

# **DRAFT FINAL REPORT**

## **ENDLINE SURVEY FOR WARUNG ANAK SEHAT (WAS) PROGRAM**

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## **Background**

Undernutrition among school-age children is an uncommon problem in Indonesia. Data from Basic Health Surveys 2013 shows that one third of children aged 5-12 years were stunted and 11.2% wasted. The highest prevalence In some provinces, the prevalence of stunting may even On the other hand, almost 20% of children aged 5-12 years were overweight. Undernutrition in school-age children is often a result of nutrition deficiencies at early age (chronic malnutrition) and/or acute malnutrition because of inadequate intake of nutritious food. Meanwhile, overnutrition is usually resulted from the consumption of high-sugar, high-calorie food at schools and at home.

Studies show that school-based interventions for nutrition improvement such as school feeding programs are effective to overcome important nutrition deficiencies which in turn will improve learning abilities and child development. School feeding programs has been promoted as a public health strategy to support the development of healthy dietary behaviours in school-aged children. Such an intervention may also improve awareness of children, parents and teachers on healthy food. In Indonesia, however, the effects of nutrition intervention at schools are rarely evaluated.

Since June 2016, CARE International Indonesia has been implementing Warung Anak Sehat (WAS) program which aims to increase the availability of healthy food at schools. The WAS program is run by female vendors (referred to as Ibu Warung Anak Sehat or IWAS) who are trained as “agent of change” to provide healthy food at schools. These female vendors are being coached on a routine basis. In addition, the program also provides training to teachers to increase access of students and parents to information on nutrition and healthy food.

After 10 months of intervention, the project is come to an end. As part of the project, this endline survey is conducted to capture the impact of intervention.

## **Project Logic**

The WAS program scheme is originally conceptualized in 2011 by a national food company with a non-government organization as the local partner. Since 2016, CARE is responsible as the local partner for the initiation or continuation of Warung Anak Sehat in 350 schools across 4 different locations in Indonesia. In several areas, Warung Anak Sehat was first initiated by other organization and then continued by CARE. The WAS scheme consists of establishment of food kiosks which provides healthy food inside or outside schools. These kiosks are set up and run by vendors (usually female) who are provided with skills, tools and equipment.

The program consists of several components:

- 1. Selection of area**
- 2. Assignment of schools, IWAS and teachers**

Schools are selected based on several criteria depending on the area. In Ambon, for example, the selection was based on the BPOM data of schools with Kantin Sehat. IWAS was selected by the schools from vendors who sell food inside or outside the schools. These vendors were sent for trainings. Each school also assigned one teacher to provide coaching to IWAS and to deliver information session related to

nutrition and healthy food to students and teachers. In some schools, these vendors are teachers – thus they become IWAS as well.

3. Training for Ibu Warung Anak Sehat

Each IWAS received one-day training on nutrition, healthy snacks and food safety. Trainings are delivered by resource persons from relevant government institutions including Dinas Pendidikan, Pemuda dan Olahraga (Dikpora), Dinas Kesehatan (Dinkes), Badan Pengawasan Obat dan Makanan (BPOM), Dinas Pertanian dan Ketahanan Pangan etc. These trainings are delivered through class lectures and practices (for example, some trainers demonstrated how to prepare healthy snacks).

4. Training for teachers

Each teacher also received training on nutrition, healthy snacks and food safety as well as teaching methods. Trainings are delivered by resource persons from the food company or relevant government institutions. including Dinas Pendidikan, Pemuda dan Olahraga (Dikpora), Dinas Kesehatan (Dinkes), Badan Pengawasan Obat dan Makanan (BPOM), Dinas Pertanian dan Ketahanan Pangan etc as well as from CARE International. These trainings are delivered through class lectures and practices.

5. Monthly monitoring

After the WAS is established at schools, a team from CARE will conduct visits on a monthly basis. These visits aim to monitor the WAS implementation especially whether it had been in line with the requirements from CARE.

## Objectives

The endline evaluation aims to assess the following domains:

1. Knowledge of IWAS on nutrition and healthy snacks
2. Skills of IWAS on healthy food provision including the following indicators:
  - Quality of existing products
  - Number of new home made healthy snacks and drinks sold (home-made)
3. Skills of IWAS on financial management
  - Sales development during implementation of WAS project
  - Control over income among women
  - Confidence to manage the business
  - Number of market accesses or developed for new products and existing product
4. Knowledge on nutrition among teachers
5. Practice of teachers on information dissemination to students and mothers

## Methods

The endline evaluation was conducted using a combination of several methods including review of secondary data, questionnaire surveys and semi-structured interviews. Three participant groups were involved in this evaluation i.e. IWAS, teachers and relevant stakeholders.

## Setting

The study was conducted in the following locations.

1. West Java Province
  - Kota Bandung
  - Kabupaten Bandung
  - Kota Bogor
  - Kabupaten Bogor
  - Kota Depok
2. Maluku Province
  - Kota Ambon
3. Yogyakarta Province
  - Kota Yogyakarta
  - Kabupaten Sleman
  - Kabupaten Bantul

The number of respondents in each area varied. Table 1 shows the number of targeted respondents in each area. In total, 347 IWAS and 105 teachers were to be recruited. In addition, 2 stakeholders were recruited in each area.

**Table 1 Number of targeted respondents in each area**

<b>Location</b>	<b>Teachers</b>	<b>IWAS</b>	<b>Stakeholders</b>
Kota Bogor	15	69	2
Kabupaten Bogor	10	22	2
Kota Depok	5	7	0
Kota Bandung	15	50	2
Kabupaten Bandung	15	50	2
Kota Jogja	10	34	2
Kabupaten Sleman	10	27	2
Kabupaten Bantul	15	39	2
Kota Ambon	10	49	2
<b>Total</b>	<b>105</b>	<b>347</b>	<b>16</b>

### **Review of secondary data**

Review of existing data was conducted to understand the program logic, trace the program achievement and augment data collection. Review of secondary data was conducted using secondary data provided by CARE including the following documents:

- Project proposals
- Project reports
- List of IWAS, teachers and stakeholders
- Monthly survey on sale
- Training materials

### **Survey to IWAS**

A questionnaire survey was conducted to examine knowledge and skills of IWAS. The survey was conducted using a structured, electronic questionnaire. The questionnaire captured a mixture of knowledge, attitudes, and skill and was developed based on the ToR, existing questionnaire (i.e. baseline surveys), training materials, discussion with CARE and literature

review. Questionnaires were administered via face-to-face interview. The questionnaire captured the following domains:

- 1) Knowledge related to nutrition and healthy foods
- 2) Attitude to WAS program components such as training
- 3) Skills and behavior on healthy food preparation
- 4) Knowledge on basic accounting and financial management

All female vendors who had been trained by CARE and designated as IWAS were invited as respondents in the evaluation (N=350). They were recruited into the evaluation using the following criteria:

- Designated as IWAS in the CARE database
- Can be contacted through the following means: 1) two phone calls, 2) school/teachers or 3) one time visit to home – when the home address can be located and distanced <1 km from school.
- Able to communicate verbally
- Willing to participate in the study

### **Survey to teachers**

Questionnaire survey was also conducted to teachers and included the following domains of knowledge, attitude and practices:

- 1) Knowledge related to nutrition and healthy foods
- 2) Attitude to nutrition, training, as well as WAS program
- 3) Dissemination of information practices to students and parents

Teachers who have been trained by CARE as WAS trainers were as participants in the study (N=105). They were recruited into the study using *convenient sampling* based on the following criteria:

- Designated as trained teachers in the CARE database
- Present at schools during the data collection
- Can be contacted through the following means: 1) two phone calls, 2) schools or 3) 1-time visit to home
- Able to communicate verbally
- Willing to participate in the study

### **Stakeholder interview**

Semi-structured interviews were conducted with key informants identified in CARE database or referred by CARE program staff. In every area, it was planned to invite at least 2 stakeholders from relevant institutions including PEMDA, BAPPEDA, Dinas Pendidikan, Dinas Kesehatan, Badan POM. Interview transcripts were analyzed and coded to identify key themes.

## **Findings**

### **Survey to IWAS**

A total of 253 respondents completed the questionnaire. The highest response rate was found in Yogyakarta, as 81 out of 100 targeted respondents completed the questionnaire. The lowest

response rate was found in Bandung, where less than 70% targeted respondents participated in the survey (Table 2).

