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Vinod Bhanu

Dear friends,

Greetings from the IMPF.

On behalf of the IMPF, we are pleased to release the delayed Monsoon Session issue of the IMPF Newsletter. This is an exciting time for our work, as it coincides with the launch of the world's first Parliamentary Group on the Millennium Development Goals (PG-MDGs). We hope that there will be many opportunities for collaboration between the IMPF and the PG-MDGs, particularly as we must both work on issues of infant/maternal mortality and disease control.

Indeed, the authors featured in this edition are continually referring to the need to link healthcare, poverty and education, and we must understand that our advocacy requires a holistic approach to India's problems. In October 2008, the Global Hunger Index report ranked India 66th out of 88 countries, based on levels of under-nourishment, prevalence of child malnutrition and rates of child mortality. India is failing to match up to progress in Myanmar, Sri Lanka, Nepal and Pakistan, and twelve Indian states are said to have "alarming" levels of hunger.

Of course, this environment has inevitable ramifications for healthcare. It is estimated that households are spending between 40 and 70 per cent of their income on food, and retail prices have not yet come down following the recent "food crisis". People are therefore less willing or able to invest in essential (but still out-of-pocket) care and treatment.

In this context, women's health needs can be expected to take particularly low priority. This is the focus of Abhijit Das's timely article, which calls for a fundamental change in attitude towards maternal mortality. Paul Hunt, the UN Special Rapporteur on the Right to Health, has said that each preventable maternal death is a fundamental human rights violation. If this is the case, then India's shocking incidence of maternal mortality is a human rights *catastrophe*. High maternal mortality cannot remain an unquestioned norm amongst the public: as MPs and as members of our communities, we have a responsibility to start questioning.

With food security becoming more volatile, we also need to talk about safeguards on food safety. Dr. Mira Shiva's article concludes that it is now extremely important to assess policies that promote genetic modification and high-pesticide dependent food production and consumption.

The article on extensively drug-resistance tuberculosis (XDR-TB) highlights the need for MPs to emphasise increased case-detection and sustained community-based education about treatment. Drug resistance is a problem that has the potential to become a national emergency.

This issue of the Newsletter is being supported by the International AIDS Vaccine Initiative, New Delhi. We would like to place on record our acknowledgement and extend our gratitude to the IAVI for their valuable support.

As always, we would like to thank the authors for their contributions to this issue. Furthermore, we would like to thank our friends for their continued cooperation and solidarity, and we look forward to opportunities for collaboration in the future.

Dr. R. Senthil
Convener-Secretary

Dr. M. Jagannath
Chairperson

Malnutrition, Food Safety and Public Health

To date, over 150,000 farmers have committed suicide, a phenomenon never before seen in the history of the country. The NFHS 3 reveals that 40% of the world's malnourished children in the world live in India, that 46% of children are underweight, and that childhood anaemia has actually worsened from the 1990s. Maternal mortality rates in India are worse than in many parts of sub Sahara Africa and 20% of maternal mortality is anaemia related.

Despite this precarious public health status, lack of nutrition is being heightened by inadequate attention to food safety. Food loaded with hazardous pesticides is freely sold, despite the fact that these substances are known to cause spontaneous abortion, infertility in men, cancer, liver and kidney damage.

Public health cannot be promoted by large scale conversion of fertile agriculture land for projects that contaminate air and water with toxic effluents. It is also severely misplaced to imagine that prosperity will result from decreasing the food production of peasants and small farmers, giving land for contract farming and growing non food cash crops. Widespread loss of livelihoods not only deprives people of their sense of dignity by taking away their ability to feed themselves, it will also have serious socio-economic repercussions. There are currently no alternative jobs for the people being displaced.

Moreover, the links between climate change and high energy use are now widely recognised, and in this context flying or shipping food across thousands of miles is ecologically unsustainable – particularly with rising global fuel prices. As such, food importation as a policy strategy is risky and unsustainable.

Where food safety is concerned, imported wheat has been found unfit for human consumption. It has been shown to contain wheat rust, which has already caused havoc in Africa. The tested wheat also contained pesticides such as Fenitrothion, the content of which was 0.25 ppm - around 50 times higher than the permissible level – along with chemicals, MYCO TOXINS and 14 weeds, 11 of which are alien to India. It may be important to recall that parthenium, an invasive species of weed, was obtained from the US to deal with the food crisis in the 1960s. Parthenium has not only taken over millions of acres of fertile land, but also areas

used for animal fodder. It is associated with severe skin allergies and acute and chronic asthma.

