Evaluation of the Supplemental Food for School Children Program

Executive Summary
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Education Sector Analytical and Capacity Development Partnership (ACDP)
Agency for Research and Development (BALITBANG), Ministry of Education and Culture
Building E, 19th Floor
Jl. Jendral Sudirman, Senayan, Jakarta 10270
Tel.: +62-21 5785 1100, Fax: +62-21 5785 1101
Website: www.acdp-indonesia.org
Secretariat email: secretariat@acdp-indonesia.org

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The members of the study team who prepared this report were:
1. Djoko Kartono, Team Leader/ Research Specialist
2. Yadi Haryadi, Education Research Specialist
3. Lanita Somali, Health/ Nutrition Research Specialist
4. Titus Priyo Harjatmo, Data Analyst
5. Sigit Indarto, Data Analyst
6. Sudarmani Djoko, Field Researcher
7. Maria Poppy Herlanty, Field Researcher
8. Mochamad Rachmat, Field Researcher
9. Rosmida Magdalena Marbun, Field Researcher
10. Agus Triwinarto, Field Researcher
11. Tugiman A., Field Researcher

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<td>Asian Development Bank</td>
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<td>AKG</td>
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<td>FGD</td>
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<td>IP</td>
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<td>IPM</td>
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<td>Kementerian Kesehatan (Ministry of Health)</td>
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<td>LBS</td>
<td>Lingkungan Bersih dan Sehat (Clean and Healthy Environment)</td>
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<tr>
<td>MI</td>
<td>Madrasah Ibtidaiyah (Primary School under Ministry of Religious Affairs)</td>
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<td>PDRB</td>
<td>Produk Domestik Regional Bruto (Gross Regional Domestic Product)</td>
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<td>Permendagri</td>
<td>Peraturan Menteri Dalam Negeri (Ministry of Home Affairs Regulation)</td>
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### Abbreviations

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<th>Abbreviation</th>
<th>Full Form</th>
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<td>PHBS</td>
<td>Pola Hidup Bersih dan Sehat (Clean and Healthy Life Style)</td>
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<td>PKH</td>
<td>Program Keluarga Harapan (Family Hope Program)</td>
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<td>PKK</td>
<td>Pemberdayaan dan Kesejahteraan Keluarga (Family Empowerment and Welfare)</td>
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<td>PMT-AS</td>
<td>Pemberian Makanan Tambahan-Anak Sekolah (Supplemental Food for School Children)</td>
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<td>PPLS</td>
<td>Pendataan Program Layanan Sosial (Documenting Social Service Program)</td>
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<td>PSP</td>
<td>Pengetahuan, Sikap dan Praktek (Knowledge, Attitude and Practice)</td>
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<td>Puskesmas</td>
<td>Pusat Kesehatan Masyarakat (Public Health Centre)</td>
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<td>RA</td>
<td>Raudhatul Athfal (Kindergarten under Ministry of Religious Affairs)</td>
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<td>Renstra</td>
<td>Rencana Strategis (Strategic Plan)</td>
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<td>Riskesdas</td>
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<td>SD</td>
<td>Sekolah Dasar (Primary School)</td>
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<td>SDA</td>
<td>Sumber Daya Alam (Natural Resources)</td>
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<td>SDM</td>
<td>Sumber Daya Manusia (Human Resources)</td>
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<td>SPM</td>
<td>Standar Pelayanan Minimal (Minimum Service Standard)</td>
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<tr>
<td>Susenas</td>
<td>Survei Sosial Ekonomi Nasional (National Socio-Economic Survey)</td>
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<tr>
<td>TK</td>
<td>Taman Kanak-kanak (Kindergarten)</td>
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<tr>
<td>TTS</td>
<td>South Central Timor or South Central Timor (district in East Nusa Tenggara (NTT) province)</td>
</tr>
<tr>
<td>UKS</td>
<td>Usaha Kesehatan Sekolah (School Health Program)</td>
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<td>USD</td>
<td>United States Dollars</td>
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Executive Summary

PMT-AS Background

The PMT-AS Program was launched to contribute to acceleration of achievement of national development goals related to: overcoming malnutrition (the incidence of stunting in children aged 6-14 years was 13.3 percent for boys and 10.9 percent for girls in 2010\(^1\)); achieving education for all (primary school dropout rates in some provinces exceeded 3 percent\(^2\)); and poverty reduction (30 million Indonesians were below the national poverty line\(^3\)).