**Table 2 Response Rate in Each Area**

	<b>Yogyakarta</b>	<b>Bandung</b>	<b>Bogor</b>	<b>Ambon</b>
Completed the questionnaire	81	69	68	35
Non-response	19	31	32	15
Targeted respondents	100	100	98	49
Response rate (%)	81	69	69.4	71.4

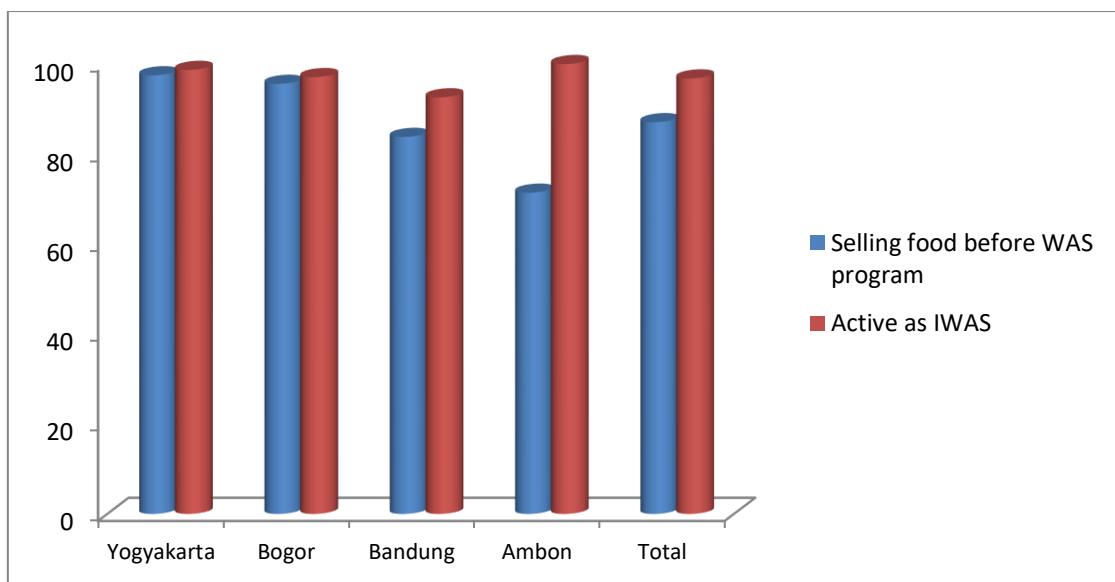
The reasons for not completing the questionnaires or not participating in the survey (non-response) are shown in Table 3. The most common reasons include non-active WAS and failure to contact or to visit.

**Table 3 Reasons for Non-Response (%)**

	<b>Yogyakarta</b>	<b>Bandung</b>	<b>Bogor</b>	<b>Ambon</b>	<b>Total</b>
WAS no longer active	4 (19.0)	12 (37.5)	11 (42.3)	2 (20.0)	29 (29.0)
Visited but not found	2 (9.5)	2 (6.25)	1 (3.8)	3 (30)	8 (8.0)
Cannot be contacted	10 (47.6)	5 (15.6)	5 (19.2)	5 (50.0)	25 (25.0)
Not visited	5 (23.8)	13 (40.6)	9 (34.6)	0	27 (27.0)

Figure 1 shows that most IWAS had been selling food since before the WAS program was implemented. The highest percentage of IWAS selling food before the WAS program implementation was found in Ambon. The lowest percentage of IWAS selling food prior to the WAS program was found in Kota Ambon, perhaps it was because almost all IWAS are teachers while IWAS in other areas are mostly food vendors. The majority had been selling food for more than 1 year before the WAS program was started.

At the time of the survey, most IWAS were still active as IWAS. The highest percentage of active IWAS was in Ambon and the lowest was in Bandung. However, since the survey was conducted at Ramadhan month, most IWAS did not sell food at the school.



**Figure 1 Status of IWAS**

The motivation for participating in the WAS program widely varied between IWAS and between areas. Most respondents also cited more than one reason for participating in the WAS program. Table 3 shows that the most cited reasons in all areas was to provide healthy food for children. The second most important reason in some areas such as Ambon, Bogor and Yogyakarta was to learn about nutrition. Meanwhile, in Bandung, increasing income was the second most important reason to join WAS program.

**Table 3 Motivation to Participate in WAS Program**

Reasons of Participation	Yogyakarta	Bogor	Bandung	Ambon
Was being asked	28 (34.6)	23 (33.3)	42 (61.7)	4 (11.4)
To increase income	21 (25.9)	37 (53.6)	34 (50.0)	2 (5.7)
To learn about nutrition	38 (46.9)	55 (79.7)	24 (35.3)	11 (31.4)
To learn how to cook	11 (13.6)	15 (21.7)	6 (8.8)	0
To provide healthy food for children	49 (60.5)	61 (88.4)	38 (55.9)	18 (51.4)

### Knowledge of nutrition and healthy food

When asked whether respondents had participated in IWAS training, 230 respondents (92%) said that they participated in IWAS training, while 21 respondents reported that they did not participate in IWAS training. Some respondents were not able to attend the training, thus they were substituted by other people. Other respondents might not remember the training that was conducted long time ago, especially IWAS training which was conducted more than 2 years previously.

Out of 230 respondents who reported that they participated in IWAS training, the majority (87.4%) participated in training conducted by CARE between 2016 and 2017, while the remaining participated in training conducted between 2014 and 2015.

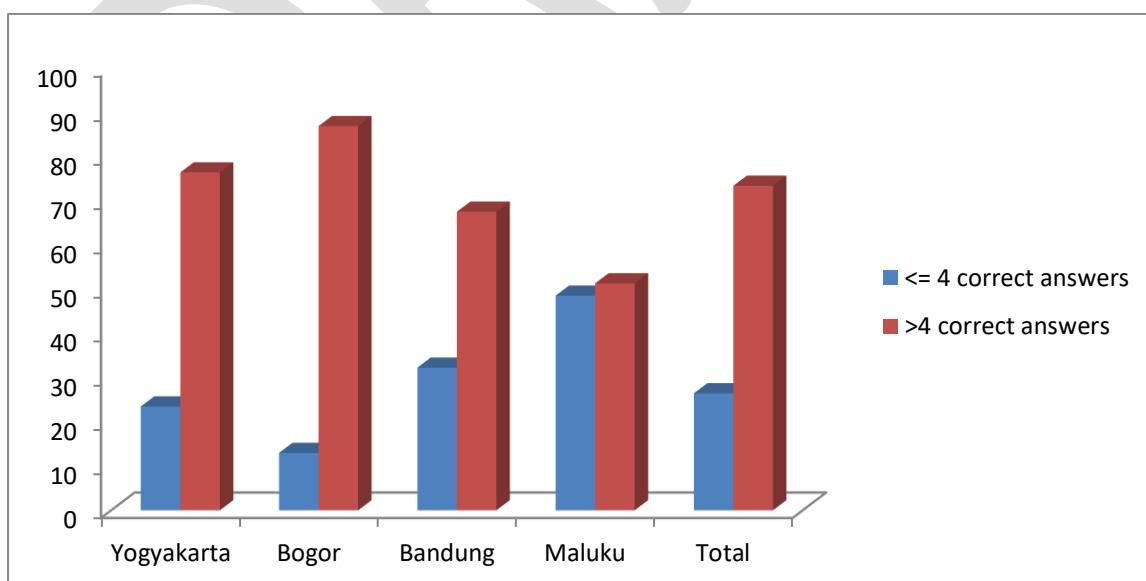
The level of knowledge on nutrition and healthy food was measured by 6 questions. Table 4 shows the number of IWAS gave the correct response to each question. The poorest

knowledge was found in question no 1 on food coloring. The majority of respondents knew very well that washing hands is mandatory before food handling and that washing raw vegetables and fruit before being consumed is a must. This shows that the knowledge of IWAS on food hygiene is good. They also knew that clean and covered food is safe to eat. However, knowledge on food additive such as borax is a bit lower. Overall, IWAS in Bandung had better knowledge compared to other areas. Meanwhile, IWAS in Ambon scored lower only in one question, perhaps because of the language barrier or the wording of the question.

