

# Policy Brief

# School Health and Nutrition

December 2009



FOTO ANTARA

## Investing in School Health and Nutrition in Indonesia

A country's education and economic status is closely linked to its health status: improve nutrition and health, and education and the economy will be strengthened. Improving nutrition and health among the school-aged, like the critical effort to do the same for infants, is a strategic element in the effort to develop the community. In short, healthier and better nourished children stay in school longer, learn more, and become healthier and more productive adults. Addressing nutrition and health among school-age children does more than improve their health status and learning capacity; it also leads to intergenerational nutrition and health benefits and long-term economic gains. Girls who stay in school tend to delay childbearing longer than school-leavers, and merely delaying childbearing brings the further benefits of a lower birth rate, better birth outcomes, and better child health. And school-age children with lower levels of disease reduce the overall transmission of disease in the wider community. The gain from improving health and nutrition at school age is therefore a combination of all of these benefits -- to health and to education, in the short-term and in the long-term.

*Preparation of this document received partial funding from the Netherlands and European Commission Basic Education Capacity Trust Fund under the supervision of the World Bank. The findings, interpretations, and conclusions expressed in this paper are that of the author and do not necessarily reflect the views of The World Bank, the Government of the Netherlands, the European Commission, or the Government of Indonesia. The World Bank does not guarantee the accuracy of the data included in this work. For more information, please contact [Claudia Rokx](mailto:Claudia.Rokx@worldbank.org) or [Sheila Town](mailto:stowns@worldbank.org), Human Development Sector, World Bank Office Jakarta Indonesia Stock Exchange Building, Tower 2, 12<sup>th</sup> Floor Jl. Jenderal Sudirman Kav. 52 - 53 Phone: (021) 5299 3000, Fax: (021) 5299 3111*

## Why Health and Nutrition in School?

School health and nutrition (SHN) interventions are important investments in achieving Education for All since poor health and nutrition among school-age children impede the achievement of education goals. Diseases and malnutrition affect children throughout childhood, and while school-age children are at lower risk of dying from these conditions, they take their toll on participation and progress in school and learning. Hungry and poorly nourished school-age children have lower cognitive abilities—beyond any losses to cognition that may have resulted from nutrition deficits and poor health suffered during their pre-school years or earlier -- perform less well, and are more likely to repeat grades and drop out of school than children without these impairments. The irregular school attendance of malnourished and unhealthy children is one of the key factors in their poor performance.

Many of the diseases and cases of malnutrition that have a negative impact on school-age children are preventable and/or treatable. Schools offer a readily available venue for reaching many if not most children of school age, and since some treatments are inexpensive, SHN interventions are among the most cost-effective ways to promote health (see Table 1 on page 2).

Focusing Resources on Effective School Health (FRESH) is an inter-agency framework launched in 2000 at the Dakar Education for All Forum to promote and support effective school health and nutrition policies and programming. This framework specifies four core components to consider when designing school health and nutrition programs: health-related school policies; a healthy environment (e.g., safe water and sanitation); skills-based health education; and the provision of school-based health and nutrition services (see Box 1 on page 3).

SHN interventions also improve equity. Diseases and some forms of malnutrition affect the poor more than the non-poor. Children from poorer households are also less able to access or afford treatment. SHN interventions redress this inequity, and unlike many educational interventions such as text-books, teacher training, and other inputs that tend to benefit most the highest achieving students, SHN benefits poorest children more and gives the most marginalized the chance to take better advantage of their educational opportunities.

## What is the Situation in Indonesia?

Many of the diseases afflicting children in young childhood (0-5 years) persist during the school-age years, especially in the early school years (6-8 years). Malaria, acute respiratory infection, and diarrhea continue to cause significant morbidity and, in some cases, mortality among the school-age population. Data on reported prevalence of non-specific diarrhea and typhoid among school-age children in Indonesia show that the proportion of children affected, by province, ranges from 2 to 20 percent for diarrhea and from less than 1 to more than 3 percent for typhoid.



*Addressing nutrition and health among school children does more than improve their health and learning capacity.*

## Table 1: Cost-Effectiveness of School Health and Nutrition

Intervention	Cost per DALY* gained
Immunization Plus	12-30
School Health and Nutrition**	20-34
Family Planning Services	20-150
Integrated Management of Childhood Illness Program	30-100
Prenatal and Delivery Care	30-100
Tobacco and Alcohol Prevention Program	35-55

\*Disability Adjusted Life Year—a unit used to measure both global burden of disease and the effectiveness of health interventions, as indicated by reduction in the disease burden. (World Development Report, 1993)

\*\*Includes treatment of worm infection, micronutrient deficiencies and provision of health education

Source: Bobadilla, et al., 1994

Source: NHHS, 1995, 2001; adapted from Atmarita, 2005

Rates of acute respiratory infection (ARI) at school-age are almost uniformly high: 20 percent or higher across all provinces and 30 percent or higher in almost half of the provinces. Malaria has been identified as a major cause of school absenteeism and lower educational achievement. And although in Indonesia malaria is not a universal problem, there are three exceptions -- Papua, Papua Barat, and Nusa Tenggara Timur (NTT) where rates among school-age children range from as high as almost 70 percent in Papua to about 15 percent in NTT.