The PMT-AS Program was formulated to: (1) improve nutritional intake; (2) increase the physical endurance; (3) increase the attendance and learning interest; (4) increase preference for local nutritious food; (5) improve hygiene and healthy behaviors including healthy eating habits; (6) increase the community participation; and (7) increase community’s income through the increased use of local products.

During 2010 and 2011, the program was implemented by the Ministry of Education and Culture (MoEC) and the Ministry of Religious Affairs (MoRA). In 2010 the target was limited to regular and madrasah primary schoolchildren (SD/MI) grades 1-6, and in 2011 preschoolers (TK/RA) were added to the program. In 2011 the program was implemented in 27 districts in 27 provinces covering 1.2 million TK/SD children\(^4\) and 180,000 RA/MI children\(^4\). The funding allocation for snack supplements for regular schools (TK/SD) for the western region was Rp 2,500 per serving and Rp 2,650 per serving for the eastern region. The unit cost for madrasah (RA/MI) was Rp 2,250 for the western region and Rp 2,600 for the eastern region. The total PMT-AS budget for 2011 was about Rp 300 billion (USD 34 million). The target scheduling for both years was 108 child feeding days (CFD). The program was intended to provide 15 percent of the Recommended Daily Allowance (RDA) of calories (300 calories) and 10 percent of the RDA of protein (5 grams) through supplemental snacks prepared by local school personnel and community members.

The priority criteria for selecting districts in each province were: i) the less developed, remote, and island areas; ii) districts with a high percentage of poor people; and iii) districts with a high percentage of stunted children. Presidential Decree No 1 of 2010 was the legal basis of PMT-AS.

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1 Riskesdas, 2010
2 Kemendiknas, 2009
3 Susenas, 2010
4 There are also districts that implemented PMT-AS Program using their own budgets, but the exact number is not known because the Ministry of Home Affairs (MoHA) does not have the data. None of these districts were assessed in this study.
Objectives of the Study

The general objective of the study was to evaluate the effectiveness of the PMT-AS Program and its impact upon students’ overall health and nutrition and the extent to which these conditions affect student academic performance and school attendance.

The specific objectives of the PMT-AS evaluation study were to:

a. assess the nutritional intake in order to determine reduction in nutritional deficit;

b. evaluate attitude and behaviors to appreciate local foods;

c. assess hygiene and healthy life style behaviors (PHBS);

d. estimate physical endurance;

e. evaluate the motivation to learn;

f. estimate absenteeism due to illness;

g. assess learning achievement;

h. identify the empowerment of local community; and

i. identify the changes in the local economy.

Methodology

A logical framework (logframe) was used as a basis for developing the methodology for the evaluation. Through this methodology 16 specific indicators were established to assess overall performance of the PMT-AS Program. These indicators are grouped under input, process, output, and outcome/impact.

Both qualitative and quantitative data were collected and analyzed. Qualitative data were collected from interviews and focus group discussions with program managers, implementers and beneficiaries. Quantitative data were gathered from school records, various government documents and other statistics databases.

The survey was conducted in 246 schools in nine districts in the following provinces: Bengkulu; Bangka-Belitung Islands; West Java; Central Kalimantan; East Nusa Tenggara; Central Sulawesi; West Sulawesi; North Maluku; and West Papua.

Findings

Situational Analysis

The situational analysis provides a basis for reviewing the appropriateness for selecting districts for the PMT-AS Program and provides historical perspective for the assessment of some indicators in the following section. Demographics, poverty, health and nutrition status, performance in the education sector, the availability of clean water and sanitation facilities in sample schools, potential linkages with related development programs are assessed as follows:

Demographics

The geographical area, total population and population density of the nine sample program districts varies widely. For example, the population of Garut, West Java is 2,409,086 compared to South Sorong, West Papua at 37,900; while the population density (households/km²) ranges from 198 km² in Garut, West Java to 1.2 km² in East Halmahera, North Maluku.
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**Poverty Rates**

National survey data for 2008 and 2011\(^5\) show a sharp decline in the poverty rate in nine of the 10 sample districts; Mukomuko, Bengkulu, was the only district to show an increase in the poverty rate (11 percent increase). The data also indicate that the average 2011 poverty rate in the nine sample program districts was only slightly higher (12.61 percent) than the national average (12.38 percent).