**Table 4 Knowledge on nutrition and food safety**

Questions	Yogyakarta	Bandung	Bogor	Ambon
Food coloring is an example of physical contaminant which may affect food safety	7 (8.6)	4 (5.8)	11 (16.2)	2 (5.7)
Washing hands before and after food handing is a must	81 (100)	69 (100)	68 (100)	35 (100)
Styrofoam or plastic bags may be used to keep hot, fatty and acidic food	77 (95.1)	65 (94.2)	59 (86.7)	35 (100)
Clean and covered food is safe to eat	81 (100)	68 (98.6)	64 (96.9)	35 (100)
Raw vegetables and fruit do not have to be washed before being consumed	79 (97.5)	69 (100)	55 (80.9)	19 (54.3)
Borax is dangerous food additive which are still commonly found in food	62 (77.5)	63 (91.3)	60 (88.2)	32 (91.4)

The majority of respondents showed good knowledge on nutrition and healthy food. More than 70% respondents gave correct answers to more than 4 questions. The lowest level of knowledge was shown by respondents in Ambon, in which 49% respondents gave correct answers to less than 4 questions. The highest knowledge on nutrition and healthy food was exhibited by respondents in Bogor. In this area, 87% respondents were able to give correct answers to more than 4 questions.



**Figure 2 Proportion of Respondents with more than 4 Correct Answers**

### Attitude towards WAS programs

The attitude of IWAS towards WAS program was assessed through several questions (Table 5). We asked the respondents whether the WAS training was well-accepted and beneficial for them to prepare healthy food. Overall, training was well-accepted by the respondents. The materials of training helped them to improve their knowledge and skills in nutrition and healthy food preparation. Training was also delivered in simple language that was easy to understand. However, only around 75% respondents thought that the number and duration of training were enough. Almost 25% respondents mentioned the number and duration of training were not sufficient and should be increased.

**Table 5 Attitude of Respondents towards WAS training**

No	Statements	Strongly agree	Agree
1	Training materials on nutrition and healthy food is easy to understand	86 (37.4)	137 (59.6)
2	Training on food safety enables me to prepare healthy food	84 (36.5)	144 (62.6)
3	Training on nutrition and healthy food enables me to prepare healthy food	80 (34.8)	148 (64.4)
4	Resource person delivered the materials in easy language	81 (35.2)	145 (63.0)
5	Number and duration of training is enough to improve my nutrition knowledge	44 (19.1)	129 (56.1)

The attitude to WAS training in every area was also remarkably positive. Most respondents agreed or strongly agreed that the training materials were easy to follow and well-delivered by the resource person. Training also equipped them with sufficient knowledge on how to prepare healthy food at schools.

The majority of respondents (97.3%) also agreed that the requirements of WAS program were easy to follow. Only a minority of respondents reported that the requirements of WAS program were not easy to follow. In Yogyakarta, Bandung and Ambon, 100% respondents reported that the requirements of WAS program were easy to follow. Few respondents in Bogor reported that the requirements of WAS program were not easy to follow.

In addition, the respondents were also asked about their perception of the acceptance of WAS program at schools, for example, they were asked whether WAS program was well-accepted by all students, teachers and school authorities (Table 6).

**Table 6 Perception of WAS Program Acceptance at School**

Perception of WAS Program Acceptance	Strongly agree	Agree
WAS program is well-accepted by students in this school	97 (39.0)	140 (56.2)
Teachers and schools strongly supported me in running the WAS program	122 (48.8)	113 (45.2)
After implementing the WAS program, there are more students visiting my food kiosk	79 (31.6)	144 (57.6)

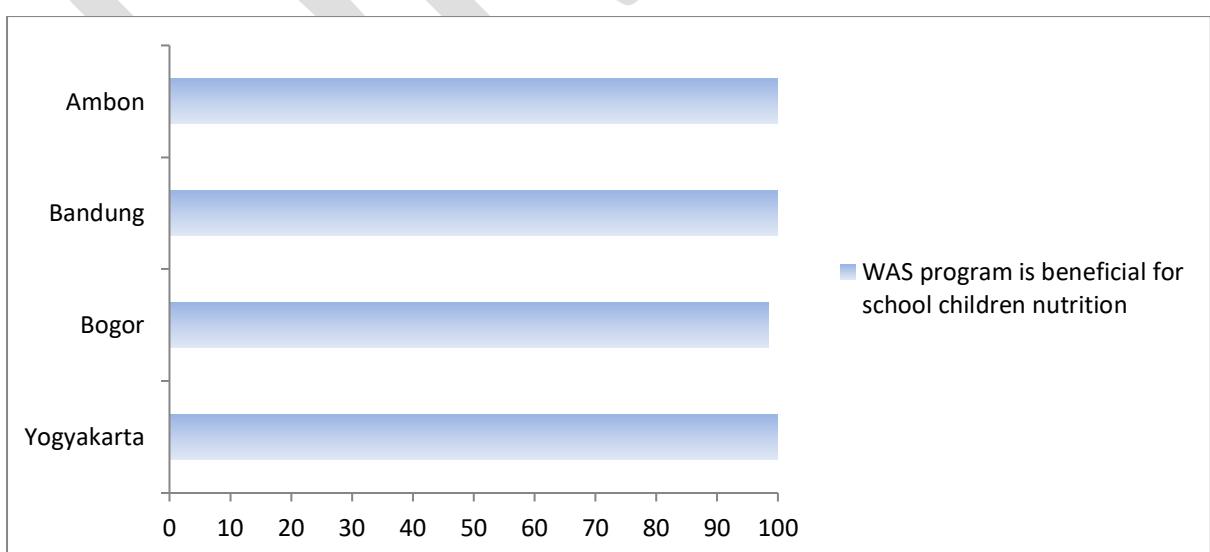
WAS program assisted me in preparing healthy snack	84 (33.6)	164 (65.6)
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Most respondents in each area also reported that WAS program is well accepted at their schools. Support from other teachers and school authorities was provided, for example, many IWAS reported that they often received information from schools and teachers on healthy food. They were also provided space within or outside the schools to sell their products. Sometimes, other teachers also put their food to be sold at the kiosks. Many respondents reported that the number of students buying food at their kiosks increased after the WAS program was implemented.

**Table 7 Perception of WAS Program Acceptance at School by Area**

Perception	Areas			
	Yogyakarta	Bogor	Bandung	Ambon
WAS program is well-accepted by students in this school	77 (95.1)	68 (98.6)	65 (95.6)	35 (100)
Teachers and schools strongly supported me in running the WAS program	73 (90.1)	65 (94.2)	65 (95.6)	35 (100)
After implementing the WAS program, there are more students visiting my food kiosk	77 (95.1)	62 (89.9)	65 (95.6)	33 (94.3)
WAS program assisted me in preparing healthy snack	66 (81.5)	42 (89.9)	62 (91.2)	34 (97.1)

Overall, respondents agreed (46.6%) or strongly agreed (52.9%) that WAS program is beneficial to nutrition improvement among school children. Figure 2 shows the percentage of respondents who agreed or strongly agreed that WAS program is beneficial to nutrition improvement among school children. Almost 100% of respondents in each area perceived that WAS program may contribute significantly to the improvement of nutrition of school children.

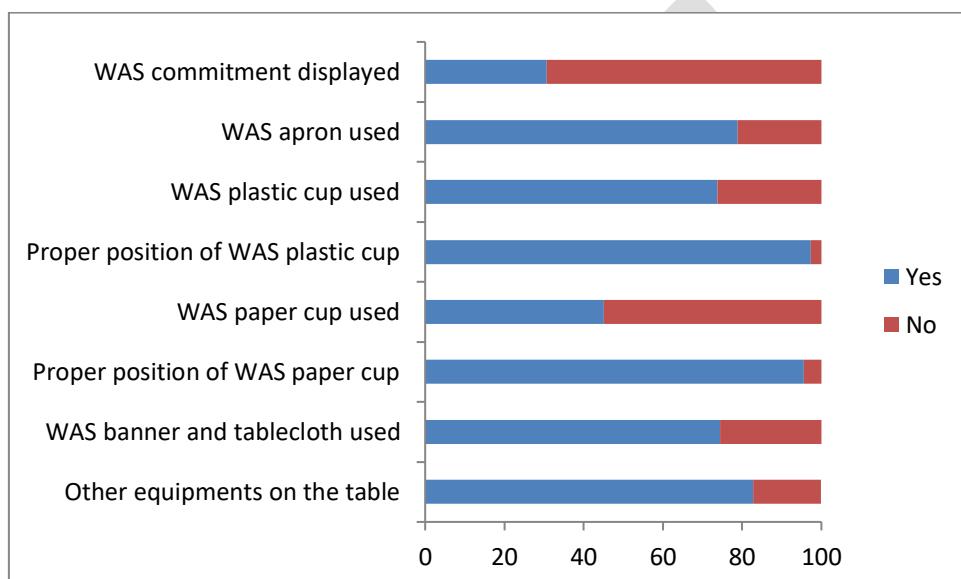


**Figure 3 Perceived Benefit of WAS Program**

The positive perception to WAS program and the belief that WAS program is beneficial may help to ensure the continuity of the program. With the perceived benefit of WAS program, respondents are motivated to continue the program despite the reduced support from CARE.

