

LFBSM EVALUATION

Executive Summary

This executive summary presents findings from a final program evaluation conducted by the South East Asian Ministers of Education Organization (SEAMEO) Regional Center for Food & Nutrition (REFCON) between March - May, 2016. The evaluation was carried out as part of the Indonesian Ministry of Health efforts to improve educational, health, and nutrition indicators among school-aged children through a Local Food-Based School Meals (LFBSM) program in Nusa Tenggara Timur (NTT) and Papua Provinces, Indonesia.

Local Food-Based School Meals Program (2012 – 2015)

The Indonesian Ministry of Health, with support from the World Food Program (WFP) and partners, identified NTT and Papua provinces for the 2012 – 2015 LFBSM program. The LFBSM program aimed to use school meals as an entry point to improve the health, nutrition, and education of school-aged children in Indonesia. It was also designed to teach important principles around health and nutrition, as well as water, hygiene and sanitation (WASH), to both school-aged children and members of their larger communities, with the larger goal of enhancing health-seeking behaviors to improve nutrition and food security.

The LFBSM program sought to support PMT-AS, the national school meals movement, with the following objectives:

1. To improve school attendance and ability of children to learn
2. To improve knowledge and attitudes of children toward good nutrition and basic personal hygiene
3. To increase access to balanced, nutritious, and diversified local diets
4. To encourage community participation in preparing local foods
5. To increase local community incomes through increased agricultural production

The LFBSM program did so through trainings of school children, school community members, and local stakeholders. Parents, teachers, and community members assisted their children in adopting enhanced health-seeking practices both at school and at home. As part of school meal provision, trainings were also conducted among cooking group members with support from both school teachers and women empowerment groups who prepared safe, nutritious, and sustainable meals. Trained Government staff members from a variety of different sectors jointly cooperated and supported the program. For instance, the Health sector provided regular distribution of deworming tablets for school aged children. Furthermore, the education sector supported maintenance of overall school facilities and infrastructure. The Agricultural sector empowered and assisted local farmers in order to be able to produce sustainable food locally as ingredients for the school meals. Specifically, the LFBSM program was used as an entry point for delivering an integrated package of program to improve nutrition and food security, as well as education-related outcomes.

More than 30,000 school children in Kupang, TTS and Papua were reached with school meals and with health, hygiene, nutrition education from 2012-2015

Evaluation Objectives

The main objective of this study was to evaluate the LFBSM program processes, nutrition-related outcomes, and health impacts on beneficiaries in both NTT and Papua provinces. The secondary objective was to translate these findings into policy and program-related recommendations.

Methods

This study used a cross-sectional design with a mixed methods approach using both quantitative and qualitative data to address study objectives. The outcome and impact of the LFBSM program was assessed through comparative analysis between findings of LFBSM and non-LFBSM schools. This study covered two provinces where the LFBSM program was implemented: NTT (Timor Tengah Selatan (TTS) and Kupang districts) and Papua Provinces (Kota Jayapura and Jayapura districts). Quantitative data was collected in NTT Province and qualitative data was collected in NTT and Papua Provinces.

The quantitative data collection was conducted only in TTS and Kupang Districts of NTT province during March 2016. The data collection period was several months after the LFBSM program had formally ended in December 2015. No quantitative data were collected in Papua. The qualitative data collection was conducted over 4 weeks in March 2016. In Papua province, data were collected between March 15-31, 2016 in Kota Jayapura and Jayapura Districts.

A total quantitative sample of 866 school-aged children was equally selected between LFBSM schools and non-program schools. Between LFBSM program and non-program groups, the socio-demographic characteristics of the school-aged children were similar in terms of age, gender, and grade levels. The household characteristics were also found similar in both groups. Nearly all households in LFBSM program and non-program group had nuclear family composition (86.4% and 85.9% respectively) with male heads of household (91.5% and 91.9% respectively). There was no difference in average reported monthly income between study arms ($p=0.81$), but a larger proportion of caregivers had ≥ 9 years of education in the LFBSM program sample (39.1%) compared to that of the non-program (27.4%). Findings should be considered in light of this educational difference.

Results

Delivery of LFBSM Program Activities

The large majority of core LFBSM program activities (exceed 100%) were delivered exceed as planned, with 6 out of 8 activities being delivered in excess of targets set during program planning. Greater than 30,000 school-aged children were reached with health, nutrition, and hygiene/sanitation education throughout the program. Trainings were a core component of this program: 790 government officials and partner staff members, and 1,891 cooking staff were reached through training activities. Meeting 73.9% of its program goal, LFBSM successfully improved the handwashing facilities of 113 schools.

School Enrolment, Attendance, Drop Out, and Retention

Improving school enrolment and school attendance among school-aged children participating in LFBSM were two primary outcomes that the program sought to achieve.

Enrolment. Since 2011, the year before LFBSM started, through 2015 the Net Enrollment Rate of school-aged children in Kupang district remained relatively constant, averaging approximately 96.0%, with little variation between LFBSM school and non LFBSM school.