Most concerningly, it contained CARBORYL, the pesticide made in Union Carbide which killed thousands of people during the gas leak in Bhopal. In this instance, the tragedy was worsened by denial of the treatment with Sodium Thiosulphate - the **only** antidote for cyanide poisoning caused by the Methyl Iso Cynate (MIC). To accept this treatment would have meant admitting the existence of cyanide poisoning, and would have affected the legal case for Union Carbide and the amount of compensation to be paid to the victims.

To encourage import of food grain, the amounts paid were double that paid to Indian farmers, and safety standards were and are being diluted - eg. from 1000 parts per billion, it was decreased to 2000 parts per billion to suit US wheat trade. Even quarantine norms have been relaxed.

Concurrently, trials of genetically modified (GM) brinjal, cauliflower, ladies fingers etc. are ongoing. The appropriate safety norms are not being followed and safety assessment/trials by independent experts are being severely neglected. The safety data is held by the same corporation holding the patent. Even the toxicity of chemicals and pesticides that have been around for decades is largely unknown and unbiased information is not available. It is therefore highly unlikely that the public possesses any knowledge of the associated health concerns.

The Food Safety Standards Act was passed on 24th August 2006 without any informed debate in the parliament. The National Biotechnology Regulatory Authority Act will be similarly pushed and cleared with loopholes unless safety and public health safeguards are ensured by independent autonomous bodies.

Despite the existence of the National Nutrition Policy of 1993, a National Plan of Action for Nutrition 1995, and the 2003 National Nutrition Mission, India is ranked at 66 in the Global Hunger Index (International Food Policy Research Institute, 2008). In this context, food safety and food security cannot and should not be compromised. To do so amounts to criminal neglect of our people.

- Dr. Mira Shiva
Initiative for Health, Equity and Society

Bringing Down Maternal Mortality: Political Ownership is the Need of the Hour

Over the last few years, India has emerged as a major economic powerhouse, and it is widely expected that India and China will soon dominate the global

economy. What does not receive adequate mention is that, among the various economic and social indicators that have shown rapid changes, there is one indicator

which is showing little or no change - and it relates to a fundamental character of the society to which we belong. The indicator in this case is maternal mortality, and it relates to limited care and concern for the poor, for women and, above all, for mothers.

Every year nearly five lakh women across the world lose their lives due to causes related to maternal health, and a full lakh among them are from India. This number is disproportionate to our share of the world's population. If we compare this with China (our global competitor in most arenas other than that for Olympic gold medals!) the risk of maternal death is 1 in 1300 women in China, as compared to 1 in 70 women in India. This risk is even higher among the poor and dalit women and in states such as UP and Orissa.

Maternal mortality looks like an intractable problem and is one goal which everyone is certain that India will not attain as part of the Millennium Development Goals (MDGs) by 2015.

In the last fifteen or more years, there have been a number of policy announcements which focus on maternal health, and still the situation remains dismal. In 1992-93, a scheme known as CSSM or Child Survival and Safe Motherhood was launched, promising First Referral Units (or FRUs) across the country - which are still not universally available - to provide assured emergency obstetric care services. In the last few years, the government has announced the Janani Suraksha Yojana, an incentive based scheme whereby women receive a financial package to undergo all necessary medical checks and deliver in a government-approved centre. The community facilitator (ASHA) also receives some money for ensuring that this happens. It sounds good on paper and reports indicate that there has been a huge increase in institutional deliveries, but there have been no indications that women are dying or suffering less because of this. What is abundantly clear, however, is that a new dimension of corruption has been introduced at the community level and women and their families are facing considerable harassment in

accessing the small amount of money they have been promised.

Maternal death or serious complications are not a rare event. With a probability of 1 in 70 (and more for rural, poor or northern and eastern states), all of us know women who have died or faced serious complications because of pregnancy or childbirth related causes. However, there is hardly any indignation or discussion about these cases beyond the initial period of sorrow. This casual acceptance of maternal death has to stop immediately. At the family and community level, maternal death has to become a cause for serious concern. We in India who claim to care for our mothers need to prove that we actually do. People's representatives, as leaders who promote community norms, need to make maternal death a serious cause for family and community level indignation and reflection.