### **WAS Program Implementation**

Respondents were asked several questions regarding their adherence to WAS requirements such as the use of WAS-related equipment (WAS printed commitment, apron, banner, tablecloth, cups etc). In addition, an observation checklist was also developed to collect data related to skills and behavior. However, since most respondents were not selling food at the time of the survey, the answers were based on self-reporting by the respondents.



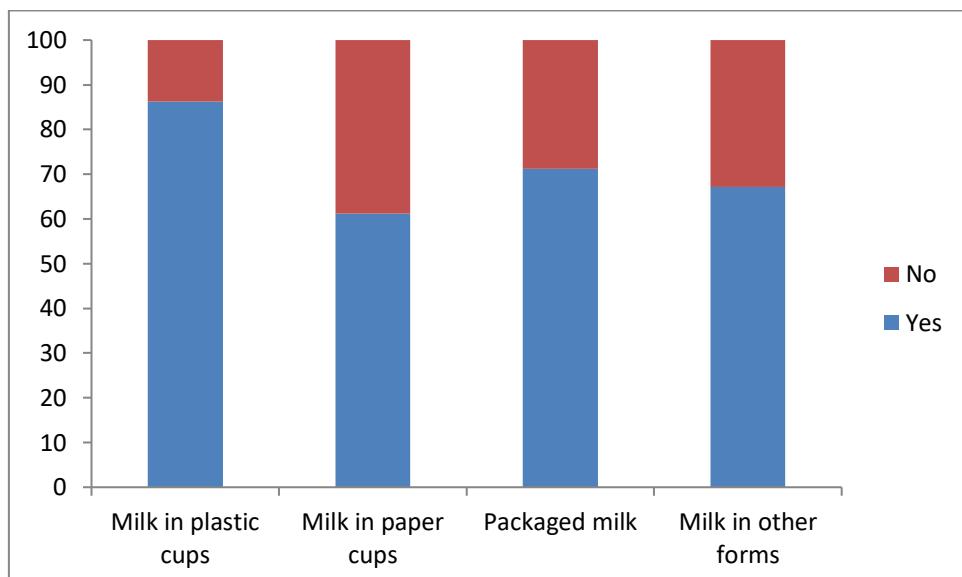
**Figure 4 Adherence to WAS program requirements**

Almost 70% respondents reported that they did not display WAS commitment at the kiosks. Several respondents mentioned that they had not received the printed commitment, some reported damage, some did not know that it has to be displayed and some did not know what WAS commitment is. Around 20% respondents did not use WAS apron. The most commonly cited reason was that they did not receive WAS apron. WAS plastic cups are used by more than 70% respondents. Those who did not use plastic cups mentioned that they did not receive any distribution of plastic cups, felt that plastic cups are cumbersome because they had to wash it and there was no place, water and/or tools to wash the cups. Paper cups were used by only half of respondents because it had been out of stock and not distributed anymore in the last few months. Three-quarter of respondents used WAS banner and tablecloth; the remaining did not use it because of they did not receive these equipment.

### **Types of Healthy Food Provided**

Most respondents reported that they sell milk at their kiosks. The types of milk sold varied, including packaged milk (milk in box) or milk in plastic and/or paper cups which is made by request. Figure 5 shows that respondents mostly sold milk served in plastic cups. Fewer respondents were selling milk in paper cups. The percentage of respondents selling packaged

milk was quite high. Respondents also provided milk processed into other types of drinks or food, such as ice, pudding, yoghurt and ice cream.



**Figure 5 Percentage of respondents selling milk**

In preparing the milk into ready-to-drink milk, the practice also varied. Seventy percent respondents used groundwater which was boiled. The remaining respondent used bottled water (14.3%) and refill water(15.7%). Around 67% respondents prepared milk with 2 spoonful of milk and 80 ml water, while the rest (33%) prepared 4 spoonful milk and 160 ml water. Few respondents used additional sweetener such as sugar (39.3%).

Compared to before the WAS program implementation, the types of milk provided at the kiosks increased. Around 46% reported that the types of milk sold at the kiosk increased especially for the milk served in cups, while 54% reported that there was no increase since they did not sell milk before the WAS program was implemented at the school. The reasons for increasing the types of milk provided at the kiosks include from self-initiative (41.5%), request from customer (37.7%), and sponsor recommendation (18.8%)

Homemade food is a commonly provided item at the kiosk. Ninety three percent of respondents reported that they sell homemade food at their kiosks. Some respondents prepared homemade food themselves. Other respondents did not prepare the food and were supplied the food by someone else (for example other vendors, parents and teachers), but they knew how the food is made.

The types of homemade food sold widely varied. We found that there are more than 100 types of homemade food sold by respondents. They were categorized into several types of food as follows: 1) fried food (e.g. vegetable fritters, fried tofu, omelette, French fries etc), 2) complete meals (e.g. rice, noodles, vegetable salad, rice cakes, etc), 3) traditional food, 4) bread and cakes, 5) fruit and 6) pudding/desserts (e.g. ice cream). Table 7 shows the frequency by which these types of food are provided at WAS.

**Table 8 Types of Homemade Food Provided at WAS**

Types of homemade food	Yogyakarta	Bogor	Bandung	Ambon	Total
Fried food	96.3	88.4	89.7	85.7	90.9
Complete meals	63.0	42.0	25.0	57.1	46.3
Traditional food	13.6	27.5	13.2	0.0	15.4
Bread and cakes	64.2	26.1	36.7	5.7	38.3
Fruit	2.5	1.5	0.0	5.7	1.9
Pudding/desserts	35.8	34.8	50.0	8.63	35.6

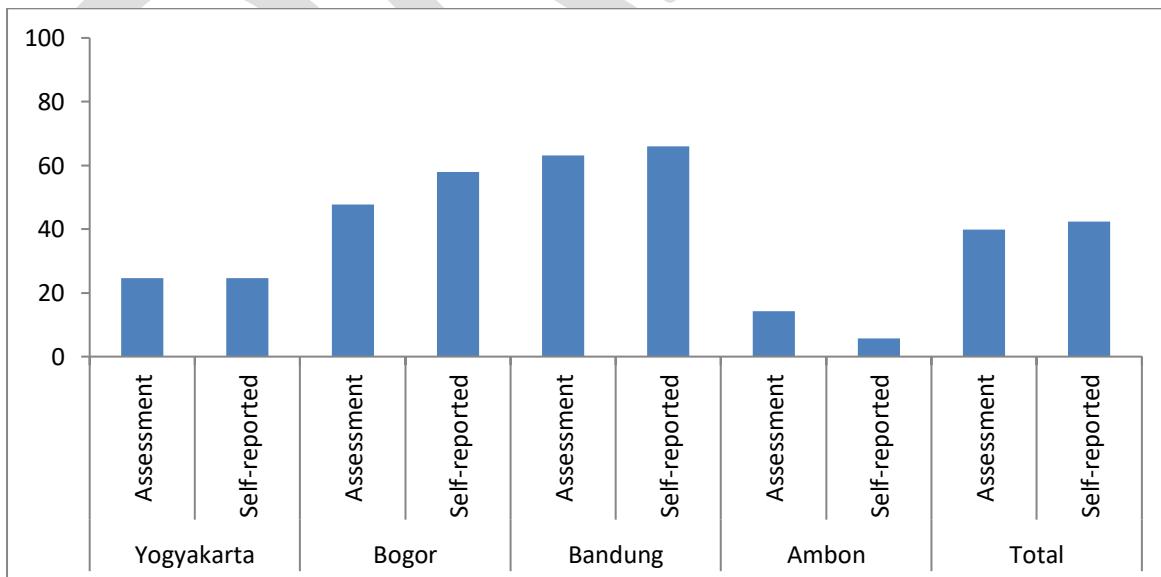
This table shows that not all homemade food provided are healthy and of good quality. For example, 90% respondents were selling fried food at their food kiosks. Respondents mentioned that these types of food are mostly sold at the kiosks. Complete meals were provided by only less than 50% respondents. Only very few respondents offered fruit in their kiosks.

Respondents were also asked whether they sell other foods, for example food that are purchased from the markets, shops, or produced at factories. Respondents reported that they sell sweets, biscuits and chips.

