

# REPORT

INDEPENDENT MONITORING OF MASS DRUG  
ADMINISTRATION CAMPAIGNS IN PHU THO,  
HOA BINH, THANH HOA AND NGHE AN





CENTER FOR ENVIRONMENT AND HEALTH STUDIES

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## ABBREVIATION

- CEHS** : Center for Environment and Health Studies
- CHC** : Commune Health Center
- CHW** : Commune Health worker
- DHC** : District Health Center
- DW** : Deworming Day
- EMW** : East Meets West
- MDA** : Mass Drug Administration
- MUD** : Mop-up Day

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# 1. General introduction

## 1.1. Background

East Meets West (EMW) is partnering with Evidence Action and the Vietnamese government to implement a school-based deworming program in Phu Tho, Hoa Binh, Thanh Hoa and Nghe An. School-based mass drug administration (MDA) campaigns, whereby anthelmintic medication is administered to school-age children, are a model proven to cost-effectively control intestinal worm infections.

The first round of school-based deworming as part of this program was conducted in April 2016, and the second MDA conducted in November 2016. The third round was implemented in the week of November 6-10, 2017. Deworming was implemented in primary schools in two phases: (i) the main deworming day was implemented over a 1-to-2 day period (November 6 and/or November 7) targeting all school-age children attending primary schools; and (ii) a 'mop-up' day was implemented on November 10, targeting children who could not receive deworming medication on the main deworming day. Deworming medication was administered by commune health workers at the schools, with the assistance of teachers. At each school, the commune health workers recorded, class-by-class, the number of children who had received the deworming medication (mebendazole). Following the mop-up day, the commune health staff collated the information from each class and completed a reporting form detailing the number of children dewormed in all primary schools in the commune (constituting all main and 'satellite' schools). The week prior to deworming, representative commune health workers and teachers received training, detailing how mebendazole should be administered safely, and how data should be collected.

Monitoring and evaluation (M&E) is an integral component of any large-scale drug-distribution program. M&E is an essential mechanism to ensure the efficient implementation of the program so that the target population achieves maximum benefit through cost-effective treatment.

The Center for Environment and Health Studies conducted the monitoring activities in primary schools and commune health centers across the four provinces targeted by the school-based deworming program, as well as at selected training sessions in advance of deworming day. All data below is the results of the monitoring visits.

## 1.2. Monitoring objectives

The purpose of this monitoring exercise is to:

- Assess the quality of training provided to commune health workers and teachers
- Assess whether the expected processes are followed by commune health workers and teachers during the school-based deworming campaign
- Assess the accuracy of the reporting by the commune health staff

## 1.3. Study subjects

Head of the commune health centers; Front Line Workers (Commune-health workers and teachers); Head teacher; Class teachers; Students of primary schools.

## 1.4. Location, time and monitoring activities

**Table 1.** Location and time for monitoring

Monitoring Activity	Number of Monitoring Visits				Total	Dates for Monitoring
	Phu Tho	Hoa Binh	Thanh Hoa	Nghe An		
Monitoring of training of front line workers	5	4	10	8	27	October 17-30
Monitoring of deworming at schools	12	10	25	19	66	November 6 & 7
Coverage validation at schools & commune health centers	24	20	50	38	132	November 16 & 17
Total number of monitoring visits	41	34	85	65	225	

The random-selection was performed by EMW/Evidence Action and the list of selected training sessions and schools was provided to CEHS. During the weeks of October 17-30, 27 training sessions across the four provinces were visited. A total of 66 primary schools were visited on deworming day (November 6 & 7, except for Ly Tu Trong primary school that was visited on deworming day on November 10); 132 pairs of commune health centers/schools were also visited for coverage validation from November 16 & 17. According to the original design, the assessment of coverage was conducted in 66 main schools and 66 satellite schools. However, 6 satellite schools were merged into the main schools. Therefore, the monitors visited the main school associated with the original satellite instead. Thus, the number of monitored main schools was 73 and the number of monitored satellite schools was 58.

## 2. How to implement and manage the monitoring

### 2.1. Recruitment and training of monitors

#### **Recruitment**

Sixty six monitors who are CEHS's staff, officers/lecturers from Thai Binh Medical and Pharmaceutical University were recruited to conduct the monitoring visits. All of them are required as follows:

- Having at least bachelor of public health or higher;
- Having at least 5 experience-years in implementing studies, monitoring on public health, parasites and social medicine;
- Having ability to work with high pressure and travel in difficult areas;
- Having high responsibility and ability to work independently in the field.

#### **Training**

Sixty six monitors were divided to join in two training sessions which was held in Hanoi during 2 days before implementing the official monitoring in the field. The facilitator for two training sessions was the team leader. The purpose of the training sessions was to provide necessary information, protocols to be followed and interviewing skills for monitors. The monitors were trained and thoroughly discussed about the possible answers given for each question. For each question, the monitors were required to understand why this information should be collected. The participation of representation from East Meets West and Evidence Action contributed to further clarify the meaning of each question and any comments from monitors during the training.

Training of the independent monitors was taken place the week prior to the training sessions of frontline workers, on October 13-14, 2017.

### 2.2. How to implement and manage the monitoring

A total of 27 monitors monitored at the 27 training sessions, each monitor for one training session.

Similarly, 66 monitors visited 66 primary schools on the deworming day, each monitor for one school. The monitoring at some of selected primary schools entailed visiting both the main school and one associated satellite school.

The process of coverage validation entails monitors visiting a commune health center in order to access the commune reports, and subsequently visiting the associated school – as such, coverage validation involves a paired visit to a commune health center and a school. One monitor visited 2 pairs of commune health centers and schools; thus 66 monitors in total conducted the coverage validation at the 132 pairs of commune health centers/schools. Coverage validation was conducted on November 16 and 17 – these dates were selected so as

to be as close as possible to deworming day so that the responses of the interviewees could be deemed reliable, while also coinciding with the reporting schedule of the communes.

Before each monitoring visit, all monitors received the list of training sessions/primary schools with the implementation date from East Meets West and Evidence Action. All the organizers of the training sessions and selected primary schools were not made aware in advance of the monitoring visit.

### 2.3. Data processing and analysis

Analysis of Data was implemented in accordance with the following process:

- Cleaning raw data: all the interviews and checklists which were collected in the field were checked, detected errors were corrected and completed before entering.
- Programming data entry by Epi Data 3.1 software.
- Data was entered twice, each time by one data entry operator using Epi Data 3.1 software. After that, comparison was made to detect and correct discrepancies in order to minimize data entry errors.
- Using SPSS software for cleaning data according to the logic of the questionnaires.
- Data analysis: The quantitative data was analyzed using SPSS 17.0 software. The statistical parameters including rate, p value, etc will be calculated. During the data analysis, the consulting firm consulted opinions from East Meets West.

**Data from Training of Front Line Workers:** analysis of findings from observational monitoring of the training sessions was completed. At each monitored training session, participants were asked to complete a pre- and post-test designed by EMW and Evidence Action to assess the quality of training. These tests were collected by the independent monitors and subsequently scored according to a scoring template provided by EMW and Evidence Action. The scores were inputted into a spreadsheet provided in advance by EMW and Evidence Action, but no analysis of the data was required on the part of CEHS. However, we did:

- Provide the individual spreadsheets provided by each monitor, corresponding to each training session that was monitored (27 spreadsheets in total)
- Provide a consolidated spreadsheet for each province (4 spreadsheets in total)
- Provide a consolidated spreadsheet for the four provinces combined (1 spreadsheet in total)

## **Data from Monitoring of Mass Drug Administration and Coverage Validation:**

Analysis of findings from observational monitoring and from interviews of commune health workers, head teachers, teachers and students performed at schools on deworming day was conducted.

Data was presented for each province, as well as a combined total for the complete target area; additionally, data was also presented to differentiate between main schools and satellite schools, as well as a combined total for all schools visited.

All raw data collected during the various surveys in Excel format in English and Vietnamese was submitted to East Meets West and Evidence Action.

### **2.4. Problems arisen during the monitoring in the field**

Due to the large monitoring areas in all districts of four provinces, during the monitoring process, the monitors had met some problems in the field, however, CEHS's coordinator in combination with staff from East Meets West had addressed all problems timely to ensure the best quality of the monitoring.

Some problems arisen during the monitoring in the field and how to solve:

- Some schools in the list did not conduct deworming on the scheduled date (November 6 and/or 7), replacement schools were based on visiting the nearest schools that were conducting the deworming at the day of visit. CEHS's coordinator called to confirm this with EMW and informed the name of the replacement school.
- During the day of the Coverage Validation monitoring, students left school due to school's schedule. Thus, monitors interviewed with children at their home.

## 3. Main findings

### 3.1. Some detailed information of time and location of the monitoring

**Table 2.** Information on monitoring activities in 4 provinces

Information	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Monitoring of Training of Front Line Workers					
• Number of training session	4	8	5	10	<b>27</b>
Main deworming day					
• Number of main school	10	19	12	25	<b>66</b>
• Number of satellite school (*)	4	8	0	9	<b>21</b>
Coverage validation					
• Number of main school	11	22	13	27	<b>73</b>
• Number of satellite school	9	15	11	23	<b>58</b>

(\*) Satellite schools were only visited when the primary schools include satellites, even if deworming was not being conducted on the same day as the monitor's visit to the main school.

The table above shows all information on the monitoring activities of training of front line workers, deworming day and coverage validation. Twenty seven training sessions in 27 districts across 4 provinces were monitored; 66 main schools and 21 satellite schools were visited on the deworming day; 73 main schools and 58 satellite schools in 122 communes were visited for coverage validation (9 communes with both main and satellite schools). Noticely, deworming activity at My Ly commune of Ky Son district in Nghe An was delayed to November 21, 2017. Thus, all monitoring of coverage validation at this commune were blank, the 'analyzable' sample of satellites schools is 58 and the total 'analysable' sample for Coverage Validation' is 131. In addition to coverage validation, because of landslide, the monitor could not go to Nay satellite of Yen Luong primary school (Thanh Son district – Phu Tho), thus, it was replaced to Quat satellite with the consent of EMW.

**Table 3.** List of districts for Monitoring of Training

No.	District	Date of training	Training location	Note
<b>Hoa Binh</b>				
1	Lương Sơn	27-Oct-2017	Luong Son DHC	
2	Hòa Bình city	24-Oct-2017	Hoa Binh PPMC	Changed from Oct 17, 2017
3	Mai Châu	25-Oct-2017	People's Committee	
4	Kim Bôi	25-Oct-2017	Bo Town	
<b>Phu Tho</b>				
1	Phù Ninh	23-Oct-2017	Phu Ninh DHC	
2	Thanh Ba	23-Oct-2017	Thanh Ba DHC	Changed from Oct 18, 2017
3	Tam Nông	24-Oct-2017	Tam Nong DHC	Changed from Oct 16, 2017
4	Yên Lập	27-Oct-2017	Yen Lap DHC	Changed from Oct 24, 2017
5	Thanh Thủy	19-Oct-2017	Thanh Thuy DHC	Changed from Oct 23, 2017



No.	District	Date of training	Training location	Note
<b>Thanh Hoa</b>				
1	Vĩnh Lộc	17-Oct-2017	Vinh Minh Commune	Changed from Oct 18, 2017
2	Như Xuân	18-Oct-2017	Hóa Quỳnh Commune	
3	Lang Chánh	25-Oct-2017	Yên Thắng commune PC	Changed from Oct 19, 2017
4	Mường Lát	25-Oct-2017	Nhi Sơn health center	Changed from Oct 25, 2017
5	Sầm Sơn	24-Oct-2017	Sầm Sơn health center	
6	Như Thanh	25-Oct-2017	Hải Long Commune	
7	Hoằng Hóa	26-Oct-2017	Hoằng Ngọc Commune	
8	Nga Sơn	26-Oct-2017	Nga An Commune	Changed from Oct 20, 2017
9	Quan Hóa	25-Oct-2017	Thành Sơn Commune PC	Changed from Oct 26, 2017
10	Cẩm Thủy	26-Oct-2017	Cẩm Ngọc Hotel	
<b>Nghe An</b>				
1	Thanh Chương	30-Nov-2017	Thanh Chuong DHC	Changed from Oct 26, 2017
2	Cửa Lò town	26-Oct-2017	Cua Lo town health center	
3	Tân Kỳ	24-Oct-2017	Tan Ky DHC	
4	Nam Đàn	24-Oct-2017	Nam Dan DHC	Changed from Oct 26, 2017
5	Nghi Lộc	25-Oct-2017	Nghi Loc DHC	
6	Con Cuông	26-Oct-2017	Con Cuong DHC	
7	Quỳ Hợp	30-Oct-2017	Quy Hop DHC	Changed from Oct 25, 2017
8	Yên Thành	24-Oct-2017	Yen Thanh DHC	

A total of 27 training sessions for front line workers across 4 provinces were monitored. There were changes of time in 13 training sessions compared to the plan.

**Table 4.** List of schools for monitoring on the main deworming day

No.	District	Commune	Main school	Date of deworming day	# of satellites	Satellite school visited
<b>Hoa Binh</b>						
1	Lương Sơn	Hợp Hòa	Hợp Hòa	06-Nov-2017	0	
2	Lạc Thủy	Lạc Long	Lạc Long	06-Nov-2017	0	
3	Cao Phong	Nam Phong	Nam Phong <sup>1</sup>	06-Nov-2017	3	x
4	Yên Thủy	Ngọc Lương	Đại Đồng	06-Nov-2017	0	
5	Kỳ Sơn	Phúc Tiến	Phúc Kiến	06-Nov-2017	0	
6	Hòa Bình city	Phương Lâm	Lý Tự Trọng	10-Nov-2017	0	
7	Đà Bắc	Tân Minh	Tân Minh A	06-Nov-2017	5	x
8	Mai Châu	Tòng Đậu	Tòng Đậu	07-Nov-2017	2	x
9	Lạc Sơn	Văn Nghĩa	Văn Nghĩa <sup>2</sup>	06-Nov-2017	5	x
10	Kim Bôi	Vĩnh Tiến	Vĩnh Tiến	07-Nov-2017	0	

<sup>1</sup> Nam Phong primary school was replaced from Tay Phong primary school due to deworming was NOT happening on the day of visit.

<sup>2</sup> Van Nghia primary school was replaced from Tuan Dao primary school due to deworming was NOT happening on the day of visit.

No.	District	Commune	Main school	Date of deworming day	# of satellites	Satellite school visited
<b>Phu Tho</b>						
1	Lâm Thao	Bản Nguyên	Bản Nguyên 2	06-Nov-2017	0	
2	Thanh Ba	Đông Thành	Đông Thành	06-Nov-2017	0	
3	Đoan Hùng	Phong Phú	Phong Phú	07-Nov-2017	0	
4	TX Phú Thọ	Phú Hộ	Phú Hộ	06-Nov-2017	0	
5	Phù Ninh	Phú Nham	Phú Nham	06-Nov-2017	0	
6	Tam Nông	Phương Thịnh	Phương Thịnh	06-Nov-2017	0	
7	Thanh Thủy	Sơn Thủy	Sơn Thủy 2	06-Nov-2017	0	
8	Thanh Sơn	Thục Luyện	Thục Luyện <sup>3</sup>	06-Nov-2017	0	
9	Việt Trì	Tiên Cát	Tiên Cát	07-Nov-2017	0	
10	Hạ Hòa	Hạ Hòa	Town	06-Nov-2017	0	
11	Cẩm Khê	Tùng Khê	Tùng Khê	06-Nov-2017	0	
12	Yên Lập	Xuân Viên	TH Xuân Viên	06-Nov-2017	0	
<b>Thanh Hoa</b>						
1	Cẩm Thủy	Cẩm Vân	Cẩm Vân	07-Nov-2017	2	x
2	Như Xuân	Cát Vân	Vân Thọ	06-Nov-2017	2	x
3	Bá Thước	Điền Lư	Điền Lư 2 <sup>4</sup>	07-Nov-2017	1	x
4	Đông Sơn	Đông Hoàng	Đông Hoàng	07-Nov-2017	0	
5	Lang Chánh	Giao An	Giao An	07-Nov-2017	1	x
6	Hà Trung	Hà Thái	Hà Thái	06-Nov-2017	0	
7	Tĩnh Gia	Hải Lĩnh	Hải Lĩnh	07-Nov-2017	0	
8	Hoàng Hóa	Hoàng Yến	Hoàng Yến	06-Nov-2017	0	
9	Bỉm Sơn	Lam Sơn	Lam Sơn 1	06-Nov-2017	0	
10	Triệu Sơn	Minh Dân	Minh Dân	08-Nov-2017	0	
11	Nga Sơn	Nga Lĩnh	Nga Lĩnh	07-Nov-2017	0	
12	Quan Hóa	Phú Lệ	Phú Lệ	06-Nov-2017	1	x
13	Quảng Xương	Quảng Hòa	Quảng Hòa	06-Nov-2017	0	
14	Hậu Lộc	Quảng Lộc	Quang Lộc	07-Nov-2017	0	
15	Thanh Hóa city	Quảng Tân	Quảng Tân	07-Nov-2017	0	
16	Sầm Sơn	Quảng Tiến	Quảng Tiến 1	06-Nov-2017	0	
17	Quan Sơn	Tam Thanh	Tam Thanh	06-Nov-2017	3	x
18	Thạch Thành	Thạch Đồng	Thạch Đồng	06-Nov-2017	0	
19	Như Thanh	Thanh Tân	Thanh Tân 2	07-Nov-2017	1	x
20	Thiệu Hóa	Thiệu Tâm	Thiệu Tâm	07-Nov-2017	0	
21	Nông Cống	Trung Ý	Trung Ý	07-Nov-2017	0	

<sup>3</sup> Thục Luyện primary school was replaced from Thang Son primary school due to deworming was NOT happening on the day of visit.

<sup>4</sup> Dien Lu 2 primary school was replaced from Dien Trung 2 primary school due to deworming was NOT happening on the day of visit.

No.	District	Commune	Main school	Date of deworming day	# of satellites	Satellite school visited
22	Vĩnh Lộc	Vĩnh Long	Vĩnh Long	07-Nov-2017	1	x
23	Thọ Xuân	Xuân Thắng	Xuân Thắng	06-Nov-2017	0	
24	Thường Xuân	Yên Nhân 1	Yên Nhân 1	06-Nov-2017	1	x
25	Yên Định	Yên Ninh	Yên Ninh	06-Nov-2017	0	
<b>Nghe An</b>						
1	Quỳ Hợp	Châu Lý	Châu Lý 2	06-Nov-2017	2	x
2	Quỳ Châu	Châu Thuận	Châu Thuận	06-Nov-2017	2	x
3	Diễn Châu	Diễn Xuân	Diễn Xuân	06-Nov-2017	0	
4	Đô Lương	Đại Sơn	Đại Sơn 2	06-Nov-2017	0	
5	TP Nghệ An	Hà Huy Tập	Hà Huy Tập 1	06-Nov-2017	0	
6	TX Thái Hòa	Hòa Hiếu	Hòa Hiếu 1	06-Nov-2017	0	
7	Hưng Nguyên	Hưng Thắng	Hưng Thắng	06-Nov-2017	0	
8	Con Cuông	Môn Sơn	Môn Sơn	06-Nov-2017	2	x
9	Nghi Lộc	Nghi Hưng	Nghi Hưng	06-Nov-2017	0	
10	Tx Cửa Lò	Nghi Hương	Nghi Hương	07-Nov-2017	0	
11	Tân Kỳ	Nghĩa Hành	Nghĩa Hành	06-Nov-2017	2	x
12	Nghĩa Đàn	Nghĩa Trung	Nghĩa Trung	06-Nov-2017	1	x
13	Tương Dương	Nhôn Mai	Nhôn Mai	06-Nov-2017	9	x
14	Quỳnh Lưu	Quỳnh Châu	Quỳnh Châu B	07-Nov-2017	0	
15	TX Hoàng Mai	Quỳnh Thiện	Quỳnh Thiện B	06-Nov-2017	0	
16	Kỳ Sơn	Tà Cạ	Tà Cạ	06-Nov-2017	4	x
17	Thanh Chương	Thanh Thịnh	Thanh Tĩnh	06-Nov-2017	1	x
18	Anh Sơn	Thọ Sơn	Thọ Sơn	06-Nov-2017	0	
19	Yên Thành	Thọ Thành	Hồ Tông Thốc	06-Nov-2017	0	

For primary schools which include satellites, the monitors were required to visit one satellite even if deworming was not being conducted on the same day as the monitor's visit to the main school. At each satellite school visited, the same observations and interviews performed at the main school were conducted. If deworming was not taking place on the day, the monitor would proceed to interview the senior teacher present and a randomly selected child. A total of 66 main schools and 21 satellite schools were visited on the deworming day. Due to deworming was not happening on the day of visit, four primary schools in the schedule list including Tay Phong (Cao Phong district – Hoa Binh), Tuan Dao (Lac Son district – Hoa Binh), Thang Son (Thanh Son district – Phu Tho) and Dien Trung 2 (Ba Thuoc district – Thanh Hoa) were replaced respectively by Nam Phong (Cao Phong district), Van Nghia (Lac Son district), Thuc Luyen (Thanh Son district) and Dien Lu 2 (Ba Thuoc district).