A whole health care system exists to take care of maternal health: the Janani Suraksha Yojna itself has a budget of nearly 1000 crore rupees, yet the percentage of women who receive full pregnancy care services is a dismal 4% in the state of UP, 5.8% in Bihar and overall 15% for India (according to the NFHS statistics of 2005-06). Every maternal death and serious maternal complication means the failure of a system that has consumed thousands of crores of rupees over many decades and delivered very little. The health system has to be held accountable - and here again people's representatives are in the best position to do so. Medical staff from the PHC to the district hospital need to answer for each maternal death or serious complication.

Reducing maternal mortality will bring the blessings of millions of women across the country who can look forward to living with full citizenship and 'the right to life'. There is no worthier cause for people's representatives to champion than the reduction of maternal mortality.

- Dr. Abhijit Das

Centre for Health and Social Justice, New Delhi

Lives at Stake

A few days back, the Indian Network of People Living with HIV/AIDS (INP+) and the Positive Women's Network (PWN), two groups working and campaigning for the rights of those living with HIV/AIDS, celebrated a critical victory.

In 2008, Boehringer Ingelheim, the German based pharmaceutical drug manufacturing company, had its patent application for Nevirapine rejected by the Indian Patent Office in Delhi. Boehringer Ingelheim is one of the world's twenty leading pharmaceutical companies, operating globally in forty-seven countries. In 2007, Boehringer Ingelheim posted net sales of 10.9 billion

euros, thus proving to be one of the most profitable drug companies in the world.

What is the drug for which the company had sought patent application? Why is it important? And what will be its implications?

The drug Nevirapine is sold by the company under the trade name Viramune© and is used by patients living with HIV/AIDS. This drug is especially useful when the pregnant mother is HIV positive. When administered just before the baby is born or given to the baby itself soon after birth, it prevents the newborn baby

contracting HIV through mother to child transmission (MTCT). It is estimated that a mother infected with HIV has a 25% to 45% risk of passing the infection on to her baby, but with the administration of this drug the risk of transmission can be reduced to less than 1%.

In absolute terms, India has the second highest number of HIV infected individuals in the world. Of these, more than two lakh are children. These children face some of the most tragic consequences of HIV infection: being orphaned; nursing sick and dying parents; struggling for survival on the streets. Mother to child transmission is the most significant source of HIV infection in children below 15 years.

It is obvious that this particular drug has an important public health role in the Indian context. It was for the syrup form of Nevirapine that Boehringer Ingelheim sought a patent. If patents were granted for this drug, the price would be at the dictates of the company without concerns for the health-needs of the patient. Following past logic, the company would have sky rocketed its prices and placed an essential drug beyond the reach of the vast majority of people.

The reason for the decision of NOT granting a patent on the syrup form of the drug is enshrined in the Indian Patent act under section 3(d). This particular clause prevents profit-making drug companies pursuing frivolous claims on patents, ie, when the attempted patent is sought on a substance that is not a new discovery or marks only minor changes to existing substances. This process is also known as "evergreening of patents".

This is not the first time that this particular section of Indian patent act has received its deserved attention - globally as well as in India itself. A similar incident occurred when the Swiss multinational drug company Novartis filed an application for the granting of a patent on anti cancer drug Glivec, which was rejected by the Chennai patent office during January 2006. Novartis claimed that its drug was an innovation, whilst it was truly only a beta-crystalline polymorph of a mesylate salt of imatinib mesylate. Rightly, the patent application was rejected.

If the patent had been granted on this medicine, generic Indian companies would have been forced to cease manufacture and Novartis would have gained absolute rights to monopoly. Indian companies manufacture the drug for Rupees 8,000 per month per person, whereas Novartis would sell the same drug for Rupees 1.2 lakh per person per month. This would be an impossible price for roughly 99.99% of the Indian population.

Will Boehringer Ingelheim challenge the rejection of its patent application? We need to watch and wait. It is not just Nevirapine that is at stake, but many other essential medicines. If Nevirapine receives clearance, this will set a troubling precedence, with many life saving drugs subsequently beyond the reach of the general populace. Eternal vigilance seems to be the only answer.

- Dr Gopal Dabade,
All India Drug Action Network (AIDAN), DAF-K

The Karuna Trust Model of Public Private Partnership in Primary Health Care Delivery

Public private partnership is a means of bringing together a set of actors for the common goal of improving the health of the population based on mutually agreed roles and principles (WHO1999).