**Table 9 Types of Other Food Provided at WAS**

	Yogyakarta	Bogor	Bandung	Ambon	Total
Sweets	1.2	0.0	0.0	0.0	0.4
Biscuits	14.8	15.9	16.2	5.7	14.2

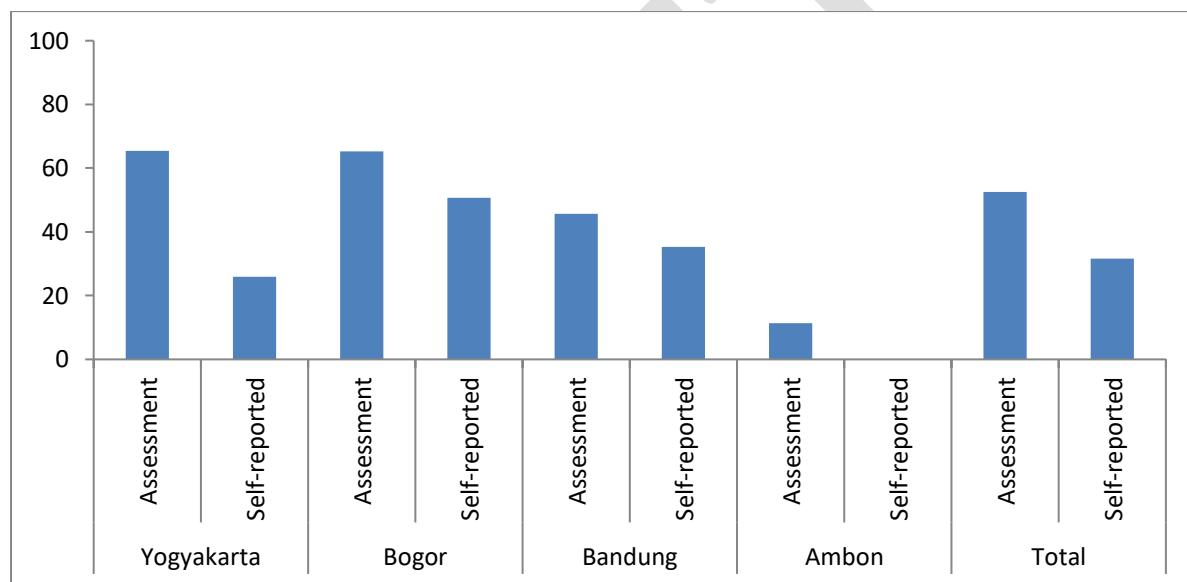
Based on the types of food and/or brand names that these respondents reported, we also examined whether these food contain monosodium glutamate and compared it with the reports from respondents (Figure 6).



**Figure 6 Selling of MSG-containing Food**

This figure shows a discrepancy between our assessments to the quality of food compared with self-reports of respondents. In Yogyakarta, this discrepancy was not high. In Bandung and Bogor, the percentage of respondents reported selling of MSG-containing food was higher than our assessments. This difference is possibly because the recording of food items was not exhaustive, and therefore our assessment did not cover all types of food. However, in Ambon, our assessment found that the actual selling of MSG-containing food was higher than that reported by respondents. It may be because respondents were not aware that the food provided contained MSG, or they did not disclose this information to the data collectors.

We also examined whether these food contain food preservatives and compared it with the reports from respondents (Figure 7). This figure shows differences between our assessments to the quality of food compared with self-reports of respondents. In all areas, our assessment shows higher prevalence of food containing food preservatives than what was reported by respondents. This is especially true for Yogyakarta and Ambon.



**Figure 7 Selling of Food Containing Food Preservatives**

Around 77% respondents reported that they sell drinks other than milk (e.g. pop ice, fruit juice, etc). However, very few respondents sell soda.

### Knowledge on basic accounting

We asked the respondents with several questions related to basic accounting. Proportion of respondents with correct answers on the questions in each area is shown on Table 10. More than 90% respondents were able to give correct answer to question on cash outflow and cash inflow. However, 58% respondents did not know what breakeven point is.

**Table 10 Respondents with Correct Answers on Basic Accounting Questions**

	Yogyakarta	Bogor	Bandung	Ambon
Payment of installment is an example of cash outflow	93.8	94.1	89.7	97.1
Breakeven point is achieved when income is larger than capital	75.3	57.4	44.1	42.9
Revenue is an example of cash inflow	98.7	98.5	97.1	100.0

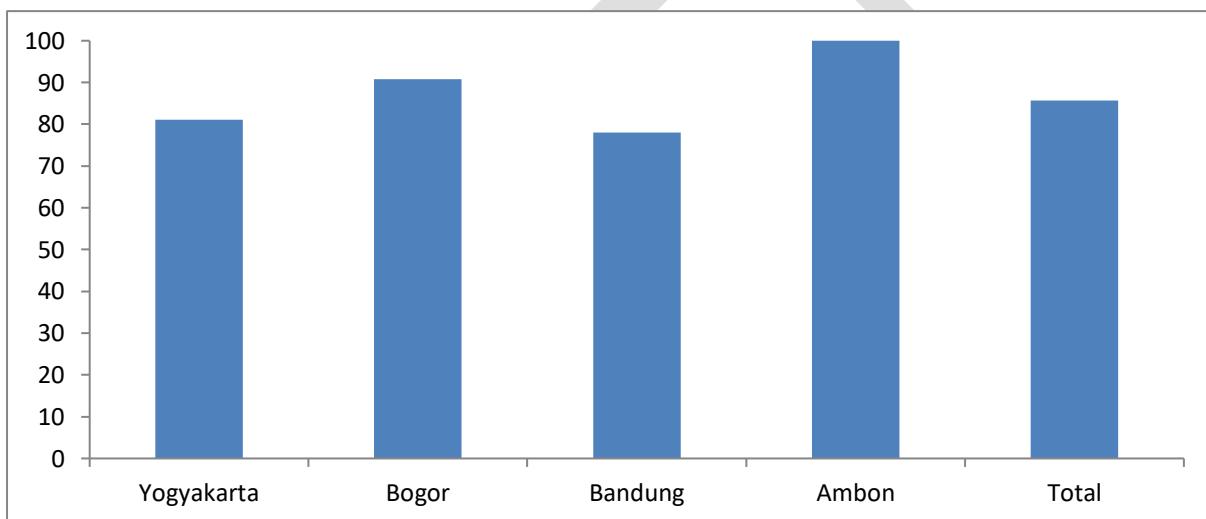
### **Attitude towards basic accounting training**

Respondents were also asked questions related to their perceptions of the basic accounting training. Most respondents agreed or strongly agreed that basic accounting training was very useful and easy to practice. However, 15% respondents mentioned that the basic accounting training was not easy to practice.

**Table 11 Attitude towards Basic Accounting Training**

Attitude towards basic accounting training	Strongly Agree	Agree
Training on accounting provided me with necessary skills for selling food	68 (27.6)	158 (64.2)
Training on basic accounting is easy to practice	52 (21.2)	52 (63.3)

When examined by area, most respondents felt that training on basic accounting provided them with necessary skills for selling food and running IWAS on a sustainable basis.



**Figure 8 Attitude towards Basic Accounting Training by Area**

### **Business development**

The selling of milk seemed to be most significant source of income in most WAS. The number of milk sold in cups ranged between 50 to 100 cups per day. The price ranged from Rp 1.000 to Rp 4.000. The price of homemade food typically ranged from Rp 1.000 to Rp 3.000 with the volume of sales of 30 to 100 per day depending on the types of homemade food.

A number of respondents (39%) did not know how much they spend for WAS every month. The income as well as expenses from WAS also hugely varied especially between areas. Table 12 shows the daily expenses for IWAS. This table shows that most respondents in Yogyakarta and Ambon spent less than Rp 100.000 for WAS expenses. Around 30-40% respondents in Bandung and Bogor spent less than Rp 100.000 and between Rp 100.000 and Rp 200.000 for WAS expenses. This might be due to lesser purchasing power and socioeconomic status of the areas.

**Table 12 Daily expenses for WAS (%)**

Expenses	Yogyakarta	Bogor	Bandung	Ambon	Total
<100.000	73.6	35.7	46.2	95.4	60.7
100.000-199.000	7.6	42.9	28.8	4.6	20.6
200.000-299.000	9.4	14.3	11.5	0.0	9.7
>300.000	9.4	7.1	13.5	0.0	9.0

Figure 9 shows the difference in income before and after WAS program. We categorized daily income into several categories: 1) <Rp 50.000, 2) Rp 50.000-149.000, 3) Rp 150.000-249.000 and 4) more than Rp 250.000. Overall, there was an increase in the proportion of respondents having income more than Rp 250.000 after WAS program. On the contrary, the proportion of respondents with income less than Rp 250.000 decreased, especially in the group of income between Rp 150.000 and Rp 249.000. This was also observed in all areas especially Yogyakarta, Bogor and Bandung. It might be implied that WAS program contributed to the increase in income for IWAS.