The four schools that were replaced conducted deworming on November 6 or November 7. However, the deworming day was not the visiting day as planned. Therefore, sixty-four out of sixty-six monitored schools (97%) implemented the main deworming day on November 6 and/or 7, except for Ly Tu Trong school (Hoa Binh city) conducted on November 10, 2017 and Minh Dan school in Trieu Son district (Thanh Hoa) implemented on November 8.

**Table 5.** List of schools for coverage validation

No.	District	Main school		Satellite school	
		Commune	Main school	Commune	Satellite school
<b>Hoa Binh</b>					
1	Tân Lạc	Phong Phú	Phong Phú	Ngổ Luồng	Chăm
2	Lương Sơn	Lâm Sơn	Lâm Sơn	Thanh Lương	Gò Mu
3	Lạc Sơn	Hương Nhượng	Hương Nhượng	Mỹ Thành	Satellite of My Thanh school <sup>5</sup>
4	Kỳ Sơn	Dân Hòa	Dân Hòa	Hợp Thịnh	Tôm
5	Đà Bắc	Mường Tuồng	Tuồng Đồi (chính)	Trúc Sơn	Rãnh
6	Hòa Bình city	Tân Thịnh	Trần Quốc Toàn	-	-
7	Mai Châu	Tân Dân	Tân Dân A (Diêm II)	Mai Hịch	Mai Hoàng Sơn
8	Yên Thủy	Lạc Lương	Trung Tâm	Lạc Lương	Lương Thành
9	Kim Bôi	Kim Bình	Kim Bình	Nuông Dăm	Lâm Ngoài
10	Cao Phong	Xã Thu Phong	Xóm Nam Sơn II	Nam Phong	Mac <sup>6</sup>
11	Lạc Thủy	-	-	Hưng Thi	Mãng
<b>Phu Tho</b>					
1	Hạ Hòa	Lệnh Khanh	Lệnh Khanh	Hương Xạ	Làng Trầm
2	Thanh Sơn	Thanh Sơn town	Nguyễn Bá Ngọc	Yên Lương	Quat <sup>7</sup>
3	Phù Ninh	Trạm Thán	Trạm Thán	Tiên Du	Area 8
4	Tân Sơn	Thạch Kiệt	Thạch Kiệt (Cường Thịnh I)	Thạch Kiệt	Lóng
5	Lâm Thao	Vĩnh Lại	Vĩnh Lại 1	-	-
		Xuân Lũng	Xuân Lũng <sup>8</sup>		
6	Thanh Ba	Đồng Lĩnh	Đồng Lĩnh	Khải Xuân	Z 212
7	Tam Nông	Dậu Dương	Dậu Dương	Thọ Văn	Area B
8	Đoan Hùng	Phượng Trung	Phượng Trung	-	-
		Tạ Xá 1	Tạ Xá 1		
9	Cẩm Khê	Phượng Vĩ	Phượng Vĩ 2 <sup>9</sup>	-	-
		Thạch Đồng	Thạch Đồng		
10	Thanh Thủy	Thạch Đồng	Thạch Đồng	Đào Xá	Ba Tri
11	Việt Trì	Thọ Sơn	Thọ Sơn	Vân Phú	Vân Phú (Area B)
12	TX Phú Thọ	Hà Lộc	Hà Lộc	Hà Thạch	Area B 1
13	Yên Lập	-	-	Lương Sơn	Trung Thành
<b>Thanh Hoa</b>					
1	Sầm Sơn	Bắc Sơn	Bắc Sơn	Trường Sơn	Area B
2	Cẩm Thủy	Cẩm Long	Vân Long	Cẩm Sơn	Trường Sơn
3	Hà Trung	Hà Vân	Hà Vân	-	-
		Hà Bình	Hà Bình Đông Trung <sup>10</sup>		
4	Nông Cống	Tế Lợi	Tế Lợi	Yên Mỹ	Area B
5	Quan Hóa	Phú Nghiêm	Ka Me	Nam Tiến	Cốc 2
				Thanh Xuân	Sa Lắng
6	Vĩnh Lộc	Vĩnh Long	Vĩnh Long <sup>11</sup>	Vĩnh An	Hòa Long
7	Hậu Lộc	Hòa Lộc	Hòa Lộc	Đa Lộc	Đa Lộc B
8	Thiệu Hóa	Thiệu Nguyên	Thiệu Nguyên	-	-
9	Đông Sơn	Đông Khê	Đông Khê	-	-
10	Hoảng Hóa	Hoảng Hà	Ngọc Đình	-	-

<sup>5</sup> Ba Ruong is not exist, another satellite was replaced

<sup>6</sup> Duc is not exist, Mac satellite was replaced

<sup>7</sup> Nay is not exist, Quat satellite was replaced

<sup>8</sup> The satellite of Xuan Lung school is not exist, there isn't any satellite, main school was replaced

<sup>9</sup> B satellite of Phuong Vy 2 school is not exist, there isn't any satellite, main school was replaced

<sup>10</sup> Dong Trung satellite is not exist, there isn't any satellite, main school was replaced

<sup>11</sup> Vinh Long 1 primary school and Vinh Long 2 primary school were merged.

No.	District	Main school		Satellite school	
		Commune	Main school	Commune	Satellite school
11	Quan Sơn	Thị trấn Quan Sơn	Quan Sơn town	Xã Na Mèo	Area 79
12	Lạng Chánh	Giao Thiện	Poong	Giao Thiện	Húng
13	Thọ Xuân	Xuân Minh	Xuân Minh	Quảng Phú	Núc - mọ
14	Bá Thước	Điền Lư	Điền Lư 1	Hạ Trung	Area Cò Con
		Ha Trung	Ha Trung <sup>12</sup>		
15	Quảng Xương	Quảng Văn	Quảng Văn		
16	Nga Sơn	Nga Thắng	Nga Thắng	Nga Phú	Satellite of Nga Phu school
17	Thường Xuân	Yên Nhân	Yên Nhân 2	Bát Mọt	Area Đục
18	Thạch Thành	Thành Vân	Thành Vân	Thành Kim	Thành Kim 2
19	Mường Lát	Mường Lý	Tây Tiến	Tam Chung	Suối Phái
				Pù Nhi	Hua Pù
20	TP.Thanh Hóa	Đông Hưng	Đông Hưng	Quảng Thành	Thành Mai
21	Tĩnh Gia	Hải Châu	Hải Châu	Hải Thanh	Satellite
22	Yên Định	Yên Ninh	Yên Ninh	Yên Lâm	Satellite
23	Bỉm Sơn	Ba Đình	Ba Đình	Bắc Sơn	Village 4
24	Như Xuân	Bãi Trành	Cầu	Xuân Bình	Hào
25	Như Thanh	Xuân Phúc	Xuân Phúc	Xuân Khang	Đồng Mưa
26	Ngọc Lạc	Thúy Sơn	Thúy Sơn 2 <sup>13</sup>		
<b>Nghe An</b>					
1	Vinh city	Nghi Đức	Nghi Đức		
2	TX Cửa Lò	Nghi Hoà	Nghi Hoà		
3	Hưng Nguyên	Hưng Long	Hưng Long	Hưng Trung	Area 2
4	Nam Đàn	Nam Anh	Nam Anh		
		Nam Lĩnh	Nam Lĩnh <sup>14</sup>		
5	Nghi Lộc	Nghi Thịnh	Nghi Thịnh	Nghi Yên	La Nham
6	Diễn Châu	Diễn Thịnh	Diễn Thịnh		
7	Quỳnh Lưu	Quỳnh Văn	Quỳnh Văn A	Quỳnh Văn	Satellite 1
8	Yên Thành	Đức Thành	Đức Thành	Lãng Thành	Area 3
9	Đô Lương	Thuận Sơn	Thuận Sơn	Đại Sơn	satellite
10	Thanh Chương	Thanh Xuân	Trần Hưng Học	Trần Hưng Học	Satellite
11	Anh Sơn	Đỉnh Sơn	Đỉnh Sơn	Phúc Sơn	Trà Lân
12	Tân Kỳ	Nghĩa Hành	Nghĩa Hành	Huong Son	Thanh Hồng
13	Quý Châu	Diễn Lãm	Diễn Lãm	Châu Thắng	Cảng
				Tri Lễ	Đôn
14	Quế Phong	Nậm Giải	Nậm Giải	Châu Thôn	Mờ
				Môn Sơn	Yên
15	Con Cuông	Môn Sơn	Môn Sơn 2	Môn Sơn	Yên
16	Tương Dương	Yên Hòa	Yên Hòa 2	Lưu Kiên	Lưu Phong
				Mỹ Lý	Cha Nga <sup>15</sup>
17	Kỳ Sơn	Keng Đu	Keng Đu 1	Keng Đu	Kéo Cơn
18	Thị xã Thái Hòa	Đông Hiếu	Đông Hiếu	Tây Hiếu	Hưng Công
		Tây Hiếu	Tây Hiếu		
19	Nghĩa Đàn	Nghĩa Tân	Nghĩa Tân <sup>16</sup>		
20	Quý Hợp			Yên Hợp	Bản Thơ

<sup>12</sup> Ha Trung primary school (main) was excluded in the selected list, the monitor visited both main school and a satellite associated

<sup>13</sup> Thuong Son satellite is not exist, there isn't any satellite, main school of Thuy Son 2 was replaced

<sup>14</sup> Hamlet 12 satellite is not exist, there isn't any satellite, main school of Nam Linh was replaced

<sup>15</sup> Deworming was not implemented till November 17, 2017, there was no data for Cha Nga satellite and My Ly commune

<sup>16</sup> Satellite is not exist, there isn't any satellite, main school of Nghia Tan was replaced

A total of 132 primary schools (73 main schools and 59 satellite schools) at 122 communes in 70 out of the 72 districts across 4 provinces were visited for coverage validation. However, all data for the coverage validation analyzing is calculated with 131 schools because My Ly commune (Ky Son district, Nghe An) delayed deworming till November 21, 2017, meanwhile, the schedule for coverage validation at all CHCs and primary schools was November 16-17, 2017. In addition, 6 selected satellite schools which are not exist had to be replaced by the 6 associated main schools. They included satellite of Xuan Lung school (Lam Thao district, Phu Tho), B satellite of Phuong Vy 2 school (Cam Khe district, Phu Tho), Dong Trung satellite of Ha Binh school (Ha Trung district, Thanh Hoa), Thuong Son satellite of Thuy Son 2 (Ngoc Lac district, Thanh Hoa), hamlet 12 satellite of Nam Linh school (Nam Dan district, Nghe An), satellite of Nghia Tan school (Nghia Dan district, Nghe An).

## 3.2. Results of monitoring of training of front line workers

A total of 27 training sessions in 27 districts were selected randomly in 4 provinces for monitoring, in which, 4 training sessions in Hoa Binh, 5 sessions in Phu Tho, 10 sessions in Thanh Hoa and 8 sessions in Nghe An.

### 3.2.1. General information about training sessions

#### *Facilitators and trainees*

There were 38 facilitators for 27 training sessions, 1.4 facilitators per each training session on average. All facilitators were staff of DHCs. The percentage of facilitators attending the training session in the Provincial capital was 81.6% (31/38 facilitators), the percentage of facilitators receiving information from a representative who attended the training in the Provincial capital was 100% (7/7 facilitators). Sixteen among of 27 training sessions (59.3%) had only 1 facilitator, 11 remaining sessions had 2 facilitators (40.7%).

According to data from the monitors' counting, there were 3 training sessions for CHC's staff only, including Thanh Ba and Thanh Thuy (Phu Tho) and Hoang Hoa (Thanh Hoa), two training sessions for teachers only including Tan Ky (Nghe An), and Yen Lap (Phu Tho) and 22 remaining sessions with participation of both CHC's staff and teachers.

**Table 6.** Percentage of CHC's staff and teachers attending the training sessions

Information	Expected by the facilitators			Counted by monitors			
	CHC's staff	Teacher	Total	CHC's staff	Teacher	Total	
<b>HOA BINH</b>							
Luong Son	Number	22	35	57	18	21	39
	%	38.6	61.4	100.0	46.2	53.8	100.0
Hoa Binh city	Number	30	40	70	26	21	47
	%	42.9	57.1	100.0	55.3	44.7	100.0
Mai Chau	Number	12	22	34	15	20	35
	%	35.3	64.7	100.0	42.9	57.1	100.0
Kim Boi	Number	14	14	28	13	17	30
	%	50.0	50.0	100.0	43.3	56.7	100.0
<b>Total</b>	<b>Number</b>	<b>78</b>	<b>111</b>	<b>189</b>	<b>72</b>	<b>79</b>	<b>151</b>
	<b>%</b>	<b>41.3</b>	<b>58.7</b>	<b>100</b>	<b>47.7</b>	<b>52.3</b>	<b>100</b>

Information		Expected by the facilitators			Counted by monitors		
		CHC's staff	Teacher	Total	CHC's staff	Teacher	Total
<b>NGHE AN</b>							
Cua Lo town	Number	14	14	28	11	9	20
	%	50.0	50.0	100.0	55.0	45.0	100.0
Nam Dan	Number	24	27	51	24	21	45
	%	47.1	52.9	100.0	53.3	46.7	100.0
Nghì Loc	Number	30	30	60	24	21	45
	%	50.0	50.0	100.0	53.3	46.7	100.0
Yen Thanh	Number	22	24	46	18	24	42
	%	47.8	52.2	100.0	42.9	57.1	100.0
Thanh Chuong	Number	28	28	56	28	28	56
	%	50.0	50.0	100.0	50.0	50.0	100.0
Tan Ky	Number	0	50	50	0	42	42
	%	0.0	100.0	100.0	0.0	100.0	100.0
Quy Hop	Number	22	26	48	22	26	48
	%	45.8	54.2	100.0	45.8	54.2	100.0
Con Cuong	Number	26	40	66	19	30	49
	%	39.4	60.6	100.0	38.8	61.2	100.0
<b>Total</b>	<b>Number</b>	<b>166</b>	<b>239</b>	<b>405</b>	<b>146</b>	<b>201</b>	<b>347</b>
	<b>%</b>	<b>41.0</b>	<b>59.0</b>	<b>100.0</b>	<b>42.1</b>	<b>57.9</b>	<b>100.0</b>
<b>PHU THO</b>							
Phu Ninh	Number	39	40	79	30	34	64
	%	49.4	50.6	100.0	46.9	53.1	100.0
Thanh Ba	Number	14	16	30	13	15	28
	%	46.7	53.3	100.0	46.4	53.6	100.0
Tam Nong	Number	27	0	27	26	0	26
	%	100.0	0.0	100.0	100.0	0.0	100.0
Thanh Thuy	Number	30	0	30	29	0	29
	%	100.0	0.0	100.0	100.0	0.0	100.0
Yen Lap	Number	0	45	45	3	39	42
	%	0.0	100.0	100.0	7.1	92.9	100.0
<b>Total</b>	<b>Number</b>	<b>110</b>	<b>101</b>	<b>211</b>	<b>101</b>	<b>88</b>	<b>189</b>
	<b>%</b>	<b>52.1</b>	<b>47.9</b>	<b>100</b>	<b>53.4</b>	<b>46.6</b>	<b>100</b>
<b>THANH HOA</b>							
Sam Son	Number	11	13	24	11	17	28
	%	45.8	54.2	100.0	39.3	60.7	100.0
Cam Thuy	Number	14	20	34	11	9	20
	%	41.2	58.8	100.0	55.0	45.0	100.0
Quan Hoa	Number	8	23	31	8	6	14
	%	25.8	74.2	100.0	57.1	42.9	100.0
Vinh Loc	Number	16	16	32	16	3	19
	%	50.0	50.0	100.0	84.2	15.8	100.0
Hoang Hoa	Number	43	0	43	43	0	43
	%	100.0	0.0	100.0	100.0	0.0	100.0
Lang Chanh	Number	10	19	29	11	9	20
	%	34.5	65.5	100.0	55.0	45.0	100.0

Information		Expected by the facilitators			Counted by monitors		
		CHC's staff	Teacher	Total	CHC's staff	Teacher	Total
Nga Son	Number	54	45	99	54	43	97
	%	54.5	45.5	100.0	55.7	44.3	100.0
Muong Lat	Number	18	12	30	18	11	29
	%	60.0	40.0	100.0	62.1	37.9	100.0
Nhu Xuan	Number	10	22	32	10	22	32
	%	31.3	68.8	100.0	31.3	68.8	100.0
Nhu Thanh	Number	12	21	33	11	13	24
	%	36.4	63.6	100.0	45.8	54.2	100.0
<b>Total</b>	<b>Number</b>	<b>196</b>	<b>191</b>	<b>387</b>	<b>193</b>	<b>133</b>	<b>326</b>
	<b>%</b>	<b>50.6</b>	<b>49.4</b>	<b>100.0</b>	<b>59.2</b>	<b>40.8</b>	<b>100.0</b>
<b>Grand-total</b>	<b>Number</b>	<b>550</b>	<b>642</b>	<b>1192</b>	<b>512</b>	<b>501</b>	<b>1013</b>
	<b>%</b>	<b>46.1</b>	<b>53.9</b>	<b>100.0</b>	<b>50.5</b>	<b>49.5</b>	<b>100.0</b>

As expected by the facilitators, there were a total of 1192 trainees, in fact, according to the data from the monitors' counting, number of trainees were 1013. There was no significant difference between percentage of CHC's staff and teachers as expected of the facilitators (46.1% and 53.9% respectively) as well as data from the monitors' counting (50.5% and 49.5% respectively). However, there was a significant difference in the number of trainees among training sessions. Only 14 trainees were present at the training session in Quan Hoa district (Thanh Hoa), meanwhile the number of trainees at Nga Son training session (Thanh Hoa) was up to 97. The reason is that another training session in Nga Son district was merged into the selected training session.

**Table 7.** Percentage of teachers in main schools and satellite schools attending the training sessions

Information		Expected by the facilitators			Counted by monitors		
		Main school	Satellite school	Total	Main school	Satellite school	Total
Hoa Binh	Number	98	13	111	74	5	79
	%	88.3	11.7	100.0	93.7	6.3	100.0
Phu Tho	Number	52	9	61*	82	6	88
	%	85.2	14.8	100.0	93.2	6.8	100.0
Thanh Hoa	Number	135	56	191	106	27	133
	%	70.7	29.3	100.0	79.7	20.3	100.0
Nghe An	Number	236	3	239	200	1	201
	%	98.7	1.3	100.0	99.5	0.5	100.0
<b>Total</b>	<b>Number</b>	<b>521</b>	<b>81</b>	<b>602</b>	<b>462</b>	<b>39</b>	<b>501</b>
	<b>%</b>	<b>86.5</b>	<b>13.5</b>	<b>100.0</b>	<b>92.2</b>	<b>7.8</b>	<b>100.0</b>

(\* Only calculated among 26 training sessions that the trainers knew the number of teachers at the main schools and satellite schools, 40 teachers from Phu Ninh district were excluded)

The number of teachers at the main schools and satellite schools attended the training sessions according to the trainers' estimate in 26 remaining training sessions was 521 and 81 persons (86.5% and 13.5% respectively). And following to the monitoring data, the number of teachers at the main schools was 462 persons and 39 persons at the satellite schools (92.2% and 7.8%). The number of teachers at the satellite schools following to the data provided by the monitors



was significantly lower than the estimated number of trainers (39/81 persons), which was focused in Thanh Hoa (27 vs. 56).