The Ministry of Health and Family Welfare (MoHFW) in India presupposed that partnerships could help in ameliorating the problems of poor health services at two levels: to improve delivery mechanisms, and to increase mobilisation of resources for health care.

The World Bank has expressed a need to integrate NGOs and the private sector into health sector programming. The National Health Policy, 2002 encourages the participation of the private sector in all areas of health activity: primary, secondary and tertiary. In view of this growing demand for Public Private Partnership, the Governments of Karnataka, Tamilnadu and Gujarat developed schemes to invite private sector players to take over management of PHCs and block level health centres, and to upgrade and operate them with partial Government Annual grants.

Established in 1986, Karuna Trust began its work at a clinic in Yellandur in response to a high prevalence of leprosy. Over time, the scope of the work gradually increased to include a diverse range of health related needs. The primary objectives of the Karuna Trust are to provide integrated development to the poor and marginalised through health, education and training for livelihoods; organising and empowering the rural poor, and complementing Government health initiatives. Gumballi PHC was first handed over to Karuna Trust in 1996 by the Ministry of Health and Family Welfare, and this later increased to 25 PHCs in Karnataka, 9 in Arunachal Pradesh and 6 in Orissa.

The processes before PHC take-over are: dialogue with the community; networking with the Gram, taluk and zilla Panchayats; application to the Zilla Panchayat for approval and passing a resolution; signing a Memorandum of Understanding with the Director of Health Services, and then take-over from the District Health Officer. In addition to providing 24 hour services,

labour room, operation theatre facilities, essential lab, drug supplies and waste management (all of which are mandated in a PHC), Karuna Trust has introduced several new initiatives such as telemedicine and Community Health Insurance and has mainstreamed traditional medicine, mental health and HIV/AIDS into primary health care.

With a view to strengthen community participation, Karuna Trust has also introduced integrated community initiatives at the PHC level. These are Village Health and Sanitation Committees and Arogya Raksha Samitis, as prescribed under the National Rural Health Mission (NRHM).

This PPP initiative has led Karuna Trust to be actively involved at a policy making level. In addition, Dr H Sudarshan, the founder of the organisation, has been the Chairman of the Task Force on Health and Family Welfare and Vigilance Director on the Karnataka Lokayukta for good governance, prevention and control of corruption in Government health services.

The Public Private Partnership of Karuna Trust was independently evaluated by the Institute of Health Management and Research in May 2008. The positive findings were: very few vacant positions; significant

improvement in process and vital indicators; 24 hour free services; good waste management; decentralised management; optimal use of untied funds; transparency, accountability and team work. The weaknesses were the lack of MBBS doctors; the inevitable limits of privatisation; delays in fund release; turn-over of staff; unfulfilled need for expansion of the team at Karuna Trust and for improvement of Health Management Information Systems.

It is observed that, although partnerships are formed between organisations, the success depends on individuals who are strong leaders and who champion the partnership project with vision and energy. These partnerships are not substitutes for good governance (Paoletto 2000, ADBI 2000).

The process of upscaling is currently under study by the organisation. The reason why standard approaches to scaling up fail can be attributed to a focus on technical solutions, lack of buy in (ownership) by stakeholders at all levels and failure to see that organisational changes and requirements go beyond simple training. It also demands sustained focus on strategy and advocacy.

- Dr. H Sudarshan & Dr. Sylvia S Karpagam
Karuna Trust, Karnataka

Urgent action needed on extensively drug resistant tuberculosis (XDR-TB)

Tuberculosis (TB) is caused by a bacterium, spread through the air in saliva by coughing, sneezing and spitting. It affects the lungs and other parts of the body and if left untreated can lead to death. TB is treated using four standard first line drugs that need to be taken for six months. Unfortunately, due to poor patient education, shortages in drug supply and some drugs being prescribed unnecessarily, the world has allowed a curable disease to become a leading cause of death in developing countries.

When two of the first line drugs in TB treatment, Isoniazid and Rifampicin, are ineffective at combating TB, the patient has multi-drug resistant TB (MDR-TB). Treatment for MDR-TB means patients have to take several second line TB drugs. These are extremely expensive, have more severe side effects and need to be taken for a longer period of time. In addition to the drugs that MDR-TB patients are resistant to, some patients are also resistant to fluoroquinolone and at least one of the three injectable second line drugs: capreomycin, kanamycin and amikacin. This is called extensively drug resistant TB (XDR-TB) and is very difficult to treat and has a very high mortality rate, especially for those patients with HIV.