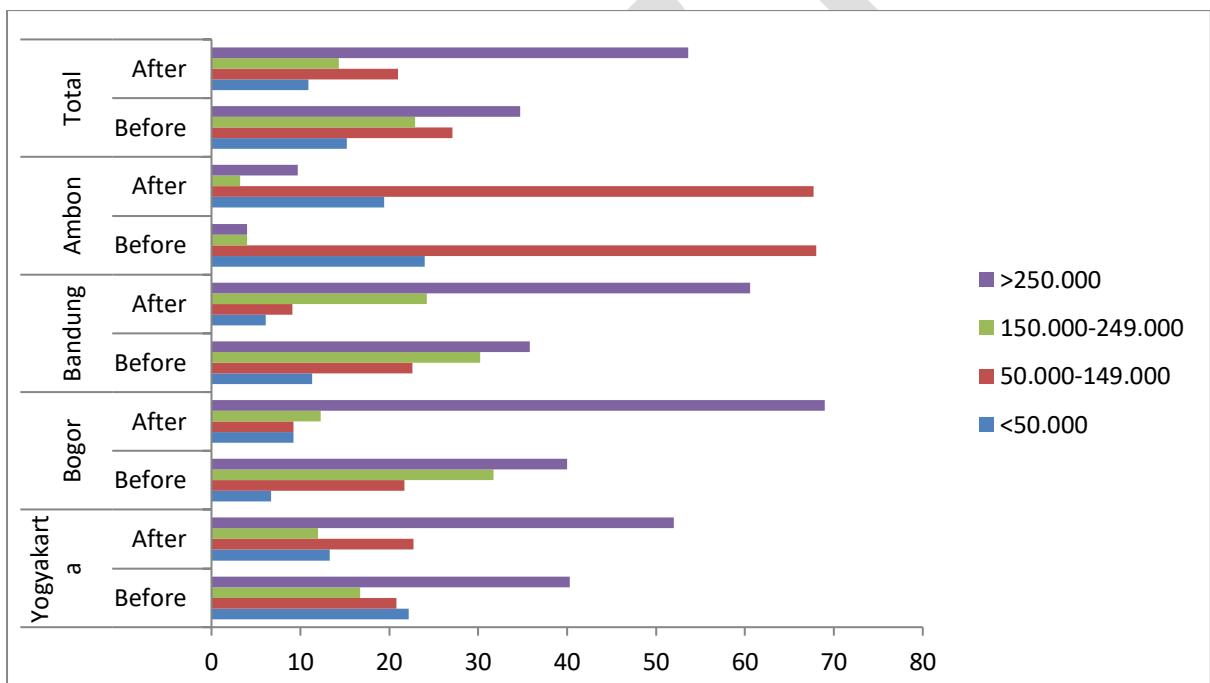


Figure 9 Change in Income Before and After IWAS

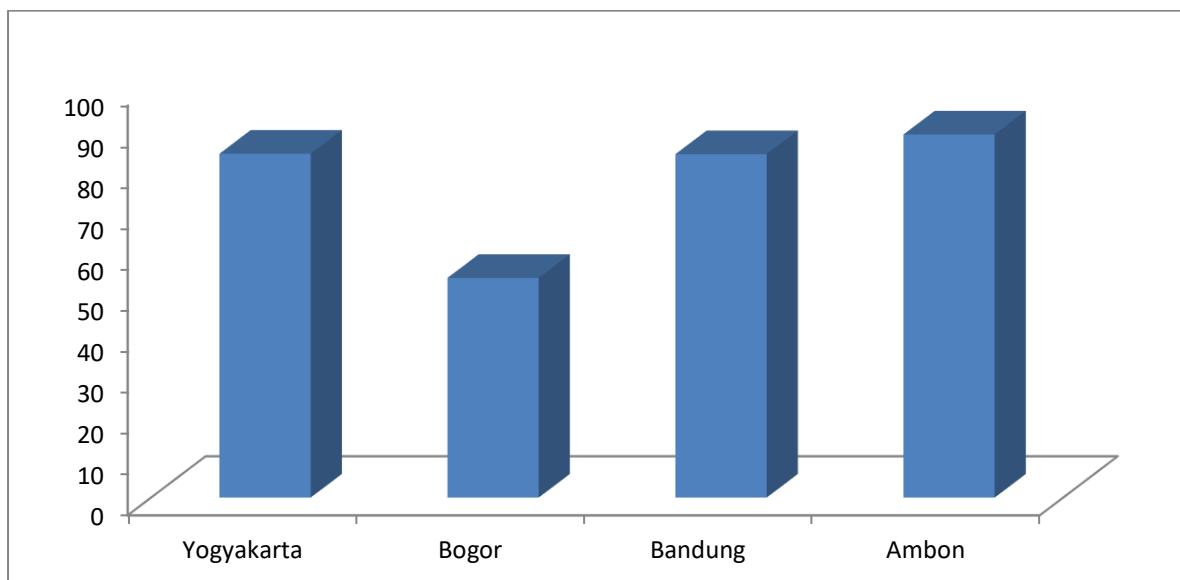
### Financial Management of WAS

WAS were mostly managed by the respondents or IWAS themselves i.e. Yogyakarta 88.7%, Bogor 83.3%, Bandung 95.2% and Ambon 95.5%. Very few respondents were assisted by other people, if any, they are mostly family or staff. Respondents were mostly keeping accounting notes, however, they were not able to show it at the time of the survey since they were not running WAS during Ramadhan.

### Control over Income

For many respondents, WAS is not the only main source of income. Almost 80% respondents had other source of income, particularly their spouse's salary and other business such as selling other items. Some IWAS who were teachers also received salary as teachers.

The majority of respondents are responsible for financial management in their household. Only few respondents mentioned that financial issues in their households are managed by their spouses. As many as 77% respondents reported that they had the same opportunity for decision making related to financial issues in their households. The lowest percentage of respondents having the same opportunity for decision making related to financial issues in their households was found in Bogor (Figure 10).



**Figure 10 Decision Making over Financial Issues by Areas**

Many respondents also reported that the financial capital for running WAS is from their own (78.7%). Only around 13% respondents got loan from other institution such as microeconomic institution (71%) or *koperasi* (25%). Few respondents obtained capital from sponsor such as CARE, other NGOs, as well as from schools. Some respondents received non-financial capital such as equipment from sponsor. Among respondents who got loan from other financial institutions, half had not paid the loan. The loan duration varied from less than 1 year (25.8%), 1-2 years (61.3%) and more than 3 years (12.9%).

Most respondents (80%) were not active in small business groups or community. Those who join communities typically reported that they join *arisan* or *dasawisma* group. In these groups, small loan or credit scheme is usually circulated. *Arisan* group is typically established among people who share the same characteristics such as same living place or working place.

## **Survey to teachers**

A total of 109 teachers participated in the survey i.e. 35 in Yogyakarta, 28 in Bogor, 20 in Bandung and 13 in Ambon. Ninety or 83% of teachers are female and the rest are male. Most teachers were sport education teachers. However, in some areas, teachers were working as classroom teachers and therefore they teach all subjects to students. At the time of the survey,

most teachers are still active as WAS teacher. Only few respondents reported that they were no longer active as WAS teachers because of various reasons such as no support from school, no time and IWAS was not active.