**Table 8.** Percentage of training sessions with trainees punctual

Information	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
All present at start of training	25.0	62.5	90.0	90.0	70.4
1-5 trainees arrived after training had commenced	50.0	37.5	10.0	10.0	22.2
6-10 trainees arrived after training had commenced	0.0	0.0	0.0	0.0	0.0
≥11 trainees arrived after training had commenced	25.0	0.0	20.0	0.0	7.4
<b>Number of training session</b>	<b>4</b>	<b>10</b>	<b>5</b>	<b>8</b>	<b>27</b>

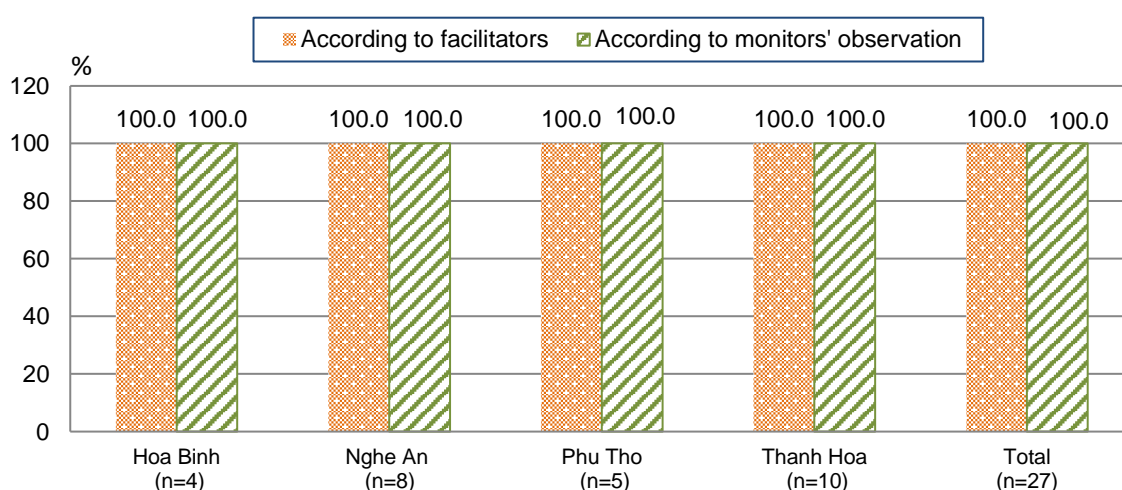
The result in the table above shows that all trainees were present at start of training at 19 among 27 training sessions (70.4%), 22.2% of training sessions with 1-5 trainees arrived after training had commenced, especially still 7.4% training sessions with more than 11 trainees arrived after training had commenced.

**Table 9.** Percentage of training sessions having trainees signed in the attendance sheet

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Attendance sheet signed by all trainees	4	100.0	4	50.0	5	100.0	7	70.0	20	74.1
Attendance sheet was completed by facilitator/ organizer	0	0.0	0	0.0	0	0.0	1	10.0	1	3.7
There was an attendance sheet, but it wasn't signed by the trainees	0	0.0	2	25.0	0	0.0	0	0.0	2	7.4
No attendance sheet was used	0	0.0	2	25.0	0	0.0	2	20.0	4	14.8
<b>Total</b>	<b>4</b>	<b>100.0</b>	<b>8</b>	<b>100.0</b>	<b>5</b>	<b>100.0</b>	<b>10</b>	<b>100.0</b>	<b>27</b>	<b>100.0</b>

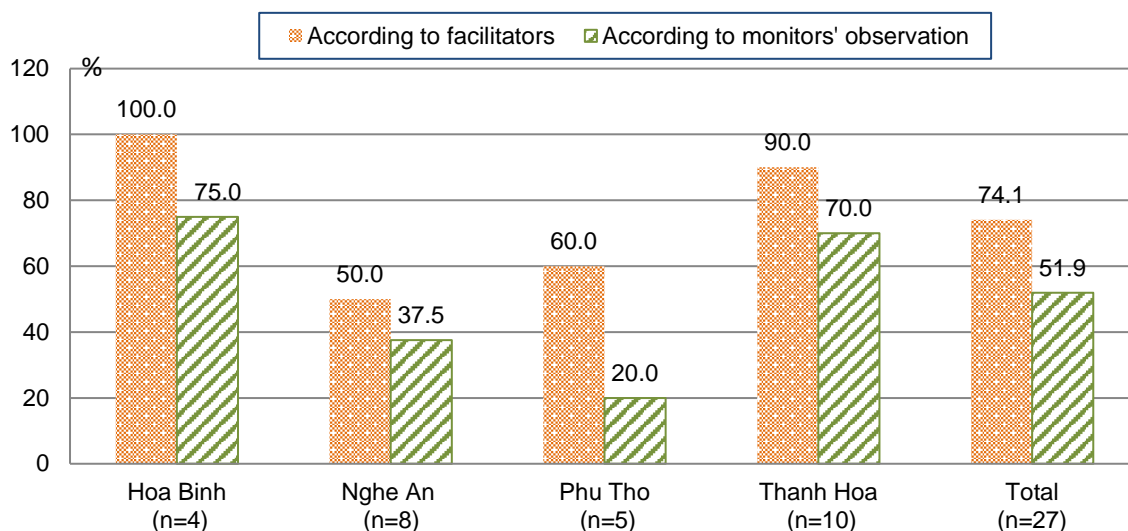
20/27 monitored training sessions (accounting 74.1%) had the attendance sheets signed by all trainees. Four training sessions had no attendance sheet.

#### Materials distributed to participants



**Figure 1.** Percentage of training sessions with training hand-out provided to each participant

According to both facilitators and monitors' observation, training hand-out would be provided to each participant at 100% of training sessions.



**Figure 2.** Percentage of training sessions with stationery provided to all participants

The percentage of training sessions with stationery provided to all participants was 74.1% according to answer of facilitators, much higher than monitors' observation (51.9%).

**Table 10.** Percentage of training sessions with other materials distributed to participants, apart from training hand-outs and stationery

Material	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	Estimated by trainers	Observed by monitors	Estimated by trainers	Observed by monitors	Estimated by trainers	Observed by monitors	Estimated by trainers	Observed by monitors	Estimated by trainers	Observed by monitors
No other materials will be distributed	0.0	0.0	12.5	25.0	0.0	0.0	0.0	20.0	3.7	14.8
Albendazole/mebendazole	75.0	75.0	25.0	25.0	40.0	20.0	60.0	50.0	48.1	40.7
Banners to be hung at schools	100.0	75.0	75.0	75.0	100.0	60.0	80.0	70.0	85.2	70.4
Scripts for loudspeaker announcements	100.0	75.0	75.0	75.0	100.0	60.0	90.0	70.0	88.9	70.4
Permission forms	100.0	75.0	75.0	75.0	100.0	60.0	90.0	80.0	88.9	74.1
Commune reporting forms	100.0	75.0	75.0	75.0	100.0	60.0	80.0	70.0	85.2	70.4
Reporting forms for severe adverse events	100.0	75.0	75.0	75.0	80.0	40.0	80.0	60.0	81.5	63.0
<b>Total (n)</b>	<b>4</b>		<b>8</b>		<b>5</b>		<b>10</b>		<b>27</b>	

Apart from training hand-outs and stationery distributed to participants, 74.1% of training sessions provided permission forms, followed by banners, scripts for loudspeaker announcements and commune reporting forms (70.4%). About 63% of training sessions distributed reporting forms for severe adverse events, highest in Hoa Binh and Nghe An (75%). More than 40% of training sessions distributed albendazole/mebendazole. Up to 14.8% training sessions did not distribute other materials, mainly in Nghe An and Thanh Hoa.

### Training time

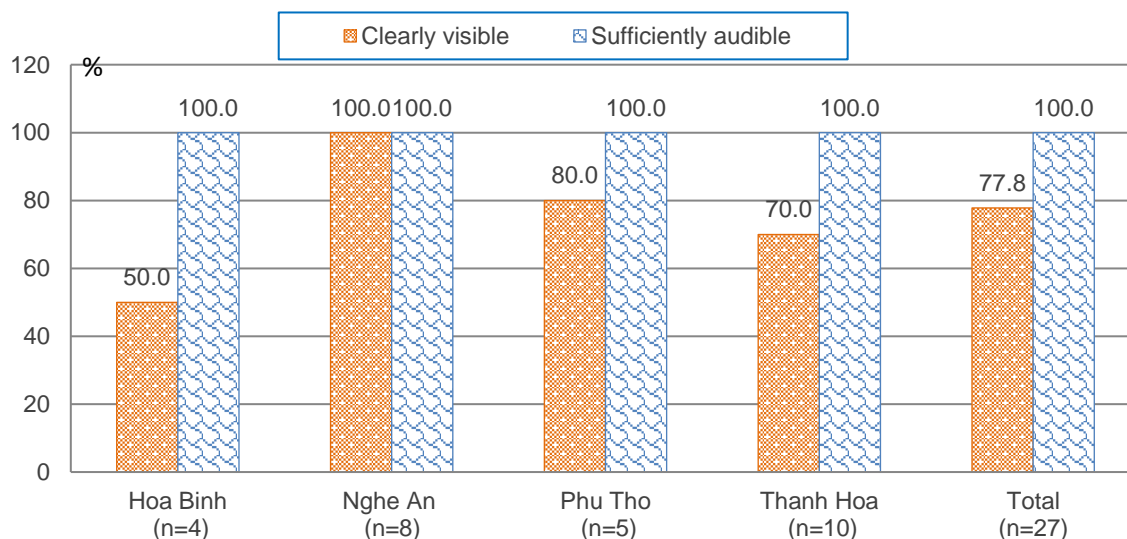
Twenty five among 27 training sessions (92.6%) were held in the morning, two training sessions in Yen Thanh and Nghi Loc (Nghe An) were conducted in the afternoon.

**Table 11.** Duration of training

Time	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<1 hour	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1 - 1.5 hours	1	25.0	0	0.0	4	80.0	2	20.0	7	25.9
1.5 - 2 hours	0	0.0	0	0.0	1	20.0	0	0.0	1	3.7
2 - 2.5 hours	3	75.0	2	25.0	0	0.0	2	20.0	7	25.9
2.5 – 3 hours	0	0.0	3	37.5	0	0.0	3	30.0	6	22.2
3 – 3.5 hours	0	0.0	1	12.5	0	0.0	1	10.0	2	7.4
3.5 – 4 hours	0	0.0	2	25.0	0	0.0	2	20.0	4	14.8
<b>Total</b>	<b>4</b>	<b>100.0</b>	<b>8</b>	<b>100.0</b>	<b>5</b>	<b>100.0</b>	<b>10</b>	<b>100.0</b>	<b>27</b>	<b>100.0</b>

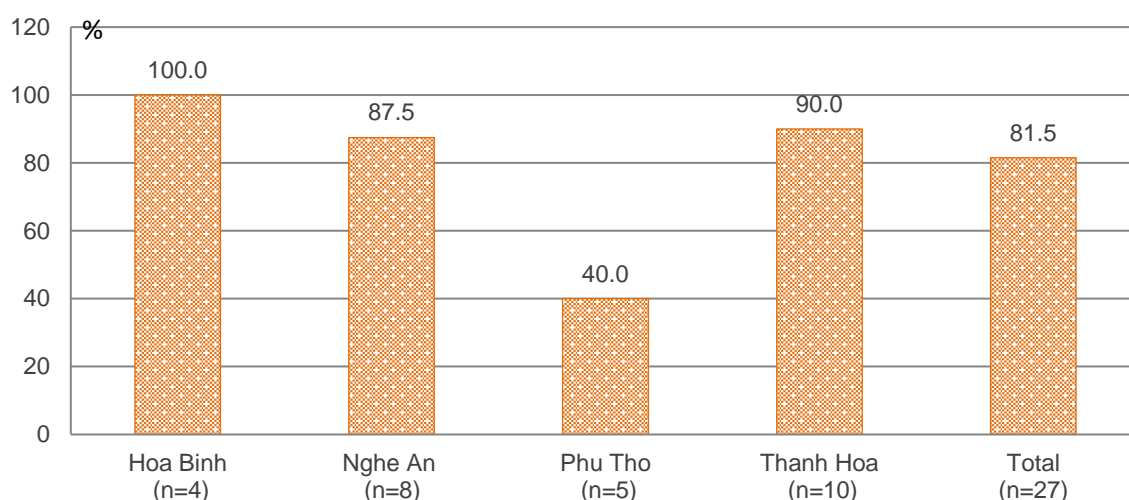
Data in the table above shows most training sessions lasted from 2-3 hours (48.1%). No training session was held within 1 hour. However, 7 out of 27 training classes (25.9%) lasted from 1-1.5 hours, including Thanh Thuy, Phu Ninh, Yen Lap, Tam Nong (Phu Tho), Cam Thuy, Quan Hoa (Thanh Hoa), Hoa Binh city (Hoa Binh).

*How the presentation material used by the facilitator*



**Figure 3.** Percentage of training sessions with presentation material of trainers used clearly visible and sufficiently audible

According to assessment of the monitors, 77.8% of training sessions had presentation material of trainers used clearly visible, in which the lowest was found in Hoa Binh province (50%). Following to observation of the monitors, 96.3% of training sessions had slides to present the training lecture. Only one training session in Cam Thuy district (Thanh Hoa province) did not use projector but only by oral presentation. According to the Cam Thuy DHC's staff, there were many events need to use projector on the same day, thus projector was not available for the training. Also following to assessment of the monitors, at 100% of training sessions, the facilitators were sufficiently audible.



**Figure 4.** Percentage of training sessions where refreshments were provided to participants

Figure above shows that only 81.5% of training sessions provided refreshments to participants, the highest in Hoa Binh (100%) and the lowest in Phu Tho (40%). There was no refreshment at three out of five training sessions in Phu Tho.

### 3.2.2. Topics covered during the training

**Table 12.** Percentage of training sessions where facilitators provided some topics related STH

Topics	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Introduce the epidemiology of STH	100.0	100.0	100.0	100.0	100.0
Introduction to each of the three types of STH	100.0	100.0	100.0	100.0	100.0
Discuss the transmission cycles of STH worms	100.0	87.5	100.0	100.0	96.3
Explain that morbidity is typically associated with the intensity of infection	75.0	100.0	100.0	90.0	92.6
Long-term impacts of STH infection for children	100.0	75.0	100.0	90.0	88.9
Health impact of STH infections	100.0	100.0	100.0	100.0	100.0
Methods for preventing STH infection	100.0	100.0	100.0	100.0	100.0
Number of training session	4	8	5	10	27

The results in the table above shows that topics related to STH were introduced in most training sessions, ranging from 88.9% to 100%. One of the most important topic with lowest rate was “long-term impacts of STH infection for children” (88.9%). In general, facilitators in Phu Tho provided these topics with higher rate than 3 remaining provinces.

**Table 13.** Percentage of training sessions where the facilitators mentioned long-term impacts of STH infection for children

Topics	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Impaired physical growth	0.0	12.5	0.0	0.0	3.7
Impaired intellectual development	75.0	25.0	40.0	60.0	48.1
Effects on education	100.0	75.0	100.0	80.0	85.2
Other	100.0	75.0	100.0	90.0	88.9
Number of training session	4	8	5	10	27

Following to the observation of monitors, most of training sessions (85.2%) mentioned the long-term impacts of STH infection for the children as “effects on education”. However, very few training sessions where the facilitators mentioned the impact “impaired physical growth”.

**Table 14.** Percentage of training sessions that the facilitators mentioned health impact of STH infections

Topics	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Abdominal discomfort	75.0	87.5	80.0	90.0	85.2
Nausea	100.0	100.0	80.0	80.0	88.9
Malnourishment	100.0	100.0	100.0	100.0	100.0
Stunting of growth	75.0	100.0	80.0	100.0	92.6
Diarrhoea	75.0	100.0	100.0	90.0	92.6
Anaemia	100.0	87.5	80.0	100.0	92.6
Other	0.0	25.0	20.0	30.0	22.2
<b>Number of training session</b>	<b>4</b>	<b>8</b>	<b>5</b>	<b>10</b>	<b>27</b>

It was found a high percentage of session trainings that the facilitators mentioned “Malnourishment”, followed by “diarrhea”, “stunting of growth”, “anaemia” (92.6% respectively). Other impacts such as abdominal discomfort, nausea, ranged between 85.2%-88.9%.

**Table 15.** Percentage of training sessions that the facilitators mentioned methods for preventing STH infection

Topics	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Using latrines/not practicing open defecation	75.0	100.0	100.0	90.0	92.6
Washing hands after using toilet	75.0	100.0	100.0	90.0	92.6
Washing hands before handling food	75.0	100.0	80.0	90.0	88.9
Washing hands before eating	75.0	100.0	80.0	90.0	88.9
Washing fruit and vegetables if eating them raw	75.0	100.0	100.0	80.0	88.9
Use of clean, dedicated water source for drinking	75.0	100.0	100.0	80.0	88.9
Not using human waste for fertilizer	75.0	100.0	80.0	90.0	88.9
Cover food to protect from flies	75.0	100.0	60.0	60.0	74.1
Wearing sandals/shoes to protect against hookworm	100.0	100.0	60.0	80.0	85.2
Educating communities about STH	100.0	100.0	60.0	90.0	88.9
Regular deworming	50.0	75.0	80.0	60.0	66.7
<b>Number of training session</b>	<b>4</b>	<b>8</b>	<b>5</b>	<b>10</b>	<b>27</b>

The contents related to methods for preventing STH infection were mentioned by from 66.7% to 92.6% of the facilitators of training sessions. In general, the training sessions in Nghe An province mentioned this issue more sufficiently than the remaining training sessions in Hoa Binh, Phu Tho and Thanh Hoa provinces.

**Table 16.** Percentage of training sessions where facilitators provided methods of community sensitization before the MDA and some topics related to class lists

Contents	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Methods of community sensitization could be implemented in schools prior to the MDA	100.0	100.0	100.0	100.0	100.0
Methods of community sensitization could be implemented in communities prior to the MDA	100.0	100.0	100.0	100.0	100.0
Schools will be expected to display banners at schools prior to the MDA	75.0	100.0	100.0	80.0	88.9
CHC's staff will be provided with scripts which should be used for making announcements over community loudspeakers	50.0	75.0	60.0	50.0	59.3
Need to distribute permission forms to the children 2-3 days prior to the MDA	100.0	100.0	100.0	100.0	100.0
Schools need to provide the commune health centers with individual class lists in advance of deworming day	100.0	100.0	80.0	100.0	96.3
CHC's staff have to bring the class lists to the school on the morning of deworming	75.0	100.0	80.0	100.0	92.6
CHC's staff also have to bring the commune list of school-age children to the school on the day of deworming in order to record non-enrolled children who arrive at the school to be dewormed	75.0	100.0	80.0	100.0	92.6
<b>Number of training session</b>	<b>4</b>	<b>8</b>	<b>5</b>	<b>10</b>	<b>27</b>

Monitoring results showed that 3 topics were mentioned by facilitators at 100% of training sessions including methods of community sensitization could be implemented in schools and community prior to the MDA and "need to distribute permission forms to the children 2-3 days prior to the MDA". On the contrary, 59.3% of training sessions where facilitators mentioned to "CHC's staff will be provided with scripts which should be used for making announcements over community loudspeakers".

**Table 17.** Percentage of training sessions that the facilitators mentioned methods of community sensitization could be implemented in schools prior to the MDA

Topics	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Hang banners at school	100.0	100.0	100.0	100.0	100.0
Loudspeaker announcements at schools	100.0	100.0	100.0	100.0	100.0
Announcements at assembly/flag-raising	75.0	100.0	80.0	80.0	85.2
Announcements to individual classes	100.0	100.0	100.0	90.0	96.3
Class discussion about worms & deworming	100.0	87.5	60.0	60.0	74.1
Official Parent/Teacher meeting	100.0	100.0	80.0	50.0	77.8
Parental outreach by teachers	75.0	87.5	40.0	20.0	51.9
Write in students' books	75.0	87.5	60.0	40.0	63.0
Other	0.0	0.0	0.0	10.0	3.7
<b>Number of training session</b>	<b>4</b>	<b>8</b>	<b>5</b>	<b>10</b>	<b>27</b>

The methods of community sensitization could be implemented in schools prior to the MDA mentioned the most by the facilitators of training sessions were "Hang banners at school" and "loudspeaker announcements at schools" (100%), followed by "Announcements to individual classes" (96.3%). The other methods ranged from 51.9%-85.2%.

**Table 18.** Percentage of training sessions that the facilitators mentioned methods of community sensitization could be implemented in communities prior to the MDA

Topics	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Loudspeaker announcements	100.0	100.0	100.0	100.0	100.0
Community outreach by commune health workers	75.0	100.0	60.0	90.0	85.2
Notices displayed inside/outside commune health centers	75.0	100.0	100.0	70.0	85.2
Notices displayed at public buildings	75.0	87.5	100.0	50.0	74.1
Other	0.0	0.0	20.0	0.0	3.7
<b>Number of training session</b>	<b>4</b>	<b>8</b>	<b>5</b>	<b>10</b>	<b>27</b>

Following to the observation of monitors, method of “loudspeaker announcements” was mentioned by all facilitators (100%). Three other methods include “Community outreach by commune health workers”, “Notices displayed inside/outside commune health centers” and “Notices displayed at public buildings” ranged at 74.1% to 85.2%.