Worm infections reach their peak in school-age children in countries where these infections are not under control because of poor water and sanitation systems. These infections can play a significant role in the nutrition and health status of school-age children; where highly prevalent, they contribute to absenteeism and reduced learning capacity resulting in lower educational attainment. Indonesia is identified by WHO as one of the countries where worm infections represent a public health problem with estimates that suggest that more than 17 million people are at risk of infection and that very few are reached with treatment.

Chronic under-nutrition, measured by height-for-age, is an indication of a lack of food experienced over an extended period of time and is associated with lower school performance. National-level data show rates of stunting ranging from about 20 to more than 50 percent by province and, in the overwhelming majority of provinces, more than a third of children 6 to 15 years old are stunted. SHN interventions are not typically designed with the intent of alleviating stunting since most stunting has occurred by the age of two, but levels of stunting can be useful for targeting and monitoring SHN interventions. Also, it might be possible to expect some residual benefits of improvements in height-for-age, especially in the early school years or during the adolescent growth spurt by addressing food insufficiency at school age.

Among the most critical micronutrient deficiencies at school-age are iron deficiency anemia and iodine deficiency disorders (IDD). Iron deficiency anemia affects mental development and cognitive abilities, and during pregnancy IDD puts girls/women at high risk for complications. IDD are also directly related to cognitive impairment both if experienced in-utero when cognitive effects can be severe and when deficiency is suffered in childhood. But data on micronutrients among school-age children in Indonesia are limited. Anemia affected about half the population of school age children (5-14 years) in 1995. The use of iodized salt nationally in 2001 was 66 percent; district-level results showed use of iodized salt varied significantly from 9 to 100 percent with 21 percent of districts reporting adequate household consumption rates below 50 percent.

Children spend a significant amount of time in and around their schools, and appropriate facilities at school can encourage or discourage attendance. Girls, in particular, may choose not to go to school rather than have to deal with inadequate sanitation facilities. When a school lacks access to a basic water supply and sanitation facilities, and its students have poor hygiene habits, the incidence of major childhood illnesses increases; this adversely affects school children's participation and learning capacity. Much more progress is needed in Indonesia in improving access both to clean drinking water and to improved sanitation.

## What is Already Being done in School Health and Nutrition Investment in Indonesia?

National policies on school health have been in place since the 1950s. In the 1970s a task force for education and health was formed to implement health at the primary school level. In 1984 a school health policy and memorandum of understanding (MOU) was created that among four ministries leading to the Upaya Kesehatan Sekolah (UKS) School Health Program. The purpose of UKS is to improve the quality of education and student achievement by increasing healthy life skills of students; creating a healthy school environment; and improving knowledge, changing students' attitudes, and maintaining health by preventing and curing diseases. This goal is reflected in the three program pillars – health education, health services at schools, and a healthy school environment.

Despite the creation of the UKS program in Indonesia many decades ago, remarkably little data and information are available on the investment in UKS at any level—central, district, sub-district, school—or the impact of its programs and activities. As a national program implemented within a decentralized system, what happens under the UKS program in one district may look very different than what is supported in another if a UKS program exists at all. At the province and district level the resources devoted to UKS are dependent on the commitment of local legislative and decision-making bodies.

The draft minimum level of services (Standard Pelayanan Minimal/SPM) for schools includes standards for a clean water supply and adequate sanitation facilities—hand washing facilities and toilets. Several efforts are underway under the auspices of different donor institutions and the Ministry of Health and the Ministry of National Education to improve the water and sanitation environment at schools. A network for environmental sanitation and clean water at schools is being established to help coordinate implementation of various activities and programs.

Within these efforts to improve the quality and equity of education, school child health and nutrition have not figured significantly. So far, the focus appears to be more school and classroom- rather than child-focused. The potential for national, district and community-level policies and actions in school health and nutrition to significantly contribute to improving educational and health outcomes in Indonesia, however, remains to be fully exploited.