India has the second highest number of drug resistant TB cases in the world. In a study by the

American Thoracic Society in 2007, Dr Sushil Jain at the Hinduja National Hospital, Mumbai, found that out of 3,904 lab tests for Mycobacterium TB, 1,274 were positive for TB, 32% of these were MDR-TB and of these, 8% were XDR-TB. The death rate of those patients carrying XDR-TB was 42%. At present, identifying drug resistant TB via a sputum test takes six to sixteen weeks, through the use of specialist laboratories, by which time drug resistant TB may have spread and patients may have died.

The Revised National TB Control Programme (RNTCP) has made steps to tackle TB using the Directly Observed Treatment Short Course (DOTS) method. Through DOTS, patients go to a clinic everyday and take TB drugs in front of a health worker. In India, 8 million patients have been treated with DOTS, the success rate is above 85% among new TB cases and 70% for TB retreatment. This is deemed successful: however, some believe that the DOTS method is flawed because patients are not given ownership of their treatment, unlike HIV/AIDS patients who are responsible for their own antiretroviral treatment and therefore have higher adherence rates.

On drug resistance, the RNTCP has conducted surveys in several states, trained programme managers to tackle drug resistant TB, and has plans for one

specialised lab in every state. The plan is particularly prevention based and aims to implement the DOTS Plus WHO plan, which is specifically designed for MDR-TB to alleviate previous TB programme problems. Despite some progress, CLRA proposes the following recommendations to limit drug resistant TB:

In terms of prevention, public education workshops, poster campaigns and general media attention must be dedicated to TB and demonstrate how good coughing etiquette can prevent TB spreading. Also, further laboratories need to be installed with equipment to detect drug resistant TB so that resources can be focused on high risk areas.

When any form of TB is detected, patients should be educated about their illness and how drug adherence will help them get better. Community groups should be increasingly involved in TB awareness and patients

should be encouraged to take responsibility for their own treatment. In clinics and hospitals where TB patients are being treated, health workers should be educated about XDR,TB and wear masks, rooms should be well ventilated and health facilities should be thoroughly cleaned using germicides. XDR-TB patients should be kept, as much as possible, in isolated conditions until they are no longer contagious. TB, in areas of high HIV prevalence should be particularly monitored so that patient contact is minimised.

India and the rest of the world urgently need to conduct research and develop new faster TB testing and anti-TB medicine which would reduce XDR-TB and ultimately save lives.

- John Butler

Centre for Legislative Research and Advocacy (CLRA),
New Delhi.

An Effective Response to HIV/AIDS: Critical to Achievement of the Millennium Development Goals

At the end of September 2008, a high-level meeting of global political, civil society and private sector leaders will be held at the United Nations (UN) to discuss progress on the Millennium Development Goals (MDGs). Central to the discussion will be the status and impact of the HIV/AIDS epidemic.

The MDGs were conceived at a similar conference at the UN in 2000 to inaugurate a new millennium of hope, development and prosperity. Responding to the HIV/AIDS challenge was recognised as crucial, and MDG 6 expressly called on the global community to halt and begin to reverse the HIV epidemic by 2015.

Yet, the importance of the HIV response extends far beyond MDG 6. To attain the full array of MDGs - from reducing poverty and hunger to protecting the health of women and children - it is critical that the world realises its commitment to generate universal access to HIV prevention, treatment, care and support.

It is similarly vital that the global community develops better tools and technologies to prevent HIV transmission, especially a safe, effective and affordable preventive vaccine.

HIV affects other MDGs: The epidemic undermines the push to halve the number of people living on less than US \$1 (PPP) per day. Sub-Saharan Africa, the world's poorest region, accounts for nearly 70 per cent of people living with HIV (UNAIDS, 2008). In Botswana, a case of HIV infection results in an average 10 per cent decline in household earnings.

As per an Asian Development Bank report of 2004, HIV/AIDS could significantly slow poverty reduction in future years in Cambodia, India and Thailand, where HIV prevalence is only a fraction of the level in Africa.