**Table 19.** Percentage of training sessions where facilitators mentioned some contents related to deworming

Contents	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Albendazole is a very safe drug that has been given to tens of millions of people around the world	100.0	100.0	100.0	100.0	100.0
Rationale behind school-based deworming	75.0	87.5	100.0	100.0	92.6
Which children should NOT be given deworming drugs	100.0	100.0	100.0	100.0	100.0
It’s safe to deworm children if they have not eaten breakfast	100.0	100.0	100.0	100.0	100.0
It’s safe to deworm children if they have been dewormed recently	100.0	87.5	100.0	90.0	92.6
Deworming should happen in the morning to make it easier to observe all children for at least 2 hours afterwards in order to monitor children for side effects	100.0	100.0	100.0	100.0	100.0
Children should be informed about potential side effects before they are given a tablet	100.0	100.0	100.0	100.0	100.0
What potential side effects to the deworming medication	100.0	100.0	80.0	100.0	96.3
The symptoms of side effects should pass quickly	100.0	100.0	100.0	100.0	100.0
How should mild side effects be managed	100.0	100.0	100.0	100.0	100.0
What action should be taken if a child suffers a serious side effect	100.0	100.0	80.0	100.0	96.3
<b>Number of training session</b>	<b>4</b>	<b>8</b>	<b>5</b>	<b>10</b>	<b>27</b>

Almost topics related to deworming were mentioned by facilitators at 100% of training sessions. About 92.6% of training sessions where facilitators explained the rationale behind school-based deworming. The facilitator at training session in Tam Nong (Phu Tho) did not mention topics of “What action should be taken if a child suffers a serious side effect”.

**Table 20.** Percentage of training sessions where facilitators mentioned which children should NOT be given deworming drugs

Topics	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Children who feel unwell	75.0	100.0	100.0	100.0	96.3
Children currently taking any other medication	100.0	100.0	100.0	90.0	96.3

Children with no signed permission form	100.0	100.0	40.0	90.0	85.2
Children who previously reacted badly to deworming medication	75.0	100.0	60.0	70.0	77.8
Children who have not eaten breakfast	25.0	25.0	0.0	20.0	18.5
Children who have been dewormed recently	50.0	25.0	0.0	40.0	29.6
Other	25.0	0.0	0.0	10.0	7.4
<b>Number of training session</b>	<b>4</b>	<b>8</b>	<b>5</b>	<b>10</b>	<b>27</b>

Two groups of children should not be given deworming drugs mentioned the most by the facilitators were "Children who feel unwell" and "Children currently taking any other medication" (with 96.3%). "Children who have not eaten breakfast" was the lowest rate of training sessions where the facilitators mentioned (18.5%).

**Table 21.** Percentage of training sessions where facilitators mentioned potential side effects to the deworming medication

Topics	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Abdominal pain/stomach ache	100.0	100.0	80.0	80.0	88.9
Nausea	100.0	100.0	80.0	100.0	96.3
Vomiting	75.0	100.0	60.0	100.0	88.9
Diarrhea	100.0	100.0	80.0	70.0	85.2
Fatigue	50.0	100.0	80.0	100.0	88.9
Headache	25.0	87.5	0.0	70.0	55.6
Other	0.0	0.0	0.0	10.0	3.7
The facilitator said that albendazole/mebendazole is very safe and doesn't cause any side effects	0.0	37.5	0.0	20.0	18.5
<b>Number of training session</b>	<b>4</b>	<b>8</b>	<b>5</b>	<b>10</b>	<b>27</b>

The potential side effects to the deworming medication mentioned by the most of facilitators were "nausea" (96.3%), followed by "Abdominal pain/stomach ache", "vomiting" and "Fatigue" (88.9%). The other side effects such as diarrhea and headache accounted for 85.2% and 55.6%, respectively. Besides, still 18.5% of training sessions in Nghe An province where the facilitators mentioned "albendazole/mendazole is very safe and doesn't cause any side effects".

**Table 22.** Percentage of training sessions where facilitators mentioned how should be managed mild side effects

Topics	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Separate the child from the rest of the class	100.0	100.0	100.0	90.0	96.3
Make the child lie down in an open and shaded area	50.0	100.0	80.0	80.0	81.5
Offer the child water	75.0	75.0	60.0	70.0	70.4
Immediately alert a medical team	75.0	25.0	40.0	20.0	33.3
Immediately alert the parents	25.0	0.0	0.0	0.0	3.7
Immediately stop all deworming activities in the school	25.0	0.0	0.0	0.0	3.7
Other	0.0	0.0	20.0	20.0	11.1
<b>Number of training session</b>	<b>4</b>	<b>8</b>	<b>5</b>	<b>10</b>	<b>27</b>



According to the guideline, when a child complains of a mild side effect, it is necessary to separate the child from the rest of the class and make the child lie down in an open and shaded area. The results in the table above show that the percentage of training sessions where the facilitators mentioned these two contents was 96.3% and 81.5% respectively, in which that was in Nghe An province higher than in remaining provinces.

**Table 23.** Percentage of training sessions where facilitators mentioned what action should be taken if a child suffers a serious side effect

Topics	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Separate the child from the rest of the class	100.0	100.0	80.0	70.0	85.2
Stop deworming immediately	50.0	87.5	80.0	70.0	74.1
Reassure the child, and all other children	50.0	87.5	40.0	60.0	63.0
Alert the head of the commune health center immediately	100.0	100.0	80.0	80.0	88.9
Child should be taken to the nearest medical facility if necessary	100.0	100.0	80.0	60.0	81.5
Parents of the child should be informed	100.0	87.5	80.0	50.0	74.1
A report, using an official serious reporting form, should be completed by the head of the commune health center	75.0	100.0	60.0	70.0	77.8
Other	0.0	25.0	20.0	20.0	18.5
<b>Number of training session</b>	<b>4</b>	<b>8</b>	<b>5</b>	<b>10</b>	<b>27</b>

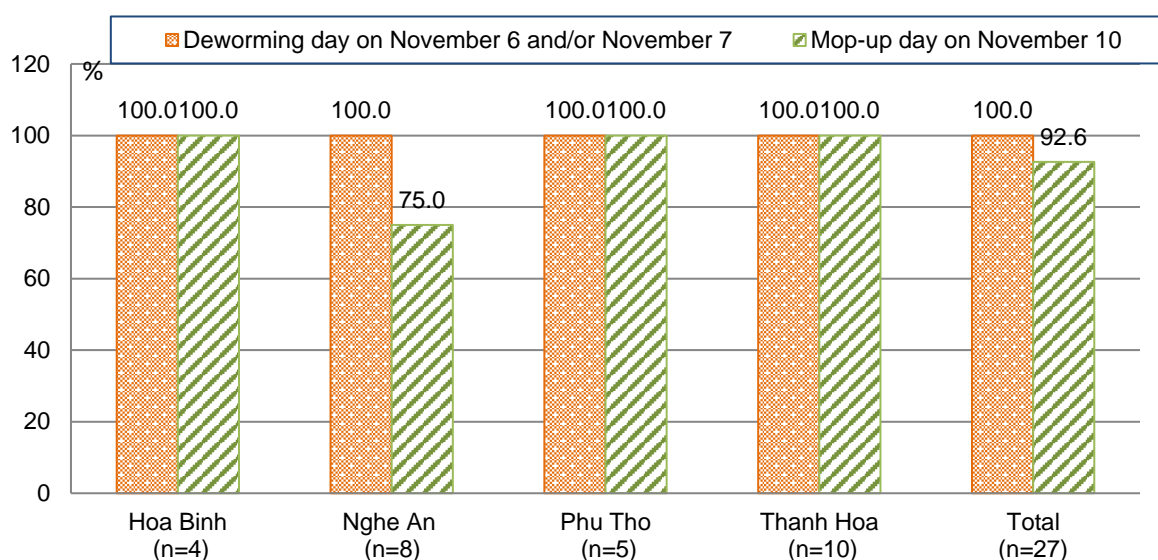
Just following to the guideline, if a child faces a serious reaction after using drug, one of the most appropriate responses is "Stop deworming immediately" and "Alert the head of the commune health center immediately". Accordingly, 85.2% and 74.1% of training sessions where the facilitators mentioned two these contents.

**Table 24.** Percentage of training sessions where facilitators provided some contents need to be done in the deworming day

Contents	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
The teacher/commune health worker should explain to the children about worms and deworming prior to administering the tablets	100.0	100.0	60.0	100.0	92.6
The children should be provided with clean drinking water	75.0	100.0	80.0	100.0	92.6
Each child should be given 1 tablet of albendazole/mebendazole	100.0	100.0	100.0	100.0	100.0
The children should be advised to CHEW the tablet before swallowing it	100.0	100.0	100.0	100.0	100.0
The teachers and CHC's staff should ensure that children SWALLOW the tablet	100.0	100.0	100.0	100.0	100.0
A tick (✓) should be placed beside the name of each child in in the class lists after the child swallows the tablet	100.0	100.0	100.0	100.0	100.0
Arrangements should be made in the commune to provide deworming tablets to non-enrolled children	100.0	100.0	100.0	90.0	96.3
Children should remain on school premises for at least 2 hours after being dewormed in order to monitor children for side effects	100.0	100.0	100.0	100.0	100.0
<b>Number of training session</b>	<b>4</b>	<b>8</b>	<b>5</b>	<b>10</b>	<b>27</b>

According to the monitoring results, 100% of training classes where facilitators explained five contents including "Each child should be given 1 tablet of albendazole/mebendazole", "The children should be advised to CHEW the tablet before swallowing it", "The teachers and CHC's

staff should ensure that children SWALLOW the tablet”, “A tick (✓) should be placed beside the name of each child in in the class lists after the child swallows the tablet” and “Children should remain on school premises for at least 2 hours after being dewormed in order to monitor children for side effects”. About 96.3% of training sessions where facilitators explained that “non-enrolled children will be dewormed if they arrive at the school on deworming day” (the lowest in Thanh Hoa). Two content of “the teacher/commune health worker should explain to the children about worms and deworming prior to administering the tablets” and “The children should be provided with clean drinking water” were also provided at 81.5% of training sessions.



**Figure 5.** Percentage of training sessions where facilitators informed the participants about the dates for the principal deworming day and mop-up day

The principal deworming day on November 6 and/or 7, 2017 was informed by facilitators at all training sessions (100%). However, only 92.6% of training sessions where facilitators mentioned to the mop-up day November 10, 2017 (excluding 2 training sessions in Nghe An).

**Table 25.** Percentage of training sessions where facilitators explained some contents related to reporting

Contents	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
The facilitator show the “Information Cascade”	100.0	87.5	100.0	80.0	88.9
Only serious adverse events have to be reported	100.0	87.5	100.0	100.0	96.3
Show an example of the serious adverse event reporting form	75.0	87.5	80.0	90.0	85.2
The head of the commune health center has the responsibility of completing the commune reporting form after the MDA	100.0	100.0	80.0	100.0	96.3
The deadline by which communes have to submit their commune report to the district health center on 15/11/2017	100.0	100.0	80.0	90.0	92.6
Show an example of the reporting form used for the reporting cascade	75.0	100.0	80.0	100.0	92.6
Commune health centers that they must keep copies of the class lists and the commune reporting form	75.0	100.0	40.0	100.0	85.2
The independent monitors may arrive unannounced at schools and commune health centers during deworming day and/or in the days after deworming	100.0	100.0	80.0	100.0	96.3
Trainees need to communicate with colleagues when they return	100.0	100.0	80.0	100.0	96.3
<b>Number of training session</b>	<b>4</b>	<b>8</b>	<b>5</b>	<b>10</b>	<b>27</b>

Contents related to reporting were mentioned at most of training sessions, ranging from 85.2% to 96.3%, in which, the highest rates were found in the training sessions in Thanh Hoa.

**Table 26.** Three most common questions that were asked by the trainees at the end of the training session (%)

Questions	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Questions about managing serious adverse events	25.0	25.0	0.0	40.0	25.9
Questions about what children to exclude from deworming	25.0	12.5	0.0	30.0	18.5
Questions about managing mild adverse events	25.0	12.5	0.0	20.0	14.8
<b>Number of training session</b>	<b>4</b>	<b>8</b>	<b>5</b>	<b>10</b>	<b>27</b>

Three most common questions that were asked by the trainees included “Questions about managing serious adverse events”, “Questions about what children to exclude from deworming” and “Questions about managing mild adverse events” with rate of 25.9%, 18.5% and 14.8% respectively. The results also showed that 12/27 training sessions (accounted for 44.4%) where facilitators answered all trainees’s questions. If it was counted for 12 among 13 training sessions where questions were asked by the trainees, this rate of facilitators answered all trainees’s questions was 92.3%.



Training session in Tan Ky, Nghe An



Materials were distributed to participants (Permission forms), Picture from Yen Lap, Phu Tho

### 3.3. Results of observation and interviews on the deworming day

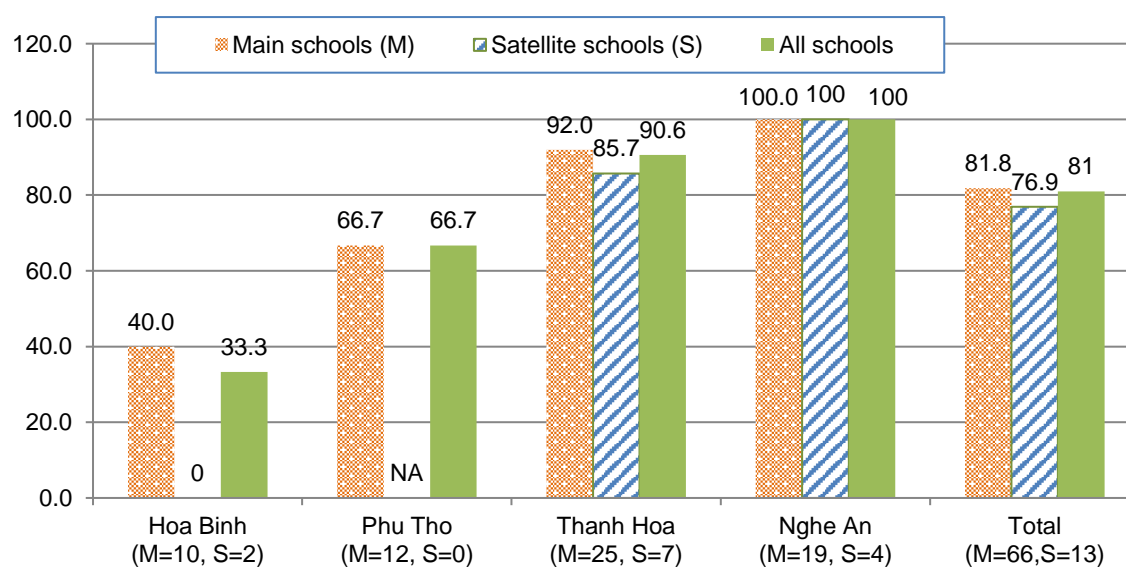
#### 3.3.1. Observation of deworming process at main schools and satellite schools

A total of 87 schools (66 main and 21 satellite schools) were visited, however, observation of deworming process was conducted at 80 schools (66 main and 13 satellite schools). The reason is that the drug-administration at 8 satellites had been completed before monitors visited or did not implement deworming on the same day with main schools. Thus, the number of satellite schools visited in the table below does not correspond to the numbers listed in Table 3. Particularly, none of the main schools selected for monitoring in Pho Tho had associated satellites. All the analysis in this part is for the observation of deworming process at 66 main and 13 satellite schools.

**Table 27.** Time of the deworming

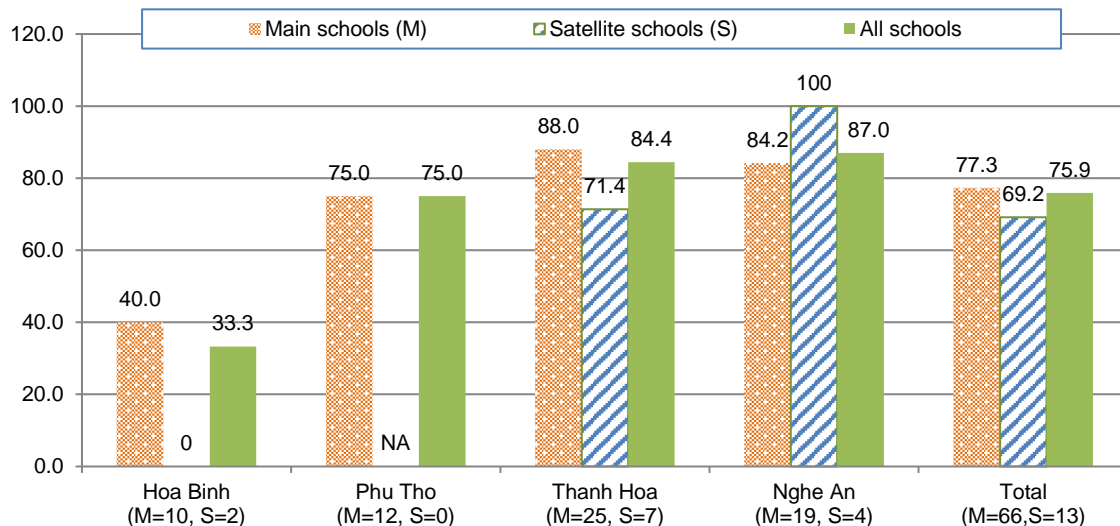
Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Main school</b>										
Before 10am	10	100.0	18	94.7	12	100.0	25	100.0	65	98.5
After 2pm	0	0.0	1	5.3	0	0.0	0	0.0	1	1.5
Total	10	100.0	19	100.0	12	100.0	25	100.0	66	100.0
<b>Satellite school</b>										
Before 10am	0	0.0	4	100.0			6	85.7	10	76.9
Between 10am-12pm	2	100.0	0	.0			1	14.3	3	23.1
After 2pm	0	0.0	0	0.0			0	0.0	0	0.0
Total	2	100.0	4	100.0			7	100.0	13	100.0

Most of main schools implemented deworming for students before 10am (98.5%), meanwhile only 76.9% of satellite schools implemented deworming for students before 10am, 23.1% of satellite schools implemented deworming from 10.am to 12.am and none of satellite schools implemented deworming for students in the afternoon.



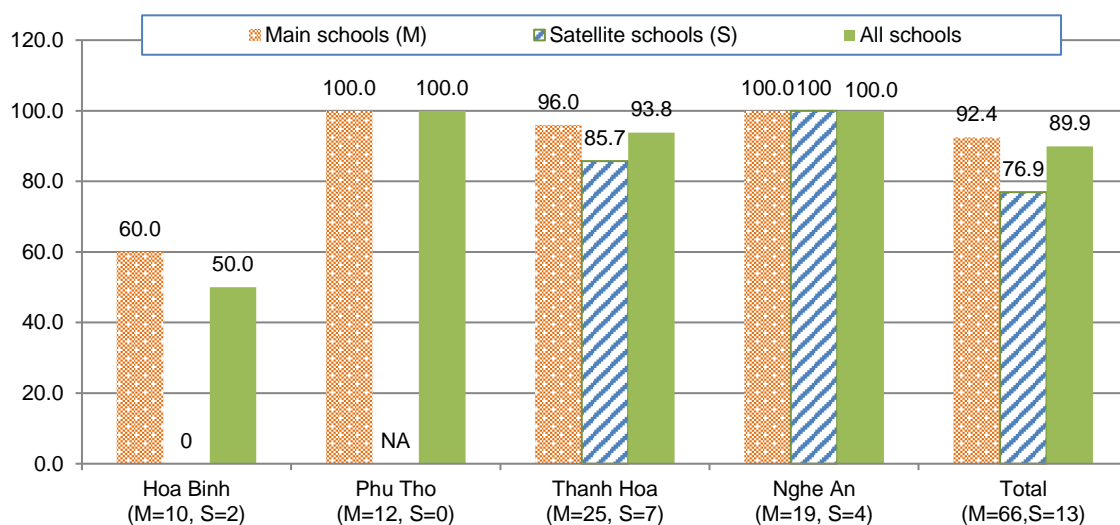
**Figure 6.** Percentage of all visited schools where CHC's staff/teachers explained to the children about worms and deworming before drug-administration

Explaining for the students about worms and deworming before drug-administration is an important step in the deworming at the schools, but 81.8% main schools and satellite schools where CHC's staff/teachers explained it.



