intra-household maldistribution of food and inadequate time and facilities for child care. The relatively poor health of Pakistani mothers affect their offspring in quite a negative fashion. Pakistani women also suffer from poor health partly because of an excessive reproductive burden. During, their child bearing years Pakistani women bear the physical stress of almost frequent pregnancy and lactation. If the rate of nutritional improvement is to be accelerated such factors will need urgent attention. In addition to the above factors, Pakistan has a very serious problem with respect to weaning practices and complementary feeding of infants as well. Recent studies have shown extensive supplementation beginning in the first month of life _ a practice that leads to high illness rates

and malnutrition for infants. Therefore, female education is a key factor affecting the ability of mothers to provide adequate care for their child.

Three main tracks need to be pursued in order to achieve a sustainable improvement in nutrition. The one is to deal with the poor educational levels of mothers, their poor nutritional status, high reproductive burdens, and poor social status, which have constrained further improvement. Secondly, there is a need to improve the weaning and feeding practices which can generally be addressed alongside the education strategies. Third is to increase investment on social sector support, particularly in health and sanitation and on reduction in morbidity. Efforts at matching the improvement in food security with investment in health and education, and reducing the population growth rates and improvement in the status and capacities of women, would likely bring about larger reductions in the proportions of malnourished children in the country. The lack of education among women is strongly associated with malnutrition among children. These malnourished mothers face potential complications in childbirth and the likelihood of low birth-weight babies. If those babies are girls, they will be predisposed to poor pregnancy outcomes when they reach childbearing age.

THE STATUS OF PAKISTAN:

Another important indicator that reflects the nutritional status is infant mortality rate (IMR). In Pakistan according to the Human Development in South Asia 2002, it is highest that is 85 per 1000 live births in the year 2000 as compared to the other countries of South Asia. The lowest for the same year is reported for Sri Lanka as 17 per 1000 live births. The Pakistan Integrated Household Survey (1997) shows that IMR in 1996-97 has increased to 83 per 1000 live births from 81 per thousand live births in 1995-96. The situation is even worse in the case of rural areas where the provision of services is further poor and the population is mostly unaware about their health and hygiene requirements. Similarly if we take into account the Under 5 Mortality rate it is also highest in the year 2000 for Pakistan as 110 per 1000 live births although it has declined from the past and again the lowest figure is for Sri Lanka as 19 per 1000 live births.

According to the National Nutrition Survey (2001-02), among the children of ages 6-29 months about 38 percent were underweight, 36.8 percent were stunted and 13.1 percent were wasted. Regarding the situation of mothers a considerable number of them are anemic having iron deficiency. As mentioned earlier, the inadequate diet is the root cause of all this

phenomena. Balanced diet comprising of meat intake, poultry and dairy products are not in their daily meals thereby creating all sorts of deficiencies in the mothers and consequently in their children as well. The National Nutrition Survey 1988 shows that 65 % of the young children and 45 percent of pregnant and lactating women suffered from anaemia due to iron deficiency. Moreover the deficiency of iodine in women also results in still and defective births, mental retardation and lower level of child's intelligence. In this connection, it is worth pointing out to the fact that in low and medium socio-economic groups a lack of effective purchasing power reduces food intake levels. In the case of higher income groups, lack of proper education with respect to requirements of health and nutritional awareness becomes the main cause.

Countries	Child Malnutrition (under –5 % age group (1993-2000))	GNP pre capita (\$)	Illiteracy Female (% of female age 15 +) (Year 2000)
Bangladesh	55	370	48
Ethiopia	51	100	53
India	42	450	32
Niger	40	180	76
Pakistan	36	440	43
Sri Lanka	20	850	6
Vietnam	39	390	4
Zimbabwe	27	460	7
Source: World Development Indicators, 2002, The World Bank			

THE STATUS OF SELECTED DEVELOPING COUNTRIES:

Childhood malnutrition has immediate consequences which are very grave. Underweight children are more likely to suffer from diarrhea and pneumonia. They are also more likely to die. Women infact usually suffers because of their own childhood malnutrition which is then transferred to the new born child. This child which is already malnourished when enters the school going age develops further health complications. Thus mothers' education here seems to be an asset for the next generation's safety and care.