The gender balance: The HIV response has particular relevance for MDG 3, which aims to promote women's equality and empowerment. Gender inequality is a primary factor in women's vulnerability to HIV. The risk of HIV is up to three times greater among women who have experienced gender-based violence (UNAIDS, 2008).

In India, 39 per cent of people living with HIV/AIDS are women. In absolute numbers, this amounts to about one million HIV+ women out of an estimated total of 2.5 million. As per NACO figures, adult HIV prevalence among the general population is 0.36 per cent, but among high-risk groups such as female sex workers it is as high as 5.38 per cent.

Bolstering other diseases: In addition to beginning to reverse the HIV epidemic by 2015, MDG 6 calls for similar progress in curbing the spread and mitigating the impact of other serious diseases, such as malaria and tuberculosis (TB). Yet HIV worsens these serious epidemics, underscoring the role of the HIV response in achieving broad-based global health progress.

TB is the leading cause of death for people living with HIV. As a result of the dangerous synergy between HIV and TB, substantial efforts are focusing on integrating HIV and TB service delivery and on scaling up coordinated care for both diseases. However, only 31 per cent of people living with both HIV and TB disease in 2007 received treatment for both conditions (UN Secretary-General, 2008).

HIV infection also affects the progression of malaria in both children and adults. Pregnant women who are HIV+ have diminished ability to control malaria infection, and HIV-related immune deterioration

appears to increase the likelihood that an individual will develop complicated and severe malaria.

To a better future: Overall, whether in meeting the MDGs or in the response to HIV/AIDS, enormous progress has been made but much still remains to be done. The answer to AIDS must be comprehensive, encompassing both treatment and prevention, deploying new technologies and calling for investments

in research and development today for solutions tomorrow.

In this context, the AIDS vaccine remains humankind's best hope to ending the epidemic, and to making the MDGs a reality. This is true for India, true for developing countries, and true for the world.

-Antara Sinha
International AIDS Vaccine Initiative (IAVI),
New Delhi

Neural Tube Defects-an Ignored Aspect of Mother and Child Health

Neural tube defects (NTDs) are the most common of all the central nervous system malformations. It is difficult to relate statistical evidence: as of yet, there has been no thorough and exact epidemiological survey carried out to determine incidence. However, we cannot overlook the fact that the burden of the disease is high. At the eighteenth annual conference on **Spina Bifida** (a type of NTD) and **Hydrocephalous** in May 2007, it was quoted that **"the highest rate of NTDs has been observed in rural India in near to one percent of births"**.

NTDs are for the most part multifactorial in their pathogenesis, having both genetic and environmental components. A randomised control trial has shown that periconceptional (taking folic acid supplements before the woman conceives) supplementation of folic acid (4 mg) reduced the risk of recurrence of NTDs. Another non randomised trial revealed that administration of multivitamins containing 360 micrograms of folic acid to pregnant women resulted in an 86 per cent risk reduction.

A pregnant woman's required daily intake of foliate is 0.6mg per day, which cannot be met only by diet. This is because natural folates are twice as difficult to absorb and the vitamin's value is lost during storage and preparation of foods. Therefore, an extra minimum daily intake of 0.4mg per day is required.

To meet this need for additional folic acid, government health centres under the National Rural Health Mission (NRHM) provide every pregnant woman with 100 tablets of folic acid and iron to prevent anaemia.

However, in a study conducted on "Prescription Practices among Antenatal Care Providers" by the Department of Obstetrics and Gynecology, Government Medical College, Nanded, India, 2005 it was found that **folic acid was prescribed in only 56 per cent of first trimesters**. In the case of NTDs, the neural tube normally folds inward as early as the **28th day after conception**. According to the National Family Health Survey (1995), **78 per cent of pregnancies in India are unplanned**. In this situation, the 28 day cut-off falls before a woman even comes to know about her pregnancy. A woman who is already deficient in folic acid (high risk) is unable to take preventative measures and no supplementation of

Nutrition and Folic Acid

Red Cell Folate Nmol/L	Risk of NTD (x 10,000)
0 - 399	66.0
340 - 452	32.0
453 - 679	23.0
680 - 905	16.0
> 906	8.0

folic acid thereafter can prevent or manage the consequences of NTD in the growing foetus.

Then what is the solution? The aim of providing supplementary folic acid should be taken more seriously by the government. The strategy should concentrate on raising awareness about NTDs and folic acid through mass campaigns and best practice models, featuring case studies from countries such as Italy where folic acid supplements are reimbursed by the State. This makes supplements accessible to everybody regardless of income.