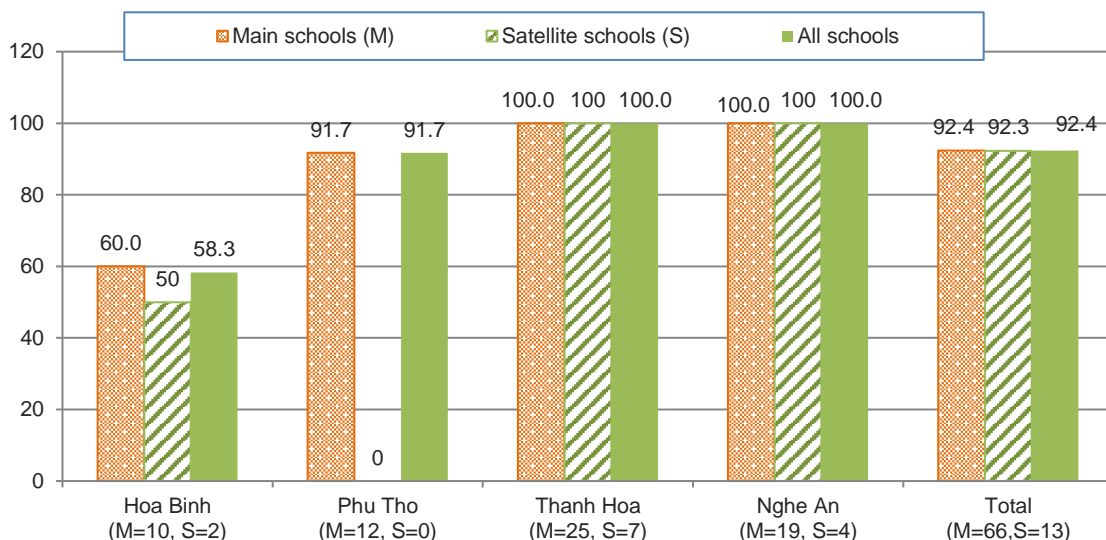
**Figure 7.** Percentage of all visited schools where CHC's staff/teachers explained to the children about mild side effects might occur

Explaining about mild side effects might occur is also very important, but over 77.3% of main schools performed, in which the lowest was found in Hoa Binh and Phu Tho provinces, and the highest was found in Thanh Hoa province. None of satellites in Hoa Binh where CHC's staff/teachers explained to the children about mild side effects might occur, meanwhile, this rate in Nghe An was 100% (all 4 satellites).



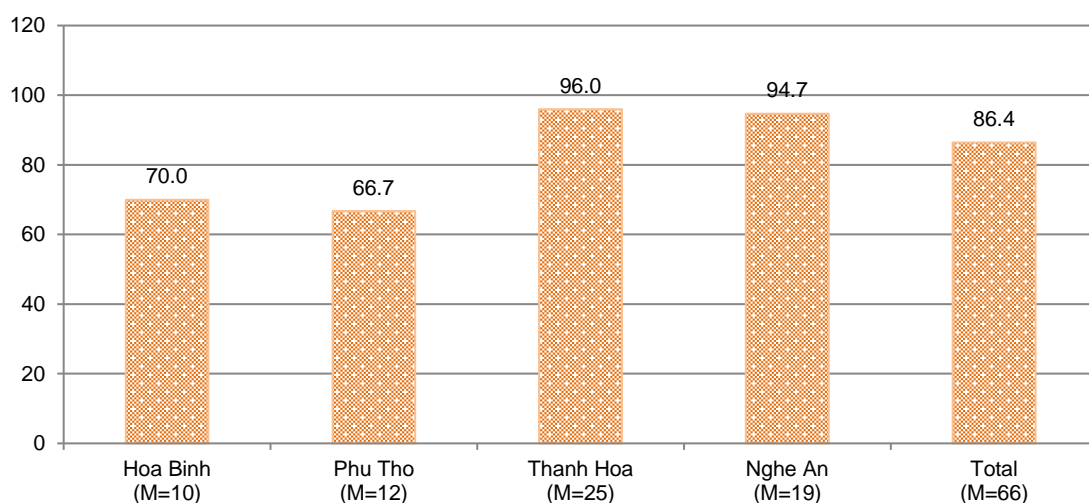
**Figure 8.** Percentage of all visited schools where CHC's staff/teachers asked children if they were feeling unwell before drug-administration

Asking the children if they were feeling unwell before drug-administration is a required step. These children should be advised to use albendazole after cure or refer to the advice of doctors and will be dewormed on the mop-up day. The monitoring results show that the proportion of schools where CHC's staff/teachers asked children if they were feeling unwell before drug-administration was relatively high at main schools but quite low at satellites (92.4% and 76.9%, respectively). The schools in Phu Tho, Nghe An province implemented this step relatively well.



**Figure 9.** Percentage of all visited schools where CHC's staff/teachers asked children if they were taking any other medication before drug-administration

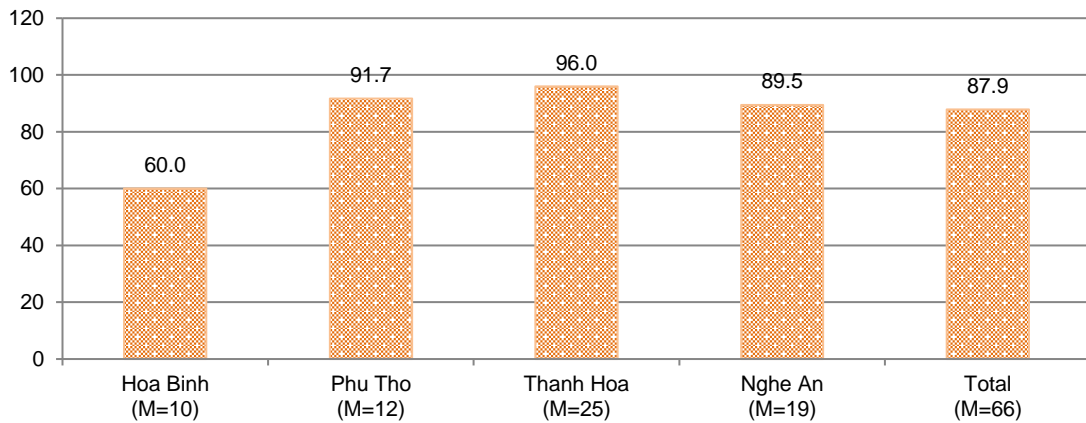
The proportion of CHC's staff/teachers asked children if they were taking any other medication before drug-administration was quite high in both main and satellite schools (more than 92%). The schools in Nghe An and Thanh Hoa implemented very well this step (100.0% at main schools in both Nghe An, Thanh Hoa), meanwhile this percentage in the schools of Hoa Binh province was relatively low (60.0% and 50.0% respectively at main schools and satellite schools).



**Figure 10.** Percentage of main<sup>17</sup> schools where CHC's staff/teachers asked children if they had eaten breakfast

The majority of CHC's staff/teachers at the main schools asked children if they had eaten breakfast (86.4%), the highest was found in Thanh Hoa, Nghe An province (96.0% and 94.7%, respectively) and the lowest in Phu Tho province (66.7%).

<sup>17</sup> No the similar question for satellites



**Figure 11.** Percentage of main<sup>18</sup> schools where CHC's staff/teachers asked children if they have taken albendazole recently

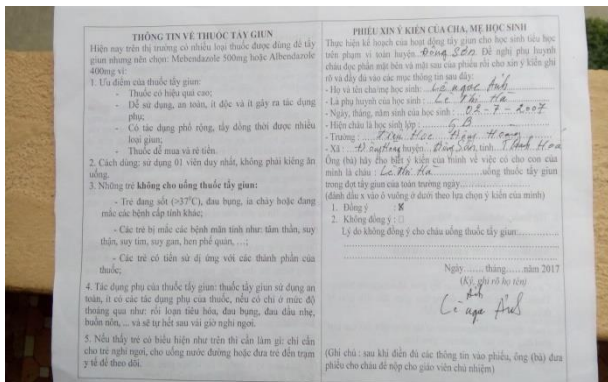
The information about the most recent deworming of children also need to be explored, 87.9% of the schools implemented this step, particularly the lowest was found in Hoa Binh province (60%). Notably, Thanh Hoa province had performed this step effectively (96.0%), Phu Tho province also did this step with high percentage (91.7%)



Health workers let the children take drugs at Dong Hoang school, Dong Son, Thanh Hoa province



Health workers let the children take drugs at Nghia Hanh school, Tan Ky, Nghe An province



Permission form for deworming in the main deworming day at Dong Hoang school, Dong Son, Thanh Hoa province



Banner was hung at the school in the main deworming day, Dien Lu 2 school, Ba Thuoc district, Thanh Hoa province

<sup>18</sup> No the similar question for satellites



Health workers let the children take drugs at Son Thuy 2 school, Thanh Thuy, Phu Tho province



Banner was hung at the school in the main deworming day, Dong Hoang school, Dong Son, Thanh Hoa province

**Table 28.** Percentage of all visited schools where unwell children were excluded from participating in the MDA

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Main school</b>										
Yes	6	85.7	14	93.3	11	100.0	17	100.0	48	96.0
No	1	14.3	1	6.7	0	0	0	0	2	4.0
There were no such children present	3	30.0	4	21.1	1	8.3	8	32	16	24.2
<b>Total</b>	<b>10</b>		<b>19</b>		<b>12</b>		<b>25</b>		<b>66</b>	
<b>Satellite school</b>										
Yes	0	0.0	3	100.0	0	0.0	5	100.0	8	100.0
No	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
There were no such children present	2	100.0	1	25.0	0	0.0	2	28.6	5	38.5
<b>Total</b>	<b>2</b>		<b>4</b>		<b>0</b>		<b>7</b>		<b>13</b>	
<b>All schools</b>										
Yes	6	85.7	17	94.4	11	100.0	22	100.0	56	96.6
No	1	14.3	1	5.6	0	0.0	0	0.0	2	3.4
There were no such children present	5	41.7	5	21.7	1	8.3	10	31.3	21	26.6
<b>Total</b>	<b>12</b>		<b>23</b>		<b>12</b>		<b>32</b>		<b>79</b>	

The observation results show that unwell children were identified at 50 main schools and 8 satellites. Forty eight main school (96%) and all 8 satellites (100%) excluded them from participating in the MDA. One main school in Hoa Binh and one in Nghe An did not implement this step.



**Table 29.** Percentage of all visited schools where children who were taking other medication were excluded from participating in the MDA

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Main school</b>										
Yes	3	42.9	13	86.7	10	90.9	15	88.2	41	82.0
No	4	57.1	2	13.3	1	9.1	2	11.8	9	18.0
There were no such children present	3	30.0	4	21.1	1	8.3	8	32.0	16	24.2
<b>Total</b>	<b>10</b>		<b>19</b>		<b>12</b>		<b>25</b>		<b>66</b>	
<b>Satellite school</b>										
Yes	1	100.0	3	100.0			3	100.0	7	100.0
No	0	0.0	0	0.0			0	0.0	0	0.0
There were no such children present	1	50.0	1	25.0			4	57.1	6	46.2
<b>Total</b>	<b>2</b>		<b>4</b>		<b>0</b>		<b>7</b>		<b>13</b>	
<b>All schools</b>										
Yes	4	50.0	16	88.9	10	90.9	18	90.0	48	84.2
No	4	50.0	2	11.1	1	9.1	2	10.0	9	15.8
There were no such children present	4	33.3	5	21.7	1	8.3	12	37.5	22	27.8
<b>Total</b>	<b>12</b>		<b>23</b>		<b>12</b>		<b>32</b>		<b>79</b>	

The students who were taking other medication must be excluded from participating in the MDA. However, children taking other medication were identified at 50 main schools, and 9 of these (18%) did not exclude them from participating in the MDA. At 7 satellite schools where children taking other medication were identified, all these schools (100%) excluded them from participating.

**Table 30.** Percentage of main<sup>19</sup> schools where children who had not eaten breakfast were excluded from participating in the MDA

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Yes	4	57.1	10	66.7	5	55.6	9	52.9	28	58.3
No	3	42.9	5	33.3	4	44.4	8	47.1	20	41.7
There were no such children present	3	30.0	4	21.1	3	25.0	8	32.0	18	27.3
<b>Total</b>	<b>10</b>		<b>19</b>		<b>12</b>		<b>25</b>		<b>66</b>	

There is no need to exclude children who have not eaten breakfast as albendazole/mebendazole is very safe and does not need to be taken after food. Children who had not eaten breakfast were identified at 48 schools, 28 of these (58.3%) excluded them, in which the highest proportion was found in Nghe An province (66.7%) and the lowest in Thanh Hoa province (52.9%).

<sup>19</sup> No 2 similar questions for satellites

**Table 31.** Percentage of main<sup>20</sup> schools where children who had taken albendazole recently were excluded from participating in the MDA

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Yes	3	50.0	11	73.3	10	90.9	14	82.4	38	77.6
No	3	50.0	4	26.7	1	9.1	3	17.6	11	22.4
There were no such children present	4	40.0	4	21.1	1	8.3	8	32.0	17	25.8
<b>Total</b>	<b>10</b>		<b>19</b>		<b>12</b>		<b>25</b>		<b>66</b>	

Children who had taken albendazole recently should be excluded from participating in the MDA. Children who had taken albendazole recently were identified at 49 schools, still 11 of these (22.4%) did not exclude them, the highest was found in Hoa Binh province (50%).

**Table 32.** Percentage of all visited schools where children who did not have signed permission forms were excluded from participating in the MDA

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Main school</b>										
Yes	7	87.5	13	86.7	9	100.0	12	80.0	41	87.2
No	1	12.5	2	13.3	0	0.0	3	20.0	6	12.8
There were no such children present	2	20.0	4	21.1	3	25.0	10	40.0	19	28.8
Permission forms are not used	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>10</b>		<b>19</b>		<b>12</b>		<b>25</b>		<b>66</b>	
<b>Satellite school</b>										
Yes	1	100.0	3	100.0			4	100.0	8	100.0
No	0	0.0	0	0.0			0	0.0	0	0.0
There were no such children present	1	50.0	1	25.0			3	42.9	5	38.5
Permission forms are not used	0	0.0	0	0.0			0	0.0	0	0.0
<b>Total</b>	<b>2</b>		<b>4</b>		<b>0</b>		<b>7</b>		<b>13</b>	
<b>All schools</b>										
Yes	8	88.9	16	88.9	9	100.0	16	84.2	49	89.1
No	1	11.1	2	11.1	0	0.0	3	15.8	6	10.9
There were no such children present	3	25.0	5	21.7	3	25.0	13	40.6	24	30.4
Permission forms are not used	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>12</b>		<b>23</b>		<b>12</b>		<b>32</b>		<b>79</b>	

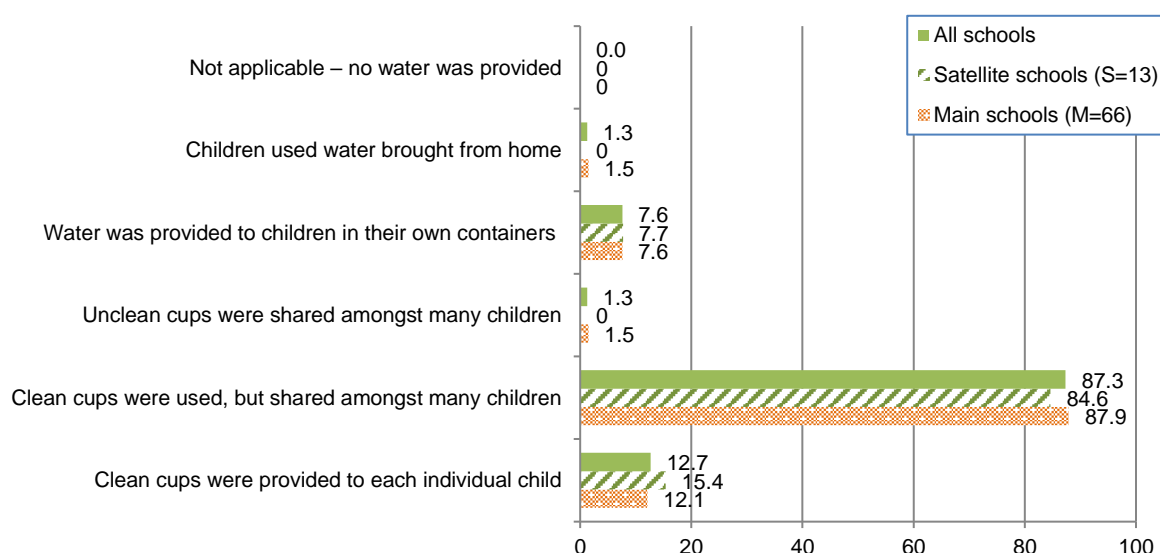
The permission forms for deworming were used in all monitored schools. The children who did not have permission forms with their parents' signature were not delivered medication. Fourty seven main schools at which there were children who did not have signed permission forms, 6 of these (12.8%) did not exclude these children from the MDA. This percentage was found the highest in Thanh Hoa province (3 schools, 20%). Meanwhile, 8 schools (100) where children who did not have signed permission forms were excluded from participating in the MDA.

<sup>20</sup> No 2 similar questions for sattellites

**Table 33.** Percentage of all visited schools where the excluded children were explained that the medicine will be provided on mop-up day

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Main school</b>										
Yes	5	55.6	17	100.0	10	83.3	21	91.3	53	86.9
No	4	44.4	0	0.0	2	16.7	2	8.7	8	13.1
There were no such children present	1	10.0	2	10.5	0	0.0	2	8.0	5	7.6
Have no a mop-up day	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	10		19		12		25		66	
<b>Satellite school</b>										
Yes	0	0.0	3	100.0			3	100.0	6	100.0
No	0	0.0	0	0.0			0	0.0	0	0.0
There were no such children present	2	100.0	1	25.0			4	57.1	7	53.8
Have no a mop-up day	0	0.0	0	0.0			0	0.0	0	0.0
Total	2		4		0		7		13	
<b>All schools</b>										
Yes	5	55.6	20	100.0	10	83.3	24	92.3	59	88.1
No	4	44.4	0	0.0	2	16.7	2	7.7	8	11.9
There were no such children present	3	25.0	3	13.0	0	0.0	6	18.8	12	15.2
Have no a mop-up day	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	12		23		12		32		79	

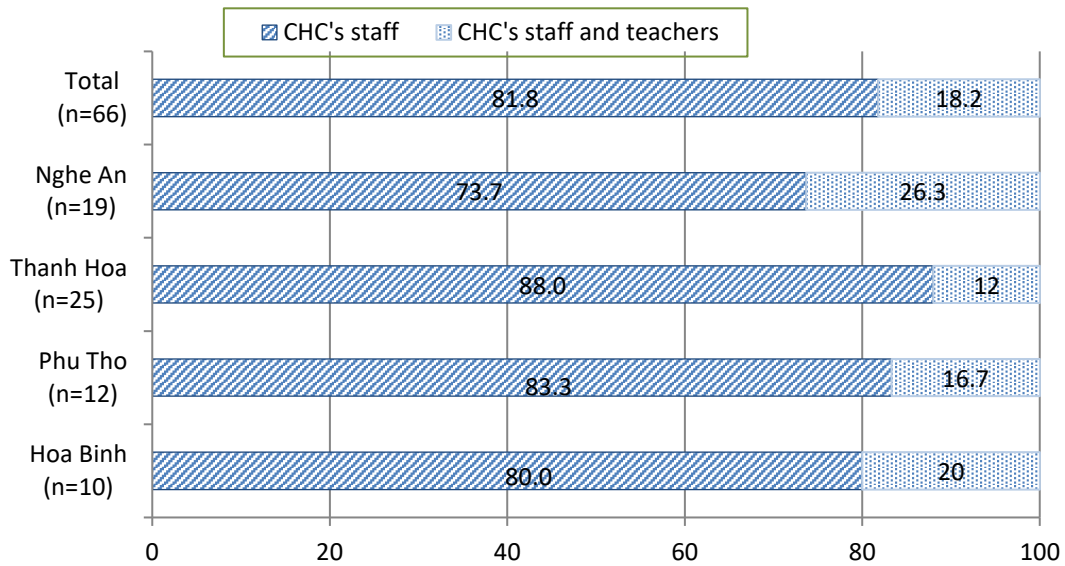
The children who were not provided medication in the MDA should be explained that the medicine will be provided on mop-up day. The observation results show that 13.1% of main schools did not explain about this content. All six satellites (100%) where the excluded children were explained about the mop-up day.



**Figure 12.** Percentage of all visited schools where potable water provided to children

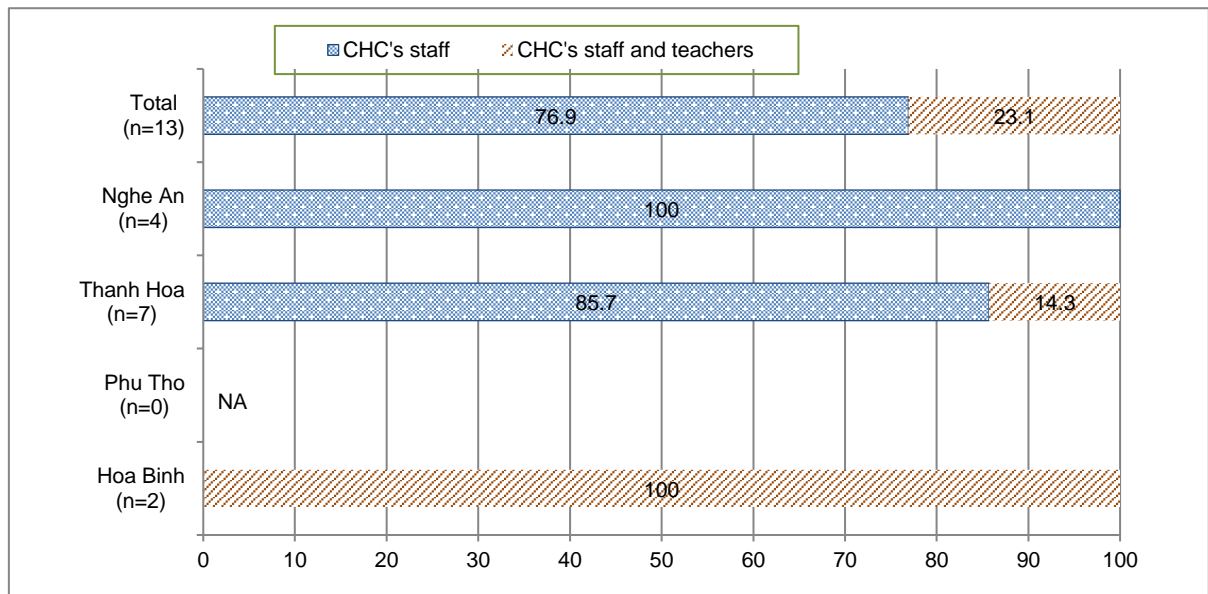
Potable water was provided to the children at all main and satellite schools (100%). At almost schools, clean cups were used, but shared amongst many children (87.9% at main schools and

84.6% at satellites schools). Clean cups were provided to each individual child at some main schools only (15.4%), at satellites schools (12.1%).