From the analyses we establish that both economic factors (e.g. family income) and the social factors (e.g. education of mother) play an important role in the malnutrition of a child. For instance, table 1 shows that child malnutrition in Bangladesh is as high as 55 % where female illiteracy is also high as 48 percent. In Sri Lanka where its GNP per capita is \$ 850 both the above mentioned indicators are very low that is 20 % and 6 % respectively indicating strong relationship between the two. The worst situation in the table is of Niger where all the indicators are very alarming. This shows that both the social and economic indicators in Niger are not favorable for better child nutritional level. The other country in a bad shape is Ethiopia which has a GNP per capita as \$ 100 and both the other indicators are very alarming.

In some of the developing countries especially those of South Asia are very much vulnerable to extreme natural shocks such as droughts and floods. This creates food insecurity and shortage. In addition to this, these countries launch various welfare program but they are not very successful because of excessive population pressure. Thus the problem is of big household sizes which poses heavy burden on the families of their living. Educating a girl child becomes least important issue and earning for bread and butter gains primary importance.

EMPIRICAL EVIDENCE:

However, a statistical exercise is carried out to establish a relationship between Child Malnutrition (under -5) % age group and Illiteracy Female. So, a regression framework is used to relate some of these variables. It is hypothesized that female education play a major role in the improvement of malnutrition among children. The estimated equation reported, depicts good fit and expected signs of explanatory variables.

TABLE 2			
REGRESSION RESULTS			
DEPENDENT VARIABLE: CHILD MALNUTRITION (UNDER -5) % AGE GROUP			
<i>(Included Observation 24 countries)</i>			
Variables	Coefficient	t- Statistics	
Constant	27.93696	3.346078	
Illiteracy Female (% of Female age 15 and above)	0.319978	2.890453	
GNP per Capita (\$),	-0.041657	-2.844370	
R-squared	0.487422	F-statistics	9.984701
Adjusted R squared	0.438605	D-Watson	2.398290
* Significance at the 1 percent			

TABLE 3			
REGRESSION RESULTS			
DEPENDENT VARIABLE: CHILD MALNUTRITION (UNDER -5) % AGE GROUP			
<i>(Included Observation 41 countries)</i>			
Variables	Coefficient	t- Statistics	
Constant	34.35792*	5.096069	
Illiteracy Female (% of Female age 15 and above)	0.153423*	2.461406	
GNP per Capita (\$),	-0.024724*	-3.046183	
Immunization DPT (% age group)	-0.119985*	-2.050604	
Dummy for Sri Lanka, India, Nepal and Bangladesh	33.95556	7.571845	
R-squared	0.714873	F-statistics	22.56486
Adjusted R squared	0.683192	D. Watson	1.92956
* Significance at the 1 percent			

The coefficient associated with GNP per capita is negative and highly significant and also indicating a strong relationship with the Child Malnutrition (under -5) % age group. Another important finding that is evident from the regression results is Immunization DPT (% age group) shows significant. This phenomenon is also evident from the square / cubic of Illiteracy Female highly significant.

The important indicators used in the analyses are Child Malnutrition (under -5) % age group, GNP per Capita (\$), Food Production (Per capita), Illiteracy Female (% of Female age 15 and above), Immunization Measles (% age group), Immunization DPT (% age group), Access to safe water % of population, Mortality Infant (per 1000 Live Birth), Mortality (under -5) per 1000 Live Birth, Total Fertility Rate (birth per women), Population Growth Rate (Annual %), Labor Force Participation Female (% of population), Average household size (persons per household), and Population Per Physician. They all correspond to the direct and indirect effect on child mal nutrition.

CONCLUSION:

The policy relevance of the analyses is that since the economic factors are playing an important role so, the government resources should be directed in such a way that it should enhance the income levels of the households. On the other hand, the impact of the social factors is also in accordance to the economic factors but it is slightly more, therefore the government policy should be to invest more on social sectors like on female education on a priority basis so that the problem of mal nutrition can be handled in a positive manner.

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