**Health and Nutritional Status**

National statistics indicate that between 1990 and 2008 the nutrition deficiency rate as measured by body weight decreased by more than 40 percent. Comparisons between Riskesdas 2007 data and Puskesmas 2011 data from the five sample districts show decreases in wasting ranging from 40 percent (Mukomuko and Majalengka) to over 90 percent in Garut. The data indicate that wasting in children in the 6-14 age group was still high in three of the five sample districts for which 2012 data was available: Mukomuko (8.5 percent), Majalengka (7.6 percent); and Seruyan (6.7 percent).

**Caloric and Protein Intake Values**

The data from the study show a 35 percent deficit in the daily consumption of calories among students in the 4-12 age group (average 1,100 calories per day as compared to the RDA of 1,750 calories) and 20 percent daily protein consumption deficit (32.3 g per day as compared to the RDA of 39 grams)\(^6\).

Based on students' 24 hour recall of food consumption, there was a significant deficit in calorie consumption among students in the sample districts (35 percent below the RDA) and in protein intake (20 percent below RDA).

**Student Eating Habits**

The survey also revealed that according to parents, 20 percent of children in the sample districts had less than three meals per day and 20 percent go without breakfast.

**Education Performance (Minimum Service Standards for Teachers)**

The analysis indicates overall good performance in meeting teacher-student ratios and numbers of teachers per school, average performance in class size and teacher education, and very poor performance for teacher and principal certification. Because teachers and principals have important roles in managing the PMT-AS Program, their lack of education and/or certification may have impacted negatively on program implementation.

**Availability of Clean Water and Sanitation Facilities**

More than half the sample schools (65 percent on average) rely on well water while less than 10 percent of the sample schools (8.7 percent on average) rely on river water. However, the quality of the water and the quantity of water availability throughout the year are unknown. The availability of sanitation facilities in the sample schools is less than satisfactory. Nearly 18 percent of sample schools did not have toilets and only slightly more than 67 percent had septic facilities and clean water for hand washing. Nearly 30 percent of the sample schools did not have soap available for toilet use and hand washing.

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\(^5\) Pendataan Program Layanan Sosial (BPS)

\(^6\) Data based on 24 hour recall by sample of students in PMT-AS Program in 2012
Coordination and Synergies with Other Programs

The PMT-AS Program was not able to establish linkages with other relevant development programs: the Family Hope Program (PKH), School Health Program (UKS), and School Operational Assistance (BOS). As they currently operate, PKH and UKS are not feasible funding mechanisms for disbursing PMT-AS funds. BOS guidelines could be adjusted to allow for PMT-AS disbursements, but the BOS funding would need to be increased to accommodate the funding needed for PMT-AS Program; and if the BOS mechanism is used, PMT-AS should be added as a minimum service standard (MSS).

Assessment Against the Evaluation Performance Indicators

The evaluation of the effectiveness and impact of the PMT-AS Program was made by assessing the program’s success in meeting the 16 indicators established for the evaluation. Program effectiveness was measured through assessment of indicators grouped under inputs, process and outputs. Program impact was assessed through a set of impact indicators that measure the extent to which the program has improved students’ overall health and nutrition, their knowledge, attitudes and behaviors relating to healthy living and the extent to which these conditions affect student academic performance and school attendance as well as the program’s effects on the community as a whole.

Inputs

Funding Administration and Targeting

The analysis demonstrated that because of delays in funds reaching the schools and because of MoF financial reporting regulations, sample schools were unable to strictly follow the program guidelines.
which required each child to receive three supplements per week for a total of 108 days over a period of two semesters. In many cases the total funds reaching the school were not sufficient to provide supplements in accordance with the intended feeding schedule and in the intended quantities because targets were set before the academic year began and the exact number of students enrolled was not known. Some schools in remote areas had difficulty in collecting funds from the post office. As a result the program could not be implemented as intended which negatively impacted the achievement of the desired improvement in children’s health and nutrition.