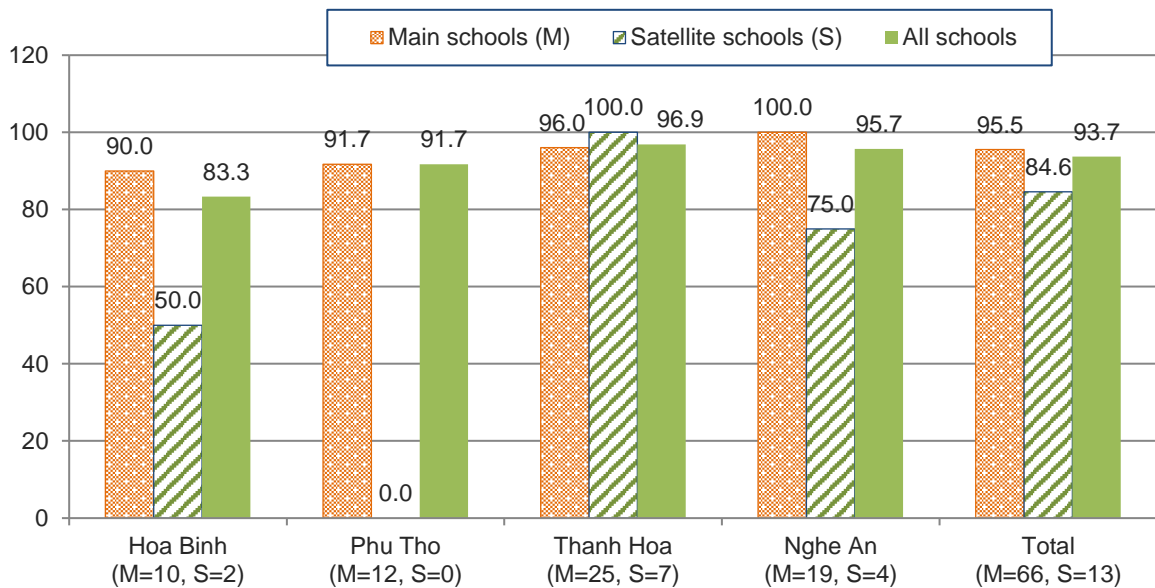
**Figure 13.** Persons directly administered tablets for students at main schools

Administering tablets is responsibility of the CHC's staff, however, only 81.8% of schools where CHC's staff administered tablets for students, 18.2% of schools where CHC's staff and teachers together administered tablets and none of selected schools where teachers administered tablets for students. It means that CHC's staff were present at all main schools.



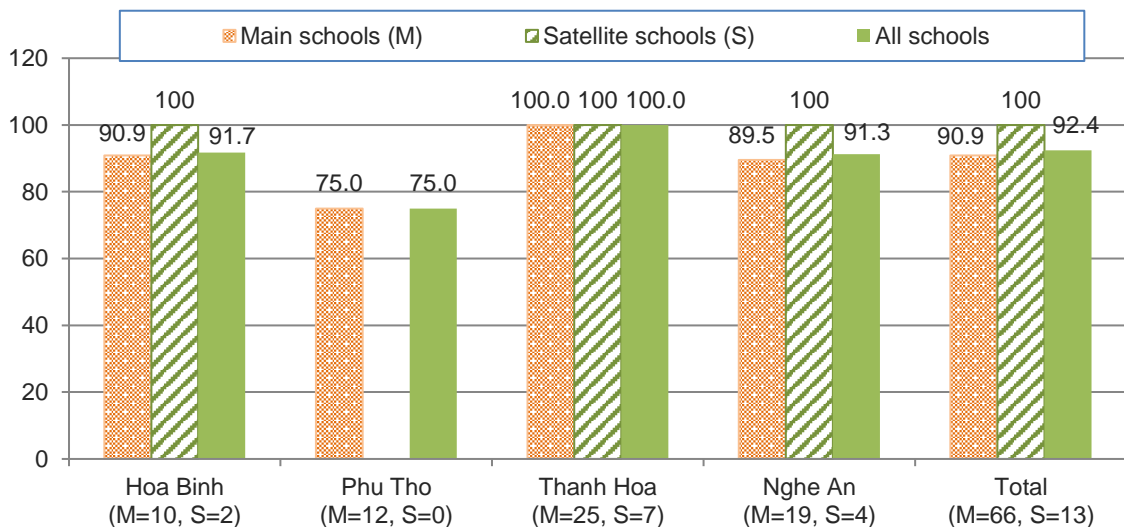
**Figure 14.** Persons directly administered tablets for students at satellite schools

In Nghe An province, 100% CHC's staff directly administered tablets for students at satellite schools, 14.3% satellite schools in Thanh Hoa has the teachers taking in charge of administering tablets for students. Totally, CHC's staff administered tablets (76.9%), the rest was combination among CHC's staff and teachers (23.1%).



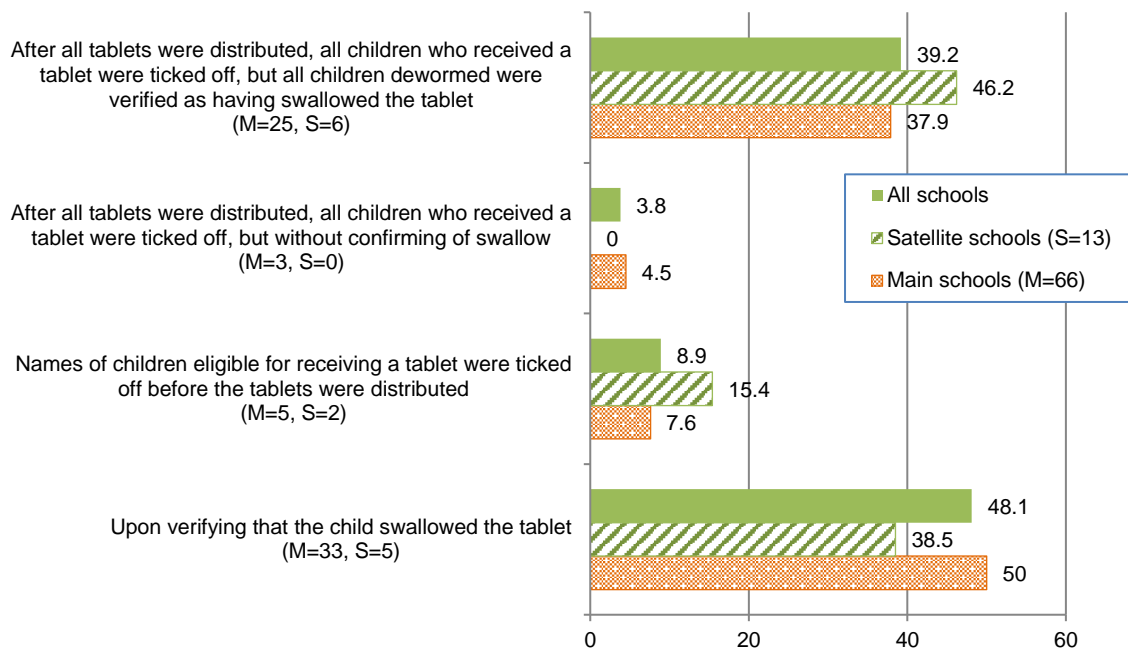
**Figure 15.** Percentage of all visited schools where CHC's staff/teachers instructing on how to chew tablets

In most of schools, CHC's staff/teachers instructed the children to chew the tablets before swallowing (95.5% at main schools and 84.6% at satellite schools). This percentage was very high in both main schools and satellite schools in Thanh Hoa province (achieving 100% at satellite schools and 96.0% at main schools).



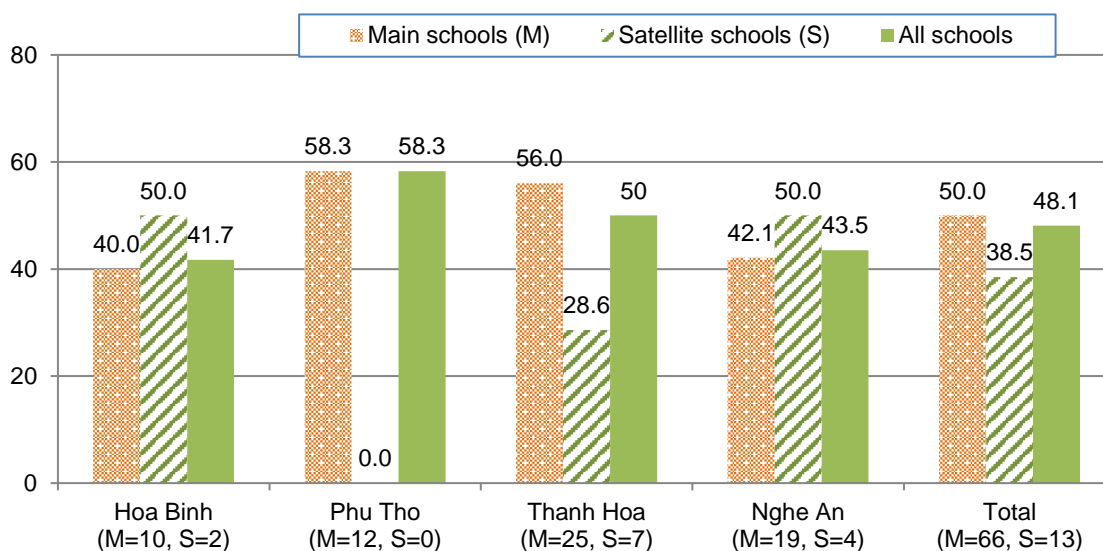
**Figure 16.** Percentage of all visited schools where CHC's staff/teachers ensuring that the child swallowed the tablet

The percentage of CHC's staff/teacher at the main schools in 4 provinces ensuring that the child swallowed the tablet accounted for 90.9% at the main schools and 100.0% at satellite schools, in which the highest was in Thanh Hoa (100%) and the lowest was in Phu Tho (75.0%).



**Figure 17.** When was the name of the child ticked in the class list (%)

The figure above shows the time of ticking children’s name in the class list. It clears that many CHC’s staff did not tick the children’s name as expected: 37.9% of main schools and 46.2% of satellite schools where the name of the child was ticked after all tablets were distributed in the class, all children who received a tablet were ticked off the class list, but all children dewormed were verified as having swallowed the tablet; 4.5% of main schools where the name of the child was ticked when the child was handed that tablet, but without verifying that the child swallowed it. About 48.1% of all schools (50% of mai schools and 38.5% of satellite schools) where the name of the child was ticked upon verifying that the child swallowed the tablet.



**Figure 18.** Percentage of all visited schools where the name of the child was ticked upon verifying that the child swallowed the tablet, by provinces

After ensuring that the child swallowed the tablet, the CHC's staff/teachers should tick (✓) on the next to the name of each student in the class list. Following to the monitors' observation, 50% of main schools and 38.5% of satellite schools (48.1% of all schools) where the name of the child was ticked upon verifying that the child swallowed the tablet. In general, this percentage was very low. Thus, still 1/2 of main schools and 1/3 satellites where CHC's staff/teachers did not comply with the procedures that they have been trained. It indicates that the continuous training for CHC staff and teachers on how to mark the children's names to the class list is very essential.

**Table 34.** Percentage of all visited schools where children spat out the tablet)

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Main schools</b>										
0	4	40.0	13	68.4	12	100.0	20	80.0	49	74.2
1 or more	2	20.0	4	21.1	0	0.0	3	12.0	9	13.6
Didn't observe any incidences	4	40.0	2	10.5	0	0.0	2	8.0	8	12.1
<b>Total</b>	10	100.0	19	100.0	12	100.0	25	100.0	66	100.0
<b>Satellite schools</b>										
0	1	50.0	2	50.0			7	100.0	10	76.9
1 or more	0	0.0	1	25.0			0	0.0	1	7.7
Didn't observe any incidences	1	50.0	1	25.0			0	0.0	2	15.4
<b>Total</b>	2	100.0	4	100.0	0		7	100.0	13	100.0
<b>All schools</b>										
0	5	41.7	15	65.2	12	100.0	27	84.4	59	74.7
1 or more	2	16.7	5	21.7	0	0.0	3	9.4	10	12.7
Didn't observe any incidences	5	41.7	3	13.0	0	0.0	2	6.3	10	12.7
<b>Total</b>	12	100.0	23	100.0	12	100.0	32	100.0	79	100.0

Among total of 66 monitored main schools, 49 schools (74.2%) where no child spat out the tablet and 9 schools (13.6%) where at least one child spat out the tablet. At satellites, this rate was 76.9% and 7.7% respectively.

**Table 35.** Management of CHC's/teachers when children spat out the tablet

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Main school</b>										
Offered the child another tablet	2	100.0	4	100.0	0	0.0	2	50.0	8	80.0
Did not offer the child another tablet, but ticked their name off the class list	0	0.0	0	0.0	0	0.0	1	25.0	1	10.0
Did not offer the child another tablet, and did not tick their name off the class list	0	0.0	0	0.0	0	0.0	1	25.0	1	10.0
Did not observe this	8	80.0	15	78.9	12	100.0	21	84.0	56	84.8
<b>Total</b>	10		19		12		25		66	

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Satellite school</b>										
Offered the child another tablet	1	100.0	2	100.0			1	33.3	4	66.7
Did not offer the child another tablet, but ticked their name off the class list	0	0.0	0	0.0			1	33.3	1	16.7
Did not offer the child another tablet, and did not tick their name off the class list	0	0.0	0	0.0			1	33.3	1	16.7
Did not observe this	1	50.0	2	50.0			4	57.1	7	53.8
<b>Total</b>	<b>2</b>		<b>4</b>		<b>0</b>		<b>7</b>		<b>13</b>	
<b>All schools</b>										
Offered the child another tablet	3	25.0	6	26.1	0	0.0	3	9.4	12	15.2
Did not offer the child another tablet, but ticked their name off the class list	0	0.0	0	0.0	0	0.0	2	6.3	2	2.5
Did not offer the child another tablet, and did not tick their name off the class list	0	0.0	0	0.0	0	0.0	2	6.3	2	2.5
Did not observe this	9	75.0	17	73.9	12	100.0	25	78.1	63	79.7
<b>Total</b>	<b>12</b>	<b>100.0</b>	<b>23</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>32</b>	<b>100.0</b>	<b>79</b>	<b>100.0</b>

Eight out of ten main schools and 4 out of 6 satellites where children spat out a tablet offered children another tablet (80% and 66.7% respectively). The CHC's staff/teachers at some main schools and satellite schools in Thanh Hoa did not offer the child another tablet, but ticked or did not tick their name off the class list.

**Table 36.** Percentage of all visited schools (both mains and satellites) where teachers assisted the commune health workers during the process of deworming (%)

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Teacher had identified the children to exclude prior to the commune health worker entering the class	6	50.0	14	60.9	9	75.0	22	68.8	51	64.6
Teacher helped by explaining about worms and deworming	2	16.7	9	39.1	1	8.3	16	50.0	28	35.4
Teachers helped by calling out names of children and/or handing out tablets to children	3	25.0	9	39.1	2	16.7	9	28.1	23	29.1
Teacher helped to ensure that children chewed the tablets	7	58.3	17	73.9	5	41.7	25	78.1	54	68.4
Teacher helped to ensure that children swallowed the tablets	7	58.3	15	65.2	4	33.3	23	71.9	49	62.0
Teacher helped with providing water to the children	8	66.7	16	69.6	7	58.3	18	56.3	49	62.0
Teacher helped with the process of recording the children	8	66.7	11	47.8	5	41.7	18	56.3	42	53.2
Teacher helped with the process of managing children with adverse events	7	58.3	16	69.6	9	75.0	17	53.1	49	62.0
Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Teacher played no active role in assisting the CHC's staff	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total number of all schools (n)</b>	<b>12</b>		<b>23</b>		<b>12</b>		<b>32</b>		<b>79</b>	



Teachers play an important role in the process of deworming. The observations certified the key role of teachers in “Teacher helped to ensure that children chewed the tablets” (68.4%), followed by “Teacher had identified the children to exclude prior to the commune health worker entering the class” (64.6%), “Teacher helped with the process of managing children with adverse events”, “Teacher helped to ensure that children swallowed the tablets”, “Teacher helped with providing water to the children” (62%). About 35.53% of schools where teacher helped by explaining about worms and deworming.

**Table 37.** Side effects occurred in the observed class at schools on the main deworming day

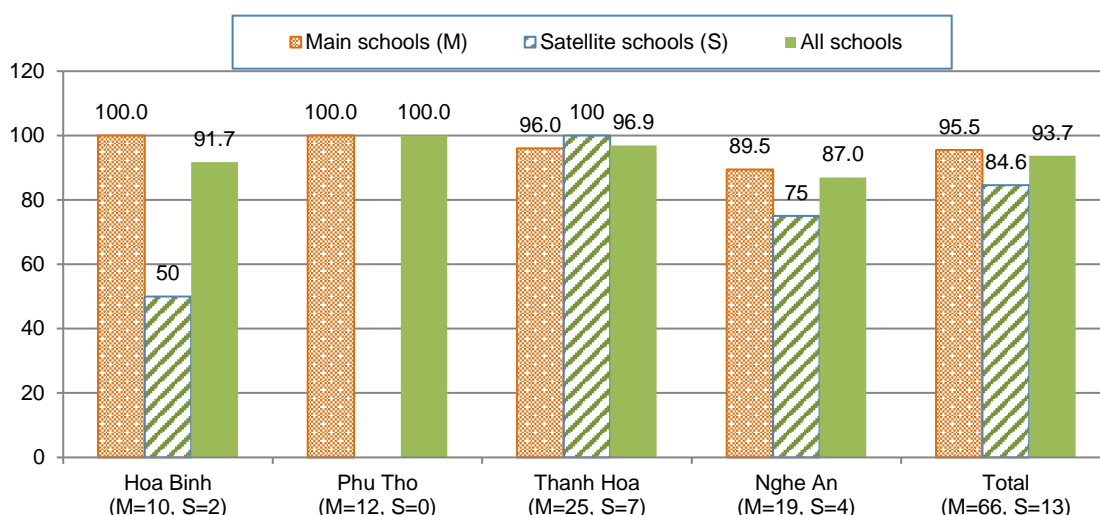
Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Didn't observe any	7	70.0	16	84.2	12	100.0	20	80.0	55	83.3
Child complained of feeling nauseated	2	20.0	3	15.8	0	0.0	1	4.0	6	9.1
Abdominal pain/stomach ache	0	0.0	0	0.0	0	0.0	2	8.0	2	3.0
Child vomited	1	10.0	1	5.3	0	0.0	1	4.0	3	4.5
Child complained of headache	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Child complained of feeling dizzy/weak	0	0.0	1	5.3	0	0.0	0	0.0	1	1.5
Other	0	0.0	0	0.0	1	8.3	2	8.0	3	4.5
<b>Total number of schools visited</b>	10		19		12		25		66	

These side effects did not occur in the majority of 66 visited schools (83.3%). A some cases had mild side effects such as child complained of feeling nauseated (9.1%). A few cases had abdominal pain/stomach ache, child vomited, child complained of feeling dizzy/weak, etc (below 5.0%).