Research has shown that women of child bearing age tend not to take supplements as consistently as needed in order to achieve the required level of protection. Additional measures are therefore required to tackle this problem. Food should be **fortified, or enriched, with folic acid**. Studies have found primary prevention is most effectively achieved through so called **mandatory food fortification with folic acid**. Experiences from countries who have already applied mandatory food fortification suggest a decline of approximately 25 to 50 per cent in the prevalence of spina bifida, which constitutes half of all incidences of NTDs. This is in contrast to the limited decline in NTD rates where voluntary supplement use is recommended. Finally, an immediate survey of occurrence and prevalence of NTDs in India should be conducted without any delay, as this must be of utmost importance in effective policy planning and targeting.

Seema Tiwari
Department Social Work, Delhi University

Nutrition as a Critical Health Intervention

There can be no rule of God in the present state of iniquitous inequalities, in which a few roll in riches and the masses do not get enough to eat.

- Mohandas K. Gandhi

In October 2008, the Global Hunger Index report ranked India 66th out of 88 countries. India is failing to match up to progress in Myanmar, Sri Lanka, Nepal and Pakistan, and twelve Indian states are said to have "alarming" levels of hunger. Taken on its own, Madhya Pradesh is ranked between Ethiopia and conflict-ravaged Chad.

Retail prices of grain, the staple food of India's poorest communities, have not decreased in line with wholesale rates, and wages have not increased in line with rises in retail prices. This has meant that food security has diminished for the 260 million people who are already living below the poverty line - not to mention the many millions more who are currently living at subsistence level. Add to this the rampant corruption that currently pervades the Public Distribution System (the 2005 Planning Commission report estimated that as much as 36 per cent of the food produced is diverted to the black market), and we are talking about a significant proportion of the population at severe risk of hunger.

These are the stark facts. The United Nations has reported that there are more than 200 million malnourished people in India, including around 70 per cent of India's rural populations. Incidence of child malnutrition surpasses Sub-Saharan Africa, and, according to UNICEF, malnutrition contributes to over half of all child deaths. India's infant and maternal mortality rates (I/MMR) are amongst the highest in the world, and one out of every ten Indian children will not reach the age of 5.

The proportion of undernourished children, based on standard weight-for-age criteria, was virtually the same in 2005-06 as in 1998-99, according to the government's own data: in both years, nearly half of all Indian children were underweight. The incidence of anaemia among children was actually a little *higher* in 2005-06.

However, the largest deficits in calorie consumption actually occur in pregnant and lactating women: the longer-term consequences of this lack of nutrient consumption cause foetal loss, low birth weight and death during infancy, and have obvious ramifications

For maternal health and mortality. According to a Planning Commission report, the second most prevalent cause of maternal mortality continues to be anaemia and the first is haemorrhage, which is - surprise, surprise - far more serious in women who are anaemic.

In 2006-7, 39.48 lakh women received JSY money: this money is attained by mothers only at the point of giving birth, and does nothing to improve pre/antenatal care or maternal health. At Rs. 1000 per woman, this amounts to nearly 395 crore in total annual government spending. This money could have gone a long way to improve the nutritional status of the 16.6 crore women who are underweight, or the 39.8 crore who are anaemic.

This demonstrates that we not only need to increase investment, but money has to be far better targeted. Without first improving nutrition, India will be unable to reduce maternal and infant mortality. For example, the ICDS and NRHM need to be better converged to more effectively prevent and manage malnourishment, and nutrition rehabilitation centres should be established in health centres in areas with high malnutrition. The value and side-effects of supplements or fortified grains provided under ICDS has not been researched and "nutrient embedded chemicals" are certainly no substitute for balanced meals, particularly at the critical pre-school stages.

If the government neglects to provide universal food security, it is violating a fundamental human right and its constitutional obligation to the people. Article 47 of the Constitution guarantees that "the State shall regard the raising of the level of nutrition... and the improvement of public health as among its primary duties". This in turn is an enactment of the inherent "right to life, liberty and security of person" that is enshrined in the Universal Declaration of Human Rights.

Ultimately, hungry children and the children of hungry mothers will not grow up to be healthy and productive citizens. In fact, the evidence is there before us. They may never grow up at all.

Laura Keenan

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