In comparison with Food for Education programs in other countries, unit cost targets for PMT-AS were not ideal in that the funding was more than needed for a fortified biscuit program but too little for a meaningful Food for Education on-site meals program—the PMT-AS model.

Implementation Manuals

In 2011 the program published five technical implementation manuals. There was no evidence that these were distributed to all levels: province, district, sub-district, village and school. The lack of implementation manuals negatively affected program management and administration.

Process

Program Management and Monitoring

Qualitative data analysis demonstrated that communication among all levels of the program and lack of monitoring and reporting and quality assurance were less than adequate primarily because of a lack funds specifically designated for these purposes. Some provincial and district program officials did not know of the existence of technical guidelines which should have been an essential element of the training program. Less than adequate program management negatively affected program implementation.

Program Administration

Delays in funds disbursement resulted in improper program administration. Funds were received close to the end of the year and so had to be used in ways not in compliance with program guidelines in order to prepare financial reports required by the Ministry of Finance at the end of the calendar year.

Training

Program managers and implementers at the village/school level reported that the training program was not well structured and that the materials were not presented clearly and completely; hence, they could not fully understand the guidelines and their specific roles and responsibilities in implementing the program. The inadequacy of the training program contributed to unsuccessful implementation of key aspects of the PMT-AS, including delivery of snack with the recommended nutritional value.

Outputs

Dispensing De-Worming Drugs

Dispensing de-worming drugs was removed from the PMT-AS Program. The analysis indicates that the majority of schools in the sample districts do not receive the medicine on a regular basis.

Nutritional Value of Supplements

Analysis of the nutritional value of supplements in the sample schools indicates that the nutritional value of PMT-AS supplements in terms of calories, protein, calcium and iron were far below PMT-AS standards. On average over 74 percent of the supplements in the schools sampled had
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Total calories lower than the standard established for the program, and the supplements provided in over 62 percent of sample schools on average contained less than the standard of 5 grams of protein. Both the calcium content and iron content were considerably below the Nutrition Adequacy Rate or AKG.

Interviews and focus group discussions provided information that the school often made changes to the type of snacks due to student preferences and availability of materials in the local market. However, in general students most preferred the supplements with the highest nutritional value.

Frequency of Supplements Distribution

The implementation guidelines required three supplemental feedings per week for a total of 108 days over two semesters. Because the funds were disbursed close to the end of the fiscal year, the supplement dispensing requirement could not be met.

Impact

Nutritional Status

The results of qualitative data analysis showed an improvement on average in the reduction of overweight and wasting for both boys and girls in the nine sample PMT-AS Program districts. However there was significantly better performance in reduction of wasting in the non-program district in comparison with the average in the nine sample program districts; the decrease in overweight was essentially the same for boys, although the average of improvement for girls in the nine program districts was about 8 percent better than for girls in the control district.

The analysis of various types of data to measure improvements in nutritional status indicate that the PMT-AS Program did not achieve significant impact in improving nutritional status and overall health of school children.

Absenteeism, Motivation & Attention Span

The quantitative data taken from school records show that on average the students’ attendance improved in the nine program districts by the end of the second year of the program in comparison with a baseline comprised of attendance data in the 182 sample schools in the semester prior to program launch. The analysis of qualitative data taken from student responses to certain questions indicate that students feel they are more motivated to attend school and study more and that they are better able to comprehend lessons. The data analyses indicate that the PMT-AS Program positively impacts students’ motivation to attend school more regularly and pay better attention in class.

Academic Performance

The results of the quantitative data analysis indicate that the PMT-AS Program has had some positive impact on student academic performance. This effect is likely related to the increase in student motivation and attendance resulting from the PMT-AS Program.

Community Empowerment

Qualitative evidence gathered in the sample program sites indicate that the PMT-AS program has empowered certain members of the community through the purchase and distribution of local ingredients and products and a certain extent of revitalization of the village family welfare organization (PKK).
Local Economy

In terms of the contribution of the program to the district’s overall annual revenue, funds from the PMT-AS Program contributed less than 1 percent to the annual budgets of seven out of nine sample program districts, and less than 5 percent of Gross Regional Domestic Product (PDRB) in all the sample districts. However, it should be noted that most districts attempted to channel the PMT-AS funds to schools in poor and remote areas. Data from sample program locations in Garut district, for example, indicate that 60 percent of products and ingredients for the program were purchased locally while the other 40 percent were purchased elsewhere within the sub-district (kecamatan). Village leaders were of the opinion that the program resulted in increased production and an increase in prices and hence more income for the farmers/producers.