**Table 38.** Dealing with children feeling unwell of the health staff/teachers (% , calculated on the number of visited schools where the children felt unwell)

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Child was reassured and told not to worry	3	100.0	3	75.0	0	0.0	3	100.0	9	90.0
Child was separated from the other children	0	0.0	1	25.0	0	0.0	1	33.3	2	20.0
Child was provided with water	1	33.3	3	75.0	0	0.0	3	100.0	7	70.0
Child was allowed to lie down	2	66.7	0	0.0	0	0.0	0	0.0	2	20.0
Child was taken to a cool, shaded area	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
No action was taken	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total (n)</b>	<b>3</b>		<b>4</b>		<b>0</b>		<b>3</b>		<b>10</b>	

Only 10 main schools were reported to have children feeling unwell after taking the tablet, 90% of these where children were reassured and told not to worry, 70% of schools where children were provided with water, 20% of schools where children were allowed to lie down and separated from the other children.



**Figure 19.** Percentage of all visited schools keeping students on the school premises for at least 2 hours after taking albendazole to follow side effects

Most of main schools kept students on the school premises for at least 2 hours after taking albendazole to follow side effects. 100% main schools in Hoa Binh, Phu Tho provinces obeyed this guideline strictly; main schools in Thanh Hoa, Nghe An also implemented well this content with 96.0% and 89.5%, respectively.

The observation results show that 100% satellite schools in Thanh Hoa keeping students on the school premises for at least 2 hours after taking albendazole while only 50.0% satellite schools in Hoa Binh provinces had done this regulation.

**Table 39.** Percentage of all visited schools where non-enrolled children were dewormed

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Main school</b>										
Yes	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
No	10	100.0	19	100.0	12	100.0	25	100.0	66	100.0
Total	10	100.0	19	100.0	12	100.0	25	100.0	66	100.0
<b>Satellite school</b>										
Yes	0	0.0	0	0.0			0	0.0	0	0.0
No	2	100.0	4	100.0			7	100.0	13	100.0
Total	2	100.0	4	100.0	0		7	100.0	13	100.0

Communes are encouraged to make arrangements to provide deworming tablets to non-enrolled children. One potential way of doing this is to encourage non-enrolled children to attend the school on the day of deworming. At the 66 main schools and 13 satellite schools where our monitors conducted observational monitoring, there were no reported cases of non-enrolled children being dewormed.

**Table 40.** Organization of deworming at the schools

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Main school</b>										
CHC's staff went class-to-class	8	80.0	18	94.7	12	100.0	17	68.0	55	83.3
CHC's staff set-up a centralized area at the school, and teachers brought students class-by-class to be dewormed	2	20.0	1	5.3	0	0.0	8	32.0	11	16.7
<b>Total</b>	<b>10</b>		<b>19</b>		<b>12</b>		<b>25</b>		<b>66</b>	
<b>Satellite school</b>										
CHC's staff went class-to-class	1	50.0	4	100.0	0	0.0	2	28.6	7	53.8
CHC's staff set-up a centralized area at the school, and teachers brought students class-by-class to be dewormed	1	50.0	0	0.0	0	0.0	5	71.4	6	46.2
<b>Total</b>	<b>2</b>		<b>4</b>		<b>0</b>		<b>7</b>		<b>13</b>	
<b>All schools</b>										
CHC's staff went class-to-class	9	75.0	22	95.7	12	100.0	19	59.4	62	78.5
CHC's staff set-up a centralized area at the school, and teachers brought students class-by-class to be dewormed	3	25.0	1	4.3	0	0.0	13	40.6	17	21.5
<b>Total</b>	<b>12</b>	<b>100.0</b>	<b>23</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>32</b>	<b>100.0</b>	<b>79</b>	<b>100.0</b>

The observation results about the organization of deworming at the schools show that 83.3% the main schools and 53.8% statelline schools had CHC's staff to visit each class to administer tablets, in which the highest rate was found in Phu Tho and the lowest was found in Thanh Hoa.

**Table 41.** Organization of deworming at the observed classes

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Main school</b>										
CHC's staff/teacher walked around the classroom handing tablets to each student	4	50.0	12	66.7	3	25.0	5	29.4	24	43.6
CHC's staff/teacher called students one-by-one to the top of the classroom where they were provided with a tablet	4	50.0	6	33.3	8	66.7	12	70.6	30	54.5
Other	0	0.0	0	0.0	1	8.3	0	0.0	1	1.8
<b>Total</b>	<b>8</b>	<b>100.0</b>	<b>18</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>17</b>	<b>100.0</b>	<b>55</b>	<b>100.0</b>
<b>Satellite school</b>										
CHC's staff/teacher walked around the classroom handing tablets to each student	0	0.0	3	75.0			0	0.0	3	42.9
CHC's staff/teacher called students one-by-one to the top of the classroom where they were provided with a tablet	1	100.0	1	25.0			2	100.0	4	57.1
Other	0	0.0	0	0.0			0	0.0	0	0.0
<b>Total</b>	<b>1</b>	<b>100.0</b>	<b>4</b>	<b>100.0</b>	<b>0</b>		<b>2</b>	<b>100.0</b>	<b>7</b>	<b>100.0</b>
<b>All schools</b>										
CHC's staff/teacher walked around the classroom handing tablets to each student	4	44.4	15	68.2	3	25.0	5	26.3	27	43.5
CHC's staff/teacher called students one-by-one to the top of the classroom where they were provided with a tablet	5	55.6	7	31.8	8	66.7	14	73.7	34	54.8
Other	0	0.0	0	0.0	1	8.3	0	0.0	1	1.6
<b>Total</b>	<b>9</b>	<b>100.0</b>	<b>22</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>19</b>	<b>100.0</b>	<b>62</b>	<b>100.0</b>

About 43.6% of classes in the main schools where CHC's staff/teacher walked around the classroom handing tablets to each student. This percentage at satellite schools was also accounted for 42.9%. More than 50% of classes at the main schools where CHC's staff/teacher called students one-by-one to the top of the classroom where they were provided with a tablet. This percentage at satellite schools was quite similar comparing to main schools. At one main school in Phu Tho (1.6% of all schools), commune health worker called three students as a group to the top of the classroom.

### 3.3.2. Some results from interviews on the deworming day

#### 3.3.2.1. Training

**Table 42.** Advance notice given to schools about the MDA

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
1-2 days before	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3-7 days before	4	40.0	8	42.1	2	16.7	9	36.0	23	34.8
8-14 days before	2	20.0	10	52.6	5	41.7	11	44.0	28	42.4
>2 weeks before	4	40.0	1	5.3	5	41.7	5	20.0	15	22.7
<b>Total</b>	10	100.0	19	100.0	12	100.0	25	100.0	66	100.0

The results of interviews with head teachers of 66 monitored schools on the deworming day showed that, most of schools were informed the dates for deworming day from 3 to 14 days. No school was informed 1-2 days ago.

**Table 43.** Average number of teachers at monitored schools

Information	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Total of teachers	191	428	288	467	1374
Average number of teachers ( $\pm$ SD)	19.1 $\pm$ 11.6	22.5 $\pm$ 10.4	24.0 $\pm$ 9.4	18.7 $\pm$ 6.9	20.8 $\pm$ 9.3
The least number of teachers	3	9	12	6	3
The most number of teachers	43	45	42	33	45

On average, there were about 20 teachers at each monitored school. The least number of teachers was 3 persons and the most number of teachers was 45 persons.

**Table 44.** Percentage of visited schools having school health teachers

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Yes	6	60.0	10	52.6	4	33.3	3	12.0	23	34.8
No	1	10.0	2	10.5	1	8.3	9	36.0	13	19.7
No full-time school health teacher, but a teacher acts in that capacity	3	30.0	7	36.8	7	58.3	13	52.0	30	45.5
<b>Total</b>	10	100.0	19	100.0	12	100.0	25	100.0	66	100.0

Results from interviews with head teachers show that up to nearly 20% of visited schools had no school health teachers, 45.5% of schools had no full-time school health teacher, but a teacher acts in that capacity and only 34.8% of schools had school health teachers.

**Table 45.** Number of representatives from the schools attending the official training for deworming

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Main school</b>										
0 representative	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1 representative	2	20.0	3	15.8	2	16.7	7	28.0	14	21.2
2 representatives	1	10.0	15	78.9	7	58.3	12	48.0	35	53.0
More than 2 representatives	4	40.0	0	.0	1	8.3	4	16.0	9	13.6
<b>Don't know</b>	3	30.0	1	5.3	2	16.7	2	8.0	8	12.1
<b>Total</b>	10	100.0	19	100.0	12	100.0	25	100.0	66	100.0
<b>Satellite school</b>										
0 representative	1	25.0	4	50.0			2	22.2	7	33.3
1 representative	2	50.0	1	12.5			2	22.2	5	23.8
2 representatives	0	0.0	1	12.5			1	11.1	2	9.5
More than 2 representatives	1	25.0	1	12.5			3	33.3	5	23.8
<b>Don't know</b>	0	0.0	1	12.5			1	11.1	2	9.5
<b>Total</b>	4	100.0	8	100.0			9	100.0	21	100.0

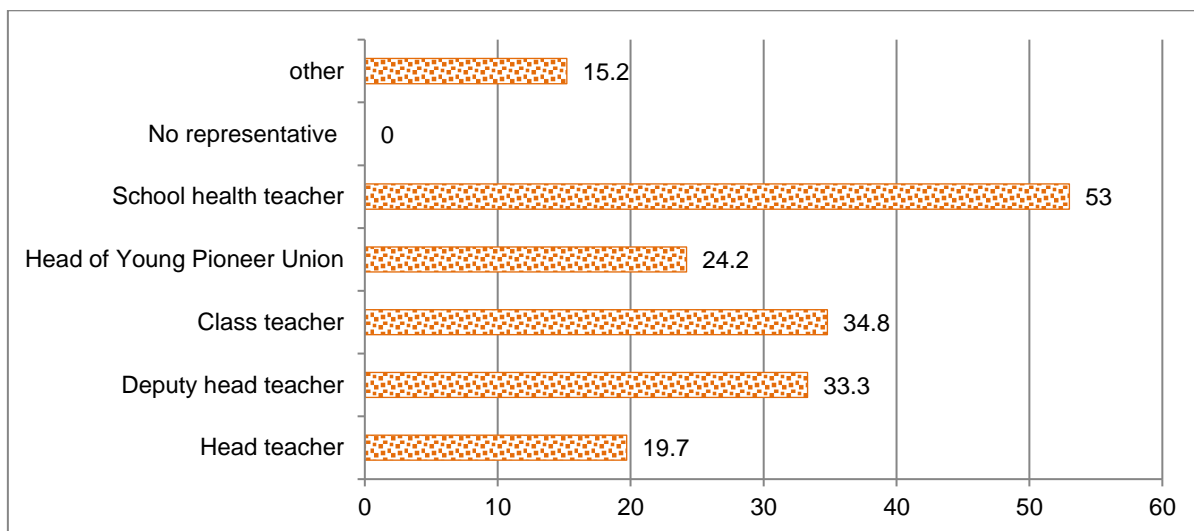
Primary schools were requested to send 2 members of staff to attend the official training for deworming. Results from interviews with 66 head teachers at main schools showed that all schools had representatives to the training, of which more than 1/2 schools sent 2 representatives to the training (53%), the highest rate in Nghe An (78.9%) and the lowest rate in Hoa Binh (10%). About 21.2% of head teachers reported that their school sent one representative to the training. A few schools have more than 2 representatives (13.6%).

Satellite schools were requested to send one member of staff. This is important information as we are advocating strongly that satellite schools are fully engaged in the program. The rate of teachers from satellite schools attending the training was much lower than that from main schools. A total of 21 teachers from satellite schools were interviewed, 1/3 of them said that their satellite had no representative to the training (33.3%). The rate of satellite schools sending one representative to the training was 23.8%.

**Table 46.** Reasons for no representative from the satellite school attend the official training

Reasons	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Head teacher would not allow staff to attend	0	0.0	1	25.0			1	33.3	2	25.0
Other	1	100.0	0	0.0			0	0.0	1	12.5
Don't know	0	0.0	2	50.0			0	0.0	2	28.6
Satellite school has too few teachers and couldn't allow teacher to be absent	0	0.0	1	25.0			1	33.3	2	25.0
<b>Total</b>	1	100.0	4	100.0			2	100.0	7	100.0

The main reasons were that head teacher would not allow staff to attend, satellite school has too few teachers and couldn't allow teacher to be absent.



**Figure 20.** Representative from the school attended the training

Many schools sent school health teachers to the training (53%). About 1/3 of visited schools sent deputy head teachers (33.3%) and class teachers (34.8%) nearly ¼ of schools sent head of Young Pioneer Union to the training. Some schools sent head teachers (19.7%).

**Table 47.** Percentage of trained teachers training for other teachers at from interviewing head teachers

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
	Yes – all teachers were trained	9	90.0	17	89.5	11	91.7	22	88.0	59
Yes – some teachers were trained	1	10.0	2	10.5	1	8.3	2	8.0	6	9.1
No	0	0.0	0	0.0	0	0.0	1	4.0	1	1.5
Not applicable – no teachers attended the official deworming training	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	10	100.0	19	100.0	12	100.0	25	100.0	66	100.0

Conveying contents of training train colleagues at school is very important to make sure all the teachers of school implement deworming for students under a same process. Results of interviews with head teachers, deputy head teachers showed that most of visited schools where all teachers of the school were trained by the trained teacher (89.4%), 9.1% of head teachers said that some teachers were trained. Percentage of trained teachers training for all teachers was the highest at schools in Phu Tho province (91.7%) and lowest in Thanh Hoa (88%). Only one head teachers in Thanh Hoa reported that trained staff did not train for colleagues of the school. Results from interviews with class teachers at main and satellite schools who were trained show that all of them conveyed to all their colleagues at the school the information learnt at the training (100%).

**Table 48.** Percentage of class teachers who attended the training

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Main school</b>										
Yes	1	10.0	4	21.1	4	33.3	10	40.0	19	28.8
No	9	90.0	15	78.9	8	66.7	15	60.0	47	71.2
<b>Total</b>	10	100.0	19	100.0	12	100.0	25	100.0	66	100.0
<b>Satellite school</b>										
Yes	2	50.0	1	12.5			2	22.2	5	23.8
No	2	50.0	7	87.5			7	77.8	16	76.2
<b>Total</b>	4	100.0	8	100.0			9	100.0	21	100.0

Twenty four among 87 interviewed class teachers (19/66 teachers at main schools and 5/21 teachers at satellite schools) attended the training (28.8% and 23.9% respectively). Therefore, 71.2% of teachers at main schools and 76.2% of teachers at satellites did not attend the training.

**Table 49.** Percentage of class teachers who did not attend the training received information from their colleague who attended the training

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Main school</b>										
Received information from their colleague	6	66.7	15	100.0	8	100.0	15	100.0	44	93.6
Did not receive information from their colleague	3	33.3	0	0.0	0	0.0	0	0.0	3	6.4
<b>Total</b>	9	100.0	15	100.0	8	100.0	15	100.0	47	100.0
<b>Satellite school</b>										
Received information from their colleague	2	100.0	6	85.7			6	85.7	14	87.5
Did not receive information from their colleague	0	0.0	0	0.0			0	0.0	0	0.0
A teacher from the main school provided information to the staff at the satellite school	0	0.0	1	14.3			1	14.3	2	12.5
<b>Total</b>	2	100.0	7	100.0	0		7	100.0	16	100.0

Data above is based only on the teachers who did not attend training. Among teachers who did not attend the training, all of them received information from their colleagues who did attend the training (93.6% at main schools and 87.5% at satellites). About 12.5% of interviewed teachers at satellites said that a teacher from the main school provided information to the staff at the satellite school.

### 3.3.2.2. IEC materials

**Table 50.** IEC materials were distributed at the main and satellite schools in advance of deworming day

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Main schools</b>										
Posters	1	10.0	8	42.1	3	25.0	8	32.0	20	30.3
Banners	10	100.0	18	94.7	12	100.0	23	92.0	63	95.5
Leaflets	3	30.0	10	52.6	2	16.7	12	48.0	27	40.9
Permission forms	8	80.0	18	94.7	11	91.7	24	96.0	61	92.4
Other	1	10.0	1	5.3	2	16.7	2	8.0	6	9.1
No IEC materials										
<b>Satellite schools</b>										
Posters	0	0.0	3	37.5			2	22.2	5	23.8
Banners	4	100.0	6	75.0			8	88.9	18	85.7
Leaflets	0	0.0	3	37.5			2	22.2	5	23.8
Permission forms	4	100.0	7	87.5			6	66.7	17	81.0
Other	0	0.0	0	0.0			1	11.1	1	4.8
No IEC materials	0	0.0	0	0.0			0	0.0	0	0.0

Via interviews with head teachers and teachers, most of IEC materials distributed at main and satellite schools were banners and permission forms, in which rate of main schools distributed banners was much higher than that of satellite schools (95.5% vs. 87.5%). Leaflets and posters were distributed at few schools. Some others at main schools included speeches on worms and deworming, communication tapes. Ban Nguyen 2 primary school<sup>21</sup> in Lam Thao district (Phu Tho) stated that a 'video/cartoon' and booklets were distributed to this school.

**Table 51.** How was the IEC materials distribute to the main and satellite schools (%)

Information	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
<b>Main schools</b>					
CHC's staff brought them to the school	30.0	47.4	0.0	68.0	43.9
Teachers who attended the training brought them back to the school	70.0	52.6	100.0	32.0	56.1
<b>Satellite schools</b>					
CHC's staff brought them to the school	50.0	50.0		77.8	61.9
Teachers collected them from the commune health center	50.0	0.0		0.0	9.5
Teachers who attended the training brought them back to the school	0.0	25.0		0.0	9.5
Teachers from the main school brought them to the satellite schools	0.0	25.0		11.1	14.3
Teachers collected them from the main school	0.0	0.0		11.1	4.8

<sup>21</sup> Ban Nguyen 2 was one of 100 schools in Phu Tho in the Randomized Controlled Trial to Evaluate the Impact of Combining Hygiene Education with Deworming (RCT) that was conducted by EMW and Evidence Action partnered with Australian National University, QIMR Berghofer Medical Research Institute and University of Queensland from 2017 to 2018. A short cartoon ('Magic Glasses') and a pamphlet based on the Magic Glasses cartoon were distributed and showed at RCT schools. The core goal of the study was to assess if adding hygiene education to deworming campaigns can improve the success of deworming by reducing the reinfection rate in children.



At main schools, IEC materials were distributed via two ways: CHC's staff brought IEC materials to the school and teachers who attended the training brought IEC materials back to the school (43.9% and 56.1%, respectively). At some satellite schools, teachers from the main school brought IEC materials to the satellite schools (14.4%), or teachers collected from the CHC or from main school (4.8%).

**Table 52.** IEC materials used at the visited school in advance of deworming day via interviewing with teachers (%)

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total		
	n	%	n	%	n	%	n	%	n	%	
<b>Main schools</b>	Posters were hung in school premises	0	0.0	8	42.1	2	16.7	9	36.0	19	28.8
	Banners were hung in school premises	10	100.0	17	89.5	9	75.0	22	88.0	58	87.9
	Leaflets were distributed to children	1	10.0	8	42.1	1	8.3	9	36.0	19	28.8
	Permission forms were distributed to children	7	70.0	17	89.5	11	91.7	24	96.0	59	89.4
	Other	1	10.0	1	5.3	2	16.7	1	4.0	5	7.6
	No IEC materials were used	0	0								
	<b>Total</b>	10	100.0	19	100.0	12	100.0	25	100.0	66	100.0
<b>Satellite schools</b>	Posters were hung in school premises	0	0.0	3	37.5			2	22.2	5	23.8
	Banners were hung in school premises	2	50.0	6	75.0			6	66.7	14	66.7
	Leaflets were distributed to children	0	0.0	3	37.5			1	11.1	4	19.0
	Permission forms were distributed to children	3	75.0	7	87.5			7	77.8	17	81.0
	Other	1	25.0	0	0.0			1	11.1	2	9.5
	No IEC materials were used	0	0.0	0	0.0			1	11.1	1	4.8
	<b>Total</b>	4	100.0	8	100.0			9	100.0	21	100.0

When asked what IEC materials had been used in the school in advance of deworming day and mop-up day, most answers of respondents at main schools were: banners were hung in school premises (87.9%); this rate at satellite schools was much lower than that (66.7%).

**Table 53.** IEC materials were used at the main and satellite schools in advance of deworming day via monitors' observation

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total		
	n	%	n	%	n	%	n	%	n	%	
<b>Main schools</b>	Posters	0	0.0	7	36.8	2	16.7	9	36.0	18	27.3
	Banners	10	100.0	18	94.7	10	83.3	24	96.0	62	93.9
	Leaflets	0	0.0	7	36.8	1	8.3	5	20.0	13	19.7
	Others	1	10.0	3	15.8	0	0.0	1	4.0	5	7.6
	No IEC materials displayed	0	0.0	0	0.0	2	16.7	1	4.0	3	4.5
	<b>Total</b>	10		19		12		25		66	
<b>Satellite schools</b>	Posters	0	0.0	3	37.5			2	22.2	5	23.8
	Banners	3	75.0	6	75.0			6	66.7	15	71.4
	Leaflets	0	0.0	2	25.0			1	11.1	3	14.3
	Others	0	0.0	0	0.0			2	22.2	2	9.5
	No IEC materials displayed	1	25.0	2	25.0			2	22.2	5	23.8
	<b>Total</b>	4		8		0		9		21	

Results from direct observation at visited schools showed the similar figures: 93.9% of main schools and 71.4% of satellite schools hung banners in school premises. However, no IEC materials displayed at still 4.5% of main schools and up to 23.8% of satellites.