Higher Attendance in LFBSM schools. There was a higher overall attendance rate in November 2015 – the month prior to the end of LFBSM programming – comparing enrolled LFBSM students (97.3%) and those in non-program schools (93.3%) ($p<0.039$). The qualitative data from TTS province support these findings of greater attendance as a result of the LFBSM program too. Overall, qualitative data suggest that school children were more eager to come to school each day when school meals were available. Teachers explained that the school meals attracted students to go to school more frequently. These qualitative findings were similar between NTT and Papua.

Lower Drop Out in LFBSM schools. Among LFBSM students, 8 out of 4,431 (0.0018) students dropped out of school during the program, in comparison to 24 out of 3,747 (0.0064) students who dropped out among non-program schools. Both drop-out rates are very low from 2012 – 2015.

Higher Retention in LFBSM schools. To try to measure academic performance and attendance, we also collected secondary data of student retention (i.e., having to repeat the same grade level due to poor grades and/or lack of attendance). Out of a total of 8178 children in 50 schools total, only 380 had to repeat a grade level. 141 out of 4,431 (0.032) students had to repeat a grade among LFBSM students and 239 out of 3,747 (0.064) among non-program students. Both percentages are also very low overall, although twice as high of a percentage among non-program students.

Improved Concentration Ability in LFBSM schools

The ability of school-aged children to fully concentrate during classroom activities throughout the school day, without sufficient nutrients, has been reported as a common challenge that school feeding may address. More LFBSM students reported actively responding to teacher questions during class ($p < 0.02$). During qualitative paired-child interviews, school children reported that school meals helped in four primary ways: **1)** gave them more energy to participate in school activities; **2)** enabled them to understand the lessons better than when they were hungry; **3)** reduced short term hunger pains; and **4)** improved their ability to concentrate during school.

Student & Parent Knowledge, Attitudes, and Practices

The knowledge, attitude and practice of health, hygiene and nutrition topic were evaluated through structured interviews.

Knowledge. School children responses to knowledge questions did not differ by study arm. Parents in the LFBSM program (85.5%) and non-program groups also had similar knowledge (83.1%) about basic health, hygiene and nutrition overall.

Attitudes. No differences in the attitudes of students or parents toward health-seeking behaviors were found in this evaluation. However, over 95% of the LFBSM parents in both groups had positive attitudes toward the 5 health-seeking behaviors that were evaluated.

Better Practices. A higher proportion of students in the LFBSM program brushed their teeth twice a day (73.0% vs 61.7%) and had shorter, cleaner nails (43.4% vs 32.6%) compared to non-program students. Despite increased soap availability at LFBSM schools, students had mostly similar hand washing practices comparing groups. However, there were more school children in the LFBSM students who reported washing hands with soap before eating (95.6% vs 88.7%, $p < 0.001$). More LFBSM parents reported ‘washing hands before eating’ compared to non-program parents (96.3% vs 92.6%, $p = 0.017$).

More LFBSM students reported eating breakfast at some time during the school week (91.2% vs. 82.7%, $p < 0.01$). This practice was promoted during the LFBSM program. The most frequently consumed food categories from both the LFBSM program and non-program schools were cereal, rice, corn (100% vs 99.5%); vegetables (93.1% vs 90.8%); oil and fats (84.1% vs 86.4%). The proportion of students who reported consuming fruits, meats and eggs was higher among LFBSM participants. A higher proportion of LFBSM students had ‘high’ dietary diversity scores compared to non-program students (49.2% vs 38.1%) ($p < 0.05$). Qualitative data suggested that LFBSM parents reported communicating to their children about the importance of nutritious foods based on what they had

learned in school activities. And the proportion of LFBSM households with acceptable food consumption scores was higher than that of the non-program (54.5% vs. 40.1%, $p < 0.05$).

Nutritional Status of School-aged Children

The prevalence of anemia among LFBSM school children was lower than that of non-program students (25.9% vs 32.8%, $p < 0.05$) but was similar to baseline estimates (26.0%, WFP, 2015) and national survey data (aged 5-14 years 26.4%, MOH 2013). Other nutritional status indicators between groups did not differ. Being in the LFBSM program was a factor contributing to non-anemia status, after controlling for other variables ($p < 0.05$). The percentage of school children who received deworming tablets was significantly higher in the LFBMS program (61.7%) than those in non-program sample (54.2%) ($p < 0.05$). The prevalence of fever (32.2% vs 43.4%, $p < 0.05$) and diarrhea (13.4% vs 18.9%, $p < 0.05$) of the LFBSM program students were significantly lower than those of the non-program schools.

Conclusion

This evaluation was able to illustrate the many benefits of delivering an integrated program through school meals as an entry point to positively influence health, nutrition, and education-related indicators of school-aged children. This evaluation revealed that WFP supported Government in many aspects of program delivery, maintaining overall fidelity to its program aims. Also, it highlighted many improved health and nutrition-related practices of school-aged children who had been exposed to the LFBSM program. Qualitative findings also overwhelmingly point to the positive impacts of the LFBSM program and high acceptance of its activities among both students and parents. While this evaluation did highlight some areas for improvement, overall the LFBSM program is one that can be recommended for scale-up in both this context and others where school meals can be used as an effective entry point for improving health of vulnerable populations.