Although the overall impact of PMT-AS funds on the total revenues of most districts was limited, there is some evidence that the program has had some positive impact on the local economy at the village and sub-district level while the program was operating.

Summary of International Experience with Feeding for Education Programs

International studies and evaluations of “Food-for-Education” programs indicate that there are positive effects on education for most children and the impact on nutrition also appears to be positive depending on the quality of food provided.

Conclusions drawn from the PMT-AS Program evaluation have some similarities with those drawn from a desk review of Feeding for Education in four Asian countries: Malaysia, Laos, China and Thailand. Evaluation results from the four countries are limited, but based on the information available, the Malaysia program appears to be successful. China had early success in some areas of the country and therefore, much can be learned from Food-for-Education in that country. Based on the desk review and professional networking, the Study Team recommends a study tour to China as the best option for key Indonesian PMT-AS stakeholders (MoEC, MoRA, MoH, and BAPPENAS) to study similar Feeding for Education programs.

Conclusions

The priority criteria for targeting districts in each province were: i) the less developed, remote, and island areas; ii) a high percentage of poor people; and iii) high percentage of stunted children in these areas. The findings of the study demonstrate a chronic deficit in caloric intake in children; however, caloric intake was not established as a criterion for selection in the program.

The results of the evaluation indicate some positive impact in terms of improved motivation for students to attend school, increased attention spans, indication of improved academic performance, and a positive impact in empowering certain members of the community and in contributing to the local economy. There is also evidence that aspects of the program such as creating recipes for nutritious snack supplements that are enjoyed and therefore readily consumed by students have been planned well.

Although PMT-AS Program was only implemented for two years (2010 and 2011), there is sufficient evidence that the program does have great potential value. However, failure to adhere to feeding schedules in practice resulted in under achievement of program objectives. The analysis strongly indicates that the program has not been fully implemented as intended primarily because delays in funds reaching the target location, i.e. the schools, and that in many cases the total funds reaching the school were not sufficient to provide supplements in accordance with the intended feeding schedule.
and in the intended quantities because targets were set before the academic year began and the exact number of students enrolled was not yet known.

Funding allocations also did not take into account variability in costs and availability of locally procured products and ingredients. The evidence also indicates a lack of full understanding of nutrition on the part of program implementers in the schools which can be attributed in large part to inadequate training. Inadequate training also does not prepare the program implementers and managers to consider correct alternatives if the program’s technical guidelines cannot be followed for various local reasons. The unavailability of funds specifically designated for management resulted in lack of coordination, monitoring, reporting. All these factors contribute to the lack of impact expected on improved nutrition.

**Recommendations**

The evaluation revealed a 35 percent deficit in consumption of calories in the 4-12 age group in the schools surveyed (average 1,100 calories vs. RDA 1,750 calories) and a deficit of 20 percent in consumption of protein (32.3 g vs. RDA 39 grams). Therefore, the PMT-AS Program should be continued to provide assistance to make up the nutritional deficit of students. PMT-AS should be considered a strategic investment in developing Indonesian human resources. The following are nine recommendations to improve the effectiveness of the PMT-AS Program in the future:

1. **Increase the amount of calories and protein to close the nutrition deficit gap**

   The results of the evaluation show a 35 percent deficit in RDA calories and a 20 percent protein deficit. The 2011-12 PMT-AS Program allocated funds sufficient to increase intake of calories by 15 percent of RDA (300 calories) and protein by 10 percent RDA (5 grams). In the future, funding should be increased to provide supplements that provide sufficient calories and protein to meet RDA for children ages 4–12.

2. **Determine the Most Effective and Efficient Distribution of Supplements**

   A review of international Food for Education practices found that the unit costs allocated for the 2011 PMT-AS Program were less than the average cost internationally for full lunch meals but more than the average cost of nutritional biscuits. Biscuits could be provided at less cost and more efficiently, but the positive impact upon the local economy and community participation as indicated by the results of the evaluation would be lost. Therefore, the study recommends that full meals be provided to children ages 4 - 12.