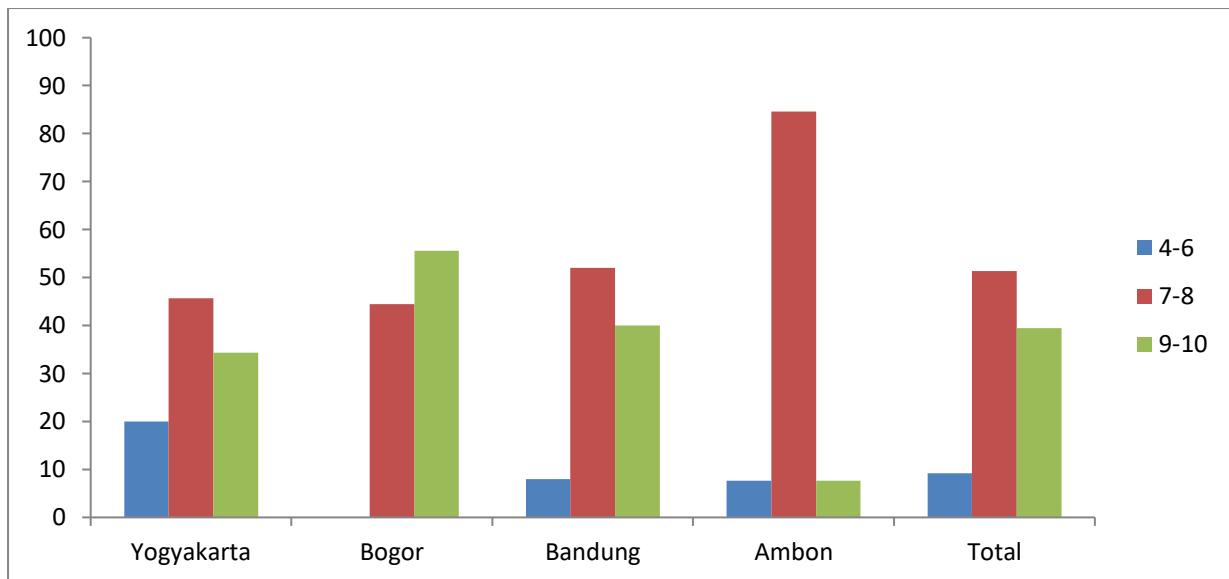
### **Knowledge on nutrition and healthy food**

Almost all teachers had training on healthy food and nutrition. Teachers were given 10-item questionnaire on knowledge related to healthy food and nutrition. Table 13 shows the proportion of respondents with correct answers on each question. There was still some incorrect knowledge among teachers .

**Table 13 Proportion of Respondents with Correct Answers**

Questions	%
Vitamin and mineral are the main nutrition as the source of energy	26.6
To improve body energy, children need high intake of sugar	77.1
Liver, eggs and meat are the source of animal fat	100.0
Overnutrition is not a nutrition problem	76.1
Healthy child is a fat child	96.3
Food and milk consumption is important for development of body height of a child	98.2
Children aged 5-12 years need to drink milk at least 2 glasses per day	90.8
Monosodium glutamate (MSG) can cause obesity and hypertension for those who consume	89.9
To maximize bone growth and strength in children, high intake of calcium is needed	99.1
Evaporated milk can be categorized as milk	57.8

Figure 11 shows the level of nutrition knowledge among teachers based on the number of questions answered correctly. This figure shows that the level of knowledge ranged from moderate to high especially in Yogyakarta, Bogor and Bandung. Meanwhile in Ambon, the percentage of teachers with moderate knowledge is much higher. This gap in knowledge is probably due to the differences in materials and methods of training or language barriers. On the other hand, the high level of knowledge is probably attributable to prior exposure to nutrition-related information among teachers.



**Figure 11 Level of Nutrition Knowledge among Teachers**

### Attitude towards Training

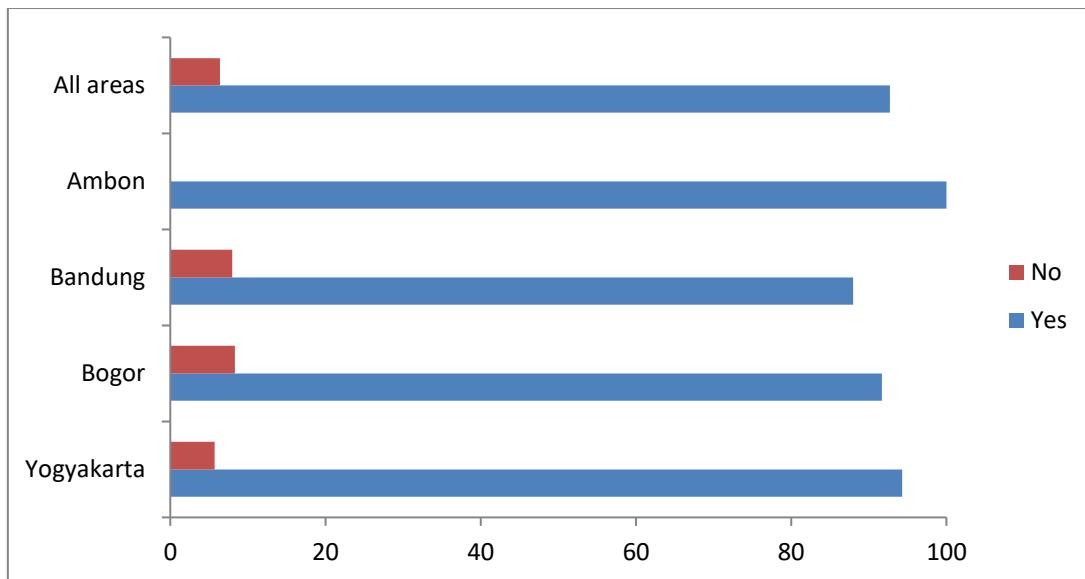
Respondents who participated in the training were asked their perception related to the benefit of training. Most respondents had positive attitude towards the training, except that the number of training was thought inadequate to significantly improve their knowledge regarding nutrition and healthy foods.

**Table 14 Attitude towards Training**

Attitude	Strongly Agree	Agree
Training materials on nutrition were easy to understand	40.6	57.6
Training materials on teaching methods were easy to understand	40.6	57.6
Resource person deliver lectures in easy language	42.5	56.6
The number of training is enough to increase my knowledge	18.8	40.6
Training materials were too much	9.5	31.4
Training adequately equipped me with skills to teach students on healthy food and nutrition	40.6	58.5
Training adequately equipped me with skills to teach teachers on healthy food and nutrition	40.6	55.7

### Dissemination of Information

Teachers were asked whether they disseminate information they received from training by giving lectures or training to students or parents. Most teachers reported that they had conducted information session to students (Figure 12).



**Figure 12 Proportion of Teachers Giving Information Session to Students**

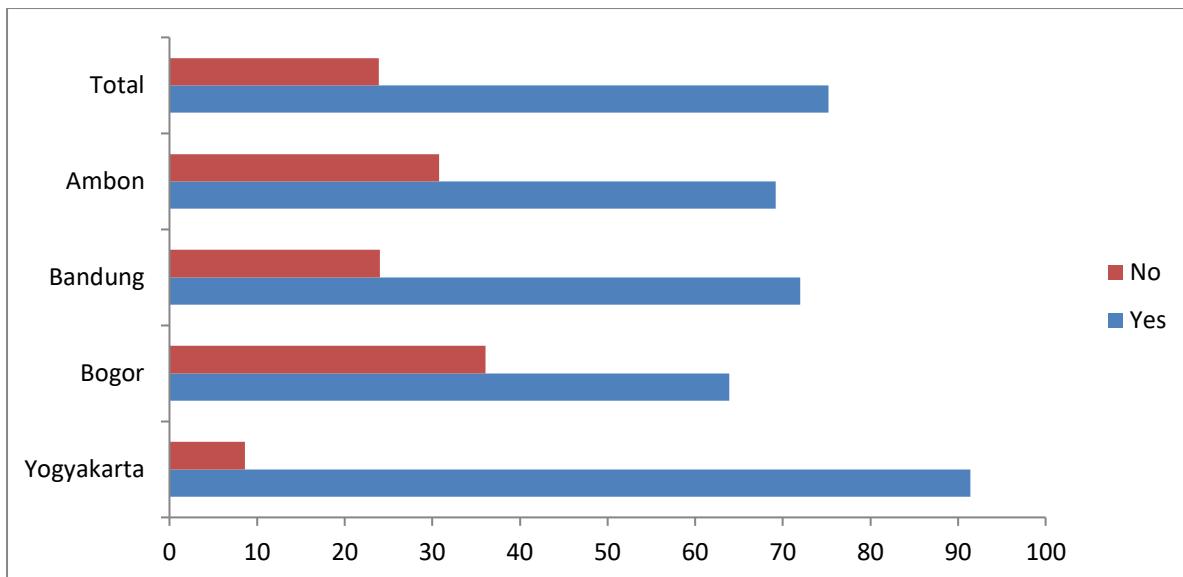
The number of information sessions given widely varied, from one time information session to six information sessions. In Yogyakarta and Ambon, most teachers only gave 1-2 information sessions. In Bogor, a third of teachers delivered 1 or 3 information sessions. Meanwhile in Bandung, many teachers had 2-3 information sessions with students.