FOTO ANTARA

*School health and nutrition interventions are an important investment in achieving Education for All.*

### Box 1: Typical School Health and Nutrition Intervention under FRESH

Category (FRESH Framework)	Interventions
<i>Policies</i>	<ul style="list-style-type: none"> <li>Codes of practice for teacher behavior</li> <li>Sale of food at school</li> <li>Inclusion of special needs children and pregnant girls</li> <li>Avoidance of discrimination</li> </ul>
School Environment	<ul style="list-style-type: none"> <li>Access to safe water and hand washing facilities</li> <li>Access to adequate and gender-separate sanitation facilities</li> <li>"Green" interventions—composting, recycling, etc.</li> </ul>
Skills-based and Behavior Change Education	<ul style="list-style-type: none"> <li>Non-formal education interventions, e.g., hygiene and malaria</li> <li>Curriculum-based education linked to specific interventions</li> <li>Behavior-centered education focused on adolescent risk behaviors</li> <li>Behavior-centered nutrition and physical activity education</li> </ul>
Health and Nutrition Services	<ul style="list-style-type: none"> <li>De-worming and treatment for malaria</li> <li>Micronutrient (iron) supplementation or fortification</li> <li>First-aid kits</li> <li>School meals or snacks (fortified)</li> <li>Referral to health services and counseling or psychosocial support</li> </ul>

## What are the Potential Gains from Improving School-Age Health and Nutrition?

About 686,000 (142,000 boys; 544,000 girls) primary school children are out of school in Indonesia. Regional variations also exist; Papua lags significantly behind, even in primary school, with net enrollment at about 80 percent and about 47% at junior secondary. Despite progress in the transition from primary to junior secondary school, only about 55 percent of children from low-income families are enrolled in junior secondary schools.

Encouraging and supporting efforts to help children enroll in and complete the basic education cycle remain high priorities for the education sector.

Providing a healthy environment for children and overcoming any health and/or nutrition (hunger) barriers to school enrollment and participation are important for reaching education goals.

At school-age, especially in adolescence, young people begin to make independent decisions about their health and to form attitudes and adopt behaviors that influence their current and future health as well as the health of their future children. Girls, particularly adolescent girls, are the key to the health of future generations. Good physiological development during adolescence prepares girls for pregnancy, childbirth, and motherhood.

Ensuring that girls are well nourished and healthy—especially regarding their increased needs for iron and for growth before the reproductive years begin— will decrease the incidence of low birth weight and birth defects in their children and will reduce their risk of dying during childbirth.

Schools can provide the infrastructure to easily reach girls



FOTO ANTARA

*Providing a healthy environment for children and overcoming any health and/or nutrition (hunger) barriers to school enrollment and participation are important for reaching education goals.*

with high priority education and health and nutrition services.

Young people must have access to information and skills to be able to protect themselves from high risk behaviors— e.g., smoking, alcohol, unsafe sexual practices, and HIV/AIDS. Schools may offer one of the best venues for reaching all young people with the information and education that will help them lead healthier and safer lives. In addition, schools are also the best opportunity for promoting appropriate nutrition, food choices and physical activity to help prevent overweight in children. The proportion of school-age children in Indonesia with a high Body Mass Index (BMI) is alarmingly high in some provinces and appears to have dramatically increased in the past seven years. Effective promotion of key health, nutrition and physical activity practices is crucial to alleviating the significant burden of overweight, obesity and non-communicable diseases.

## Recommendations

- Target SHN interventions where education outcomes are low and health insults and poor nutrition or hunger are high.
- Strengthen collaboration within the education sector between MONE and MORA and between health and education.
- Take advantage of the returns from certain low-cost SHN interventions by identifying and implementing district-level approaches to remediation.
- Identify and develop a set of “packages/models” that take into account the three main context in Indonesia (urban, rural, island/coastal) and also the type of school (e.g., boarding).
- Continue and expand the current efforts to ensure clean water and adequate sanitation at all schools.
- Improve the quality of health education/behavior focused communications.
- Develop separate models for stemming the tide of overweight and obesity.

## Next Steps

- **Utilize on-going “good practices” mechanism to identify private sector, NGO and/or government-supported school-based health and nutrition interventions/programs** that offer potential for creating context-specific “good practice models” for SHN. Document and package these “good practices” linked to specific context.
- **Create a SHM “tool kit” and training modules building from local “good practice” and international experience.** The tool kit would be for use at the district and school level to raise awareness and build capacity in identifying and addressing health and nutrition needs among school-age children in different contexts.
- **Conduct an in-depth institutional capacity assessment at various levels,** including national, district, sub-district and school, to identify approaches to – and needs for – training to support the promotion and implementation of school health and nutrition interventions.