3. **Determine Unit Cost and Frequency of Supplements Required to Provide RDA Calories and Protein**

   The 2011-12 PMT-AS Program allocated between Rp 2,500 and Rp 2,650 per child per feeding day over a total of 108 Child Feeding Days. The study recommends that a rapid assessment be undertaken to determine the unit cost per supplement and the number of supplements per semester required to provide children ages 4 – 12 with the RDA for calories and protein. Once the unit cost per meal and per semester are known, it is further recommended that funding be targeted to the districts/sub-districts that are most in need in terms of revised criteria for selection as discussed below. The PMT-AS model should be modified in order to: (i) reduce the nutritional deficient in children ages 4 - 12, (ii) streamline the management and administration mechanism, and (iii) develop a more comprehensive approach to promoting the health and nutrition of students. Specific recommendations to the end are as follows.
4. **Produce Legal Regulation and Alternative Funding Mechanism**

The legal basis for *PMT-AS* should be developed and instituted in the form of a Government Regulation (PP) or Presidential Instruction (Inpres) to allow *PMT-AS* to be supported in sustainable budget system (Program vs. Project). *PMT-AS* officials and stakeholders should carefully consider using the BOS mechanism for distributing funds to eligible schools. The funding mechanism must allow the funds to arrive in time so that the full cycle of 108 feeding days over two semesters can be implemented. The program will have a stronger legal basis for continuous funding if *PMT-AS* is included as a Minimum Service Standard (MSS). Therefore, BOS funding would need to be increased to accommodate the funding needed for *PMT-AS* Program.

5. **Streamline Institutional Arrangements**

With a legal umbrella and status as a program (rather than a project), the management structure could be streamlined with MoEC as the lead sector at the center and District Education Offices (*Dinas Pendidikan*) at the provincial and district levels as lead sector in the regions. The coordination between key stakeholders such as MoRA, MoH and MoHA at all levels needs to be strengthened and their functions and roles should be more clearly specified. The implementation committees at the schools function well; thus, they are not in need of change.

6. **Strengthen Integration of Health, Nutrition and Healthy Life Style in the Curriculum**

A more comprehensive approach to promoting the health and nutrition of students can be achieved by better integrating knowledge of healthy behaviors in the curriculum. As a new curriculum is in the process of being developed, this intervention would be timely. This would reinforce achievement of *PMT-AS* goals and objectives. Better health and nutrition and healthy life style behavior standards should be specified as a Minimum Service Standard.

7. **Revise Selection Criteria**

The priority criteria for selecting districts in each province were: i) the less developed, remote, and island areas; ii) a high percentage of poor people; and iii) high percentage of stunted children. The poverty criterion should be defined by sub-districts with household poverty rates at 10 percent or more. Food for Education studies and evaluations undertaken by the World Bank and others demonstrate that stunting results primarily from malnutrition in the first two years of life and is difficult to reverse later in life. At the same time the situational analysis demonstrates chronic caloric deficits. Consideration should be given to replacing stunting with nutritional status, especially caloric intake, as a criterion for selecting *PMT-AS* Program districts. *Susenas* has up to date data on caloric intake and *Susenas* should be the data source for determining caloric intake criterion.

8. **Improve Training, Guidelines and Instruction Manuals and Strengthen MONEV**

The results of the evaluation show that there is a general lack of understanding of nutrition and lack of understanding of the basic assumptions of the program and hence the need to adhere closely to program guidelines. The guidelines need to be revised to accommodate menus that meet specific local needs and conditions. Therefore, the training program should be strengthened for both program implementers in the schools and villages as well as for program managers and coordination teams at the provincial, district, and sub-district levels. One-off cascade training inevitably fails.

Funds should be provided for program managers to carry out monitoring and supervision; and supervision should have follow-up on-the-job training (mentoring/pendampingan) for school and village program implementers as a key aspect. Program managers need to be trained to do this.
9. **Place More Emphasis of Importance of Water and Sanitation in PMT-AS Program**

The evaluation shows no impact on better health which may be due to unclean water and poor sanitation as well as poor nutrition. Investing in better nutrition in order to promote better health and education may be counter-productive if clean water and proper sanitation facilities are not available. A program to improve water and sanitation should be prerequisite or run parallel with the PMT-AS Program.
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