**Table 15 Number of Information Session Conducted for Students (%)**

	Yogyakarta	Bogor	Bandung	Ambon	Total
1 session	45.7	36.1	20.0	46.2	36.7
2 sessions	28.6	13.9	32.0	38.5	25.7
3 sessions	14.3	27.8	24.0	7.7	20.2
4 sessions	0.0	2.8	4.0	0.0	1.8
6 sessions	2.9	0.	4.0	7.7	2.8

During the information sessions, the majority teachers utilized materials given by CARE. This is especially true in Yogyakarta and Bogor, where more than 90% teachers used the materials provided by CARE. However, in Bandung and Bogor, only around 88% teachers used materials provided by CARE. The majority of respondents agreed that these materials are easy to use.

Figure 13 shows that most teachers have also conducted information sessions for parents, especially in Yogyakarta, more than 90% teachers have conducted such activities. In Ambon, however, less than 70% teachers had done so. Most teachers have done only 1 information session for parents. During the session, teachers utilized teaching materials provided by CARE.



**Figure 13 Proportion of Teachers Giving Information Session to Parents**

### Attitude to WAS Program

The perception of teachers towards WAS was explored in 10 statements regarding WAS. Overall, the perception towards WAS program was very positive. Teachers strongly agreed that they have been provided clear information on WAS pro

**Table 16 Attitude towards WAS among Teachers**

Attitude	Strongly Agree	Agree
Information on WAS program was adequately provided to schools and teachers	27.5	49.5
My role in WAS program is clear	31.5	55.6
It is easy to collaborate and communicate with IWAS	40.7	52.8
After WAS program is implemented, more students buy healthy food at WAS	36.7	62.4
WAS program is easy to implement	36.7	49.5
WAS helped schools to implement healthy living at schools	50.5	49.5
WAS reduced the number of morbidity at schools	29.6	66.7
WAS is easy to implement in this school	34.9	54.1

## **Stakeholder Interview**

In total, 10 stakeholders from various institutions were interviewed. In Yogyakarta, both respondents were from Dinas Kesehatan Kabupaten (Sleman and Bantul). In Bogor, both stakeholders were from Kota Bogor. We failed to interview stakeholders from Kabupaten Bogor due to non-supportive situation related to staff turnover. In Bandung, stakeholders from Kota Bandung and Kabupaten Bandung were interviewed. We interviewed two stakeholders from Kota Ambon. The details are provided below (Table 17).

**Table 17 Number of Stakeholder Interviewed**

	<b>Yogyakarta</b>	<b>Bogor</b>	<b>Bandung</b>	<b>Ambon</b>	<b>Total</b>
PEMDA			1		1
BAPPEDA			1		1
Dinas Kesehatan	2	1	2		5
Dinas Pendidikan					-
Badan POM				1	1
Dinas Pertanian dan Ketahanan Pangan		1		1	2
Total	2	2	4	2	10

## **Understanding and perception of WAS program**

Respondents described that nutrition in schoolchildren have been the priority program of the government especially in Dinas Kesehatan and Dinas Pendidikan. Dinas Pertanian/Ketahanan Pangan as well as Badan POM also has concerns in schoolchildren nutrition especially in the food safety aspects. It was often expressed that the WAS program is actually in line with government priority programs such as School Health Program (UKS), socialization of food safety, assessment of food quality and promotion of healthy food. Therefore most respondents showed positive perception towards WAS concepts and program, especially as the coverage of the program is quite extensive. Given the huge number of schools, the WAS program clearly assisted the government in nutrition programs. Training and coaching were especially appreciated as it may ensure the quality of implementation. However, respondents showed only moderate knowledge on what WAS intervention consist of. Only few respondents were able to explain in detail what WAS intervention consists of and the function of IWAS as well as teachers, but some respondents were not. It was mentioned that there was a lack of information provided by CARE regarding the program.

## **Coordination and participation**

The level of participation of stakeholders in the programs highly varied. Most respondents were involved in the WAS program as trainers or were invited in coordination meeting or workshops related to WAS. Some respondents reported that they were only involved in one or two times training or meetings. Few respondents were involved in the early phase of the program such as preparing meeting or inviting participants. Other respondents mentioned that they were involved in ensuring the synergy of the WAS program, for example by attending

coordination meeting and providing suggestion In areas with cooking centers, several respondents were involved in assessing the possibility of food contamination.

During the implementation of the WAS however, several respondents mentioned that there was a lack of communication and coordination between CARE and stakeholders. Coordination was only taking place in the early phase of the program (i.e. coordination, training, etc) and not on a regular basis. There was also unclear coordination mechanism between CARE and multiple stakeholders. Most coordination have been taking place in an informal setting. For example, one respondent mentioned that although CARE has established communication with Dinas Kesehatan, there was a lack of communication with Puskesmas. Moreover, since nutrition in school is a concern and responsibility of many stakeholders, there should also be a coordination forum involving CARE and relevant stakeholders, and such a coordination forum is best led by Dinas Pendidikan. There was also an expectation among stakeholders that BAPPEDA or Dinas Pendidikan should take the lead in improving schoolchildren nutrition.

### **Monitoring and evaluation**

Most respondents reported that their institution had no monitoring and evaluation mechanism to the CARE intervention. Stakeholders were not involved in the implementation of the program, for example, there was no field visits by stakeholders to WAS locations. There was also no report or data provided by CARE to stakeholders on a routine basis. On the other hand, stakeholders are also occupied with other programs and this prevents routine monitoring and evaluation activities.

### **Sustainability issues**

Despite the positive perception towards WAS program and the possibility of integration of WAS into the routine program, sustainability remains an issue, especially with the huge resources required to maintain or expand the WAS program. Most stakeholders mentioned that they did not have any specific plan to continue the program and will just continue with their routine program. Most respondents were not aware that the WAS program is coming to an end, however, some stakeholders showed expectation that this program is continued. It was mentioned that there should be provision of information regarding the achievement of the program. There should also clear tasks and functions of each stakeholder. If this program is proven useful, there is a possibility for governmental budget to be earmarked for WAS continuation. Some stakeholders mentioned that it depends on the schools to ensure the sustainability of the program.

# Conclusion

## WAS Program and IWAS

1. Knowledge of nutrition and healthy food among trained IWAS was moderately high except in Ambon.
2. Non-standardized training materials and methods as well as language barriers may contribute to lower knowledge in some areas
3. WAS training was perceived as useful and easy to understand by IWAS, however, the number of training was perceived as lacking
4. WAS program was perceived by IWAS as easy to implement, although some WAS requirements were not met - possibly because of distribution issues
5. Selling of milk especially milk in cups was one of the prominent feature of WAS
6. Despite high knowledge of nutrition, the practice in preparing high quality, healthy foods was lacking. This is shown by the high rates of IWAS selling deep-fried food, MSG-containing food and food with preservatives. Lack of awareness and knowledge may contribute to such a practice
7. WAS-related income seems to be influenced by socioeconomic situation of the area, schools, and children
8. WAS program contributed significantly to the increase in IWAS income

## WAS Program and Teachers

1. Knowledge of teachers were moderately high, however, this might be attributable to prior exposure to nutrition-related information among teachers
2. WAS training was perceived as useful and easy to understand by teachers, however, the number of training was perceived as lacking
3. Teachers have positive attitude towards WAS program
4. Dissemination of information has been conducted by teachers but not on a regular basis. Most teaching aids provided by CARE have been adequately used.
5. There seems to be no monitoring and evaluation mechanism to the output of the dissemination of information – most only report the number of students/parents participating.

## WAS Program and Stakeholders

1. Despite positive attitude to WAS program, knowledge on the program intervention was lacking
2. There was a lack of coordination and communication between CARE and stakeholders and between stakeholders, which may lead to a problem when CARE support is withdrawn
3. There was also an absence of monitoring and evaluation mechanism to ensure the synergy of WAS program with similar government intervention
4. There was an expectation on the continuity of WAS program – however, stakeholders have no specific plan on ensuring the sustainability of the program

## **Recommendation**

1. To ensure the uniformity of intervention, there should be a standardized intervention, such as the standardization of materials, resource person and methods of training
2. To ensure the quality of the intervention throughout the program duration, SOP on training, coaching and data collection should be developed and its implementation be monitored
3. Information on the program logic and components should be clearly provided to all relevant stakeholders and beneficiaries
4. With such a wide coverage of program intervention, robust internal monitoring and evaluation mechanism should be in place to measure the actual impact of the intervention. Inclusion of such data collection should be considered in the monthly survey
5. Level of involvement of stakeholders should be increased and not limited to only 1-2 training or meeting to increase ownership and synergy with government programs
6. In order to ensure the sustainability of the intervention, the results of program should be disseminated to all stakeholders and beneficiaries. Exit strategy should be developed by involving participation of relevant stakeholders
7. With such a limited resources and interest from stakeholders to continue the program, schools are potentially the main parties to continue the program