**Table 54.** Forms that children/parents at the main schools received information on the deworming activity

Information	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Only the IEC materials provided were used	10.0	0.0	8.3	4.0	4.5
Individual teachers explained to their respective classes	70.0	73.7	58.3	56.0	63.6
School-wide announcement(s) were made	70.0	78.9	58.3	56.0	65.2
Parent meetings were conducted	10.0	10.5	8.3	4.0	7.6
Leaflets/letters were sent home with each student	20.0	47.4	25.0	32.0	33.3
Loudspeaker announcements were made in the commune	50.0	73.7	16.7	48.0	50.0
Permission forms were sent home with children for parents to sign	80.0	94.7	75.0	84.0	84.8
Teachers wrote a note for parents in each student's book	20.0	5.3	0.0	28.0	15.2
Other	20.0	5.3	0.0	8.0	7.6
<b>Total (n)</b>	10	19	12	25	66

The table above also shows that most students/parents received information on the deworming via the permission forms (84.8%), the highest in Nghe An (94.7%) and the lowest in Phu Tho (75%). About 63.6% of head teachers said individual teachers explained to their respective classes and school-wide announcement(s) were made at 65.2% of schools. Some information about deworming drug was printed on one side of the permission forms. When the permission forms were distributed to families of students, their parents could read and understand more about deworming drugs used for children and it also helped parents to identify cases contraindicated albendazole/mebendazole. It is clear that, sending permission forms home with children for parents to sign is a useful way to both provided information to students/parents and helped CHC's staff/teachers have grounds to determine the children contraindicated albendazole/mebendazole.

**Table 55.** Forms that class teachers inform the children or parents about deworming in the days leading up to deworming

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Explained to children about deworming day	8	80.0	14	73.7	7	58.3	21	84.0	50	75.8
Provided permission forms to children	9	90.0	19	100.0	12	100.0	23	92.0	63	95.5
Spoke to individual parents about deworming	2	20.0	5	26.3	1	8.3	5	20.0	13	19.7
Communicated to parents by writing in the students' books	3	30.0	3	15.8	0	0.0	14	56.0	20	30.3
A parent-teacher meeting was convened at the school	1	10.0	0	0.0	0	0.0	2	8.0	3	4.5
Didn't do inform children or parents – communication was not my responsibility	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other	1	10.0	3	15.8	2	16.7	0	0.0	6	9.1
<b>Total</b>	10		19		12		25		66	

Results from interviews with class teachers at main schools showed that most class teachers provided permission forms to children (95.5%), 75.8% of them explained to children about deworming day in the days leading up to deworming, 30.3% of teachers communicated to

parents by writing in the students' books and 19.7% of teachers spoke to individual parents about deworming. About 9.1% of teachers informed children's parents by messages via mobile phone.

**Table 56.** The permission forms were distributed to each child in advance of deworming day

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Distributed the day before deworming day	1	10.0	1	5.3	1	8.3	2	8.0	5	7.6
Distributed $\geq 2$ days before deworming day	9	90.0	18	94.7	11	91.7	23	92.0	61	92.4
<b>Total</b>	10	100.0	19	100.0	12	100.0	25	100.0	66	100.0

Almost of head teachers said that permission forms were distributed to each child  $\geq 2$  days before deworming day (92.4%). Five schools only distributed the day before deworming day.

**Table 57.** The primary hand-washing facility for students (%)

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Main schools</b>										
No hand-washing facilities	1	10.0	0	0.0	0	0.0	0	0.0	1	1.5
Fixed hand-washing facility with tap	7	70.0	11	57.9	4	33.3	19	76.0	41	62.1
Fixed hand-washing facility with stored water	2	20.0	8	42.1	1	8.3	6	24.0	17	25.8
Hand-washing basins	1	10.0	10	52.6	7	58.3	9	36.0	27	40.9
Other	1	10.0	0	0.0	1	8.3	1	4.0	3	4.5
<b>Total</b>	10	100.0	19	100.0	12	100.0	25	100.0	66	100.0
<b>Satellite schools</b>										
No hand-washing facilities	1	25.0	1	12.5			1	11.1	3	14.3
Fixed hand-washing facility with tap	1	25.0	3	37.5			5	55.6	9	42.9
Fixed hand-washing facility with stored water	1	25.0	2	25.0			3	33.3	6	28.6
Hand-washing basins	0	0.0	2	25.0			1	11.1	3	14.3
Other	1	25.0	0	0.0			0	0.0	1	4.8
<b>Total</b>	4	100.0	8	100.0			9	100.0	21	100.0

Most of visited schools had hand-washing facility for students, of which 62.1% of main schools and 28.6% of satellites had fixed hand-washing facility with tap, 40.9% of main schools and 14.3% of satellites had hand-washing basins. However, still 14.3% of satellite schools had no hand-washing facilities.

**Table 58.** The primary toilet facility for students (%)

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Main schools</b>										
No toilet	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Septic tank latrine	6	60.0	17	89.5	11	91.7	24	96.0	58	87.9
Double vault latrine	2	20.0	3	15.8	1	8.3	1	4.0	7	10.6
Pour flush latrine	3	30.0	1	5.3	0	0.0	0	0.0	4	6.1
Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>10</b>	<b>100.0</b>	<b>19</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>25</b>	<b>100.0</b>	<b>66</b>	<b>100.0</b>
<b>Satellite schools</b>										
No toilet	0	0.0	0	0.0			0	0.0	0	0.0
Septic tank latrine	2	50.0	2	25.0			8	88.9	12	57.1
Double vault latrine	0	.0	5	62.5			2	22.2	7	33.3
Pour flush latrine	2	50.0	2	25.0			1	11.1	5	23.8
Other	0	0.0	0	0.0			0	0.0	0	0.0
<b>Total</b>	<b>4</b>	<b>100.0</b>	<b>8</b>	<b>100.0</b>	<b>0</b>		<b>9</b>	<b>100.0</b>	<b>21</b>	<b>100.0</b>

All visited schools had primary toilet facility for students, of which 87.9% of main schools and 57.1% of satellites had septic tank latrine.

### 3.3.2.3. Knowledge and practice of commune health workers and teachers about deworming for children

Total 79 commune health workers (66 ones at main schools and 13 ones at satellite schools) and 87 class teachers (66 ones at main schools and 21 ones at satellite schools) were interviewed in the deworming day. Eight communal health workers at satellite schools were the same persons who conducted deworming at the main school, thus they were excluded in the sample size at satellite schools.

**Table 59.** Percentage of communal health workers and class teachers attending the training

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Commune health workers</b>										
Yes	9	81.8	20	76.9	11	91.7	25	83.3	65	82.3
No	2	18.2	6	23.1	1	8.3	5	16.7	14	17.7
<b>Total</b>	<b>11</b>	<b>100.0</b>	<b>26</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>30</b>	<b>100.0</b>	<b>79</b>	<b>100.0</b>
<b>Teachers</b>										
Yes	3	25.0	5	18.5	4	33.3	12	35.3	24	27.6
No	11	91.7	22	81.5	8	66.7	22	64.7	63	72.4
<b>Total</b>	<b>12</b>	<b>100.0</b>	<b>27</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>34</b>	<b>100.0</b>	<b>87</b>	<b>100.0</b>

Results showed that 82.3% of the commune health workers who were interviewed attended the training on deworming, 17.7% of interviewees did not attend the training. For class teachers, 72.4% of the the teachers who were interviewed did not attend training. It means only 27.6% of interviewees attended the training. All commune health workers and class teachers who attended the training (100%) conveyed information to colleagues.

**Table 60.** Number of representatives from the commune health center attended the official training for deworming

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
0 representatives	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1 representatives	1	9.1	9	34.6	3	25.0	6	20.0	19	24.1
2 representatives	10	90.9	16	61.5	9	75.0	17	56.7	52	65.8
>2 representatives	0	0.0	1	3.8	0	0.0	6	20.0	7	8.9
<b>Don't know</b>	0	0.0	0	0.0	0	0.0	1	3.3	1	1.3
<b>Total</b>	11	100.0	26	100.0	12	100.0	30	100.0	79	100.0

All visited CHCs sent representatives to training; 65.8% of commune health workers who were interviewed said that 2 representatives from their commune health centers attended the official training for deworming, the highest rate in Hoa Binh (90.9%) and the lowest rate in Thanh Hoa (56.7%), some commune health workers reported their CHCs sent 1 representatives to training (24.1%).

**Table 61.** Types of assistance the teachers said that they gave to the CHWs during the drug administration (%)

Information	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Prepared a class list	92.9	74.1	83.3	76.5	79.3
Identified children who should not be dewormed	28.6	85.2	41.7	58.8	59.8
Collected permission forms	78.6	92.6	75.0	82.4	83.9
Provided water/cups to all the children	42.9	70.4	58.3	52.9	57.5
Explained to the children about worms and deworming	50.0	66.7	16.7	58.8	54.0
Explained to the children about possible side effects	28.6	55.6	25.0	32.4	37.9
Assisted with handing out the tablets to the children	7.1	59.3	8.3	29.4	32.2
Encouraged children to chew the tablets	50.0	85.2	25.0	76.5	67.8
Ensured that children swallowed the tablets	35.7	77.8	25.0	61.8	57.5
Helped with the process of recording children	35.7	51.9	8.3	47.1	41.4
Monitored children for side effects	35.7	59.3	58.3	61.8	56.3
Other	7.1	0.0	8.3	0.0	2.3
Didn't play any role	0.0	0.0	0.0	0.0	0.0
<b>Total (n)</b>	14	27	12	34	87

Most of class teachers said that they collected permission forms (83.9%), prepared a class list (79.3%), encouraged children to chew the tablets (67.8%), identified children who should not be dewormed (59.8%), provided water/cups to all the children (57.5%), monitored children for side effects (56.3%).

**Table 62.** Percentage % of commune health workers and class teachers knowing possible side effects when children use albendazole

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	CHW	CT	CHW	CT	CHW	CT	CHW	CT	CHW	CT
None – albendazole is very safe	0.0	0.0	7.7	7.4	0.0	0.0	13.3	5.9	7.6	4.6
Abdominal pain/stomach ache	81.8	57.1	61.5	51.9	83.3	75.0	46.7	67.6	62.0	62.1
Nausea	100.0	78.6	80.8	77.8	91.7	75.0	80.0	88.2	84.8	81.6
Vomiting	36.4	28.6	69.2	63.0	66.7	41.7	46.7	64.7	55.7	55.2
Diarrhea	36.4	7.1	46.2	37.0	50.0	25.0	23.3	41.2	36.7	32.2
Fatigue	36.4	28.6	69.2	70.4	50.0	33.3	60.0	64.7	58.2	56.3
Headache	54.5	28.6	73.1	59.3	58.3	41.7	66.7	50.0	65.8	48.3
Don't know/remember	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	1.1
Other	0.0	7.1	0.0	0.0	8.3	0.0	0.0	2.9	1.3	2.3
<b>Total (n)</b>	11	14	26	27	12	12	30	34	79	87

*CHW: commune health worker, CT: class teacher*

Overall, the knowledge of CHC's staff and teachers about possible side effects when children use albendazole was quite good. Only 1.1% of teachers could not point out the side effects. About 7.6% of CHC's staff and 4.6% of teachers said that albendazole was very safe and doesn't cause any adverse events.

**Table 63.** Percentage % of commune health workers and class teachers managing if children complain of mild abdominal pain and/or nausea

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	CHW	CT	CHW	CT	CHW	CT	CHW	CT	CHW	CT
Separate the child from the rest of the class	36.4	28.6	84.6	63.0	58.3	16.7	66.7	58.8	67.1	49.4
Make the child lie down in an open and shaded area	27.3	21.4	65.4	63.0	41.7	8.3	63.3	41.2	55.7	40.2
Offer the child water	54.5	14.3	61.5	66.7	50.0	16.7	70.0	58.8	62.0	48.3
Reassure the child and tell them not to worry	27.3	14.3	73.1	63.0	50.0	16.7	66.7	58.8	60.8	47.1
Immediately alert a medical team	9.1	71.4	23.1	63.0	50.0	58.3	13.3	58.8	21.5	62.1
Immediately alert the parents	9.1	0.0	7.7	11.1	8.3	0.0	6.7	20.6	7.6	11.5
Immediately stop all deworming activities in the school	0.0	0.0	3.8	0.0	0.0	0.0	0.0	5.9	1.3	2.3
Call an emergency helpline	0.0	7.1	0.0	0.0	0.0	0.0	6.7	2.9	2.5	2.3
Take the child to the nearest medical facility	0.0	28.6	15.4	11.1	25.0	41.7	26.7	35.3	19.0	27.6
Immediately report the situation to the head of the CHC	18.2	14.3	23.1	7.4	33.3	33.3	46.7	35.3	32.9	23.0
Other	9.1	0.0	0.0	0.0	0.0	0.0	3.3	0.0	2.5	0.0
<b>Total (n)</b>	11	14	26	27	12	12	30	34	79	87

*CHW: commune health worker, CT: class teacher*

Clearly, the management of commune health workers and teachers in the case of children complain of mild abdominal pain and/or nausea was also quite different. Meanwhile the majority of commune health workers mentioned "Separated the child from the rest of the class" (67.1%), "offered the child water" (62%), and "reassure the child and tell them not to

worry" (60.8%), most of teachers said they would immediately alert a medical team (62.1%). This reflects the expertise and responsibilities of the medical and educational institutions in the coordination of deworming for students.

**Table 64.** Percentage % of commune health workers and class teachers managing if a child has a SERIOUS side effect

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	CHW	CT	CHW	CT	CHW	CT	CHW	CT	CHW	CT
Separate the child from the rest of the class	45.5	28.6	65.4	66.7	50.0	16.7	53.3	61.8	55.7	51.7
Make the child lie down in an open and shaded area	36.4	28.6	42.3	44.4	33.3	8.3	43.3	35.3	40.5	33.3
Offer the child water	27.3	14.3	26.9	40.7	33.3	8.3	36.7	32.4	31.6	28.7
Reassure the child and tell them not to worry	27.3	28.6	26.9	33.3	41.7	25.0	53.3	50.0	39.2	37.9
Immediately alert a medical team	27.3	50.0	61.5	74.1	50.0	50.0	63.3	67.6	55.7	64.4
Immediately alert the parents	9.1	7.1	38.5	37.0	50.0	25.0	43.3	32.4	38.0	28.7
Immediately stop all deworming activities in the school	18.2	7.1	34.6	37.0	16.7	8.3	30.0	26.5	27.8	24.1
Call an emergency helpline	27.3	35.7	42.3	25.9	33.3	25.0	50.0	32.4	41.8	29.9
Take the child to the nearest medical facility	54.5	50.0	57.7	44.4	41.7	50.0	80.0	64.7	63.3	54.0
Immediately report the situation to the head of the CHC	45.5	28.6	65.4	55.6	50.0	41.7	63.3	55.9	59.5	49.4
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total (n)</b>	11	14	26	27	12	12	30	34	79	87

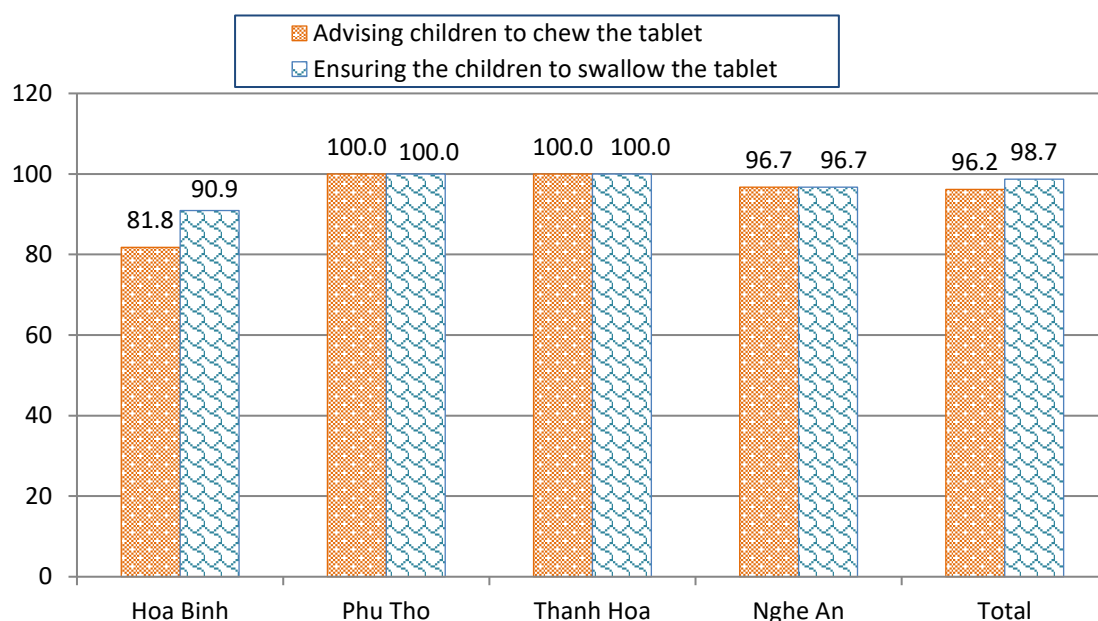
*CHW: commune health worker, CT: class teacher*

In general, knowledge amongst commune health workers and class teachers about how to manage serious side effects was quite good. Almost of them said that they would take the child to the nearest medical facility if a child has a serious side effect (63.3% for commune health workers and 54% for class teachers), and then they would immediately alert a medical team (55.7% for commune health workers and 64.4% for class teachers).

**Table 65.** Percentage % of CHC's staff and class teachers knowing children who should NOT be given a tablet

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	CHW	CT	CHW	CT	CHW	CT	CHW	CT	CHW	CT
NO children should be excluded - ALL children should be given a tablet	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
Children who do not provide a signed permission form	54.5	35.7	84.6	88.9	75.0	41.7	76.7	67.6	75.9	93.1
Children who are feeling unwell	100.0	78.6	84.6	96.3	83.3	91.7	90.0	97.1	88.6	59.8
Children who are taking other medication	81.8	21.4	96.2	85.2	75.0	58.3	76.7	55.9	83.5	37.9
Children who previously suffered serious side effects to albendazole	18.2	7.1	61.5	51.9	41.7	25.0	53.3	44.1	49.4	70.1
Children who have been dewormed recently	63.6	42.9	76.9	81.5	83.3	83.3	60.0	67.6	69.6	46.0
Children who have not eaten breakfast	63.6	50.0	50.0	48.1	50.0	41.7	33.3	44.1	45.6	1.1
Don't know/don't remember	0.0	0.0	0.0	0.0	8.3	8.3	0.0	0.0	1.3	1.1
Other	9.1	0.0	0.0	0.0	0.0	8.3	0.0	0.0	1.3	1.2
<b>Total (n)</b>	11	14	26	27	12	12	30	34	79	87

Knowledge of CHC's staff and teachers about these contraindicated cases with albendazole/mebendazole was quite good and there was no obvious difference. The majority of the respondents believed that the children who did not provide a signed permission form, previously suffered serious side effects to albendazole/mebendazole, had been dewormed recently, were feeling unwell, taking other medication, should not be given a tablet (ranging from 37.9% to 93.1%). A few respondents mentioned cases should not take albendazole/mebendazole such as children who have not eaten breakfast, children who suffered adverse events previously to albendazole/mebendazole...



**Figure 21.** Percentage of CHC's staff advising children to chew the tablet and ensuring the children to swallow the tablet

Interview results also showed that 96.2% of CHC's staff advised the children to chew the tablet and 98.7% of CHC's staff ensured children had swallowed the tablet.

**Table 66.** Allocation of albendazole/mebendazole to commune health center (%)

Information	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Commune staff who attended the training brought it back	36.4	34.6	41.7	30.0	34.2
Commune staff traveled to the district health center to collect it	54.5	65.4	58.3	63.3	62.0
Commune staff collected it during a regularly-scheduled visit to the DHC	0.0	0.0	0.0	0.0	0.0
District health center delivered it directly to the commune	9.1	0.0	0.0	6.7	3.8
<b>Total (n)</b>	11	26	12	30	79

When asked "how did the commune health center receive its allocation of albendazole/mebendazole?" the answers from CHC's staff focused on commune staff traveled to district health center to collect it (62%), the highest proportion in Nghe An and Thanh Hoa (65.4% and 63.3% respectively); 34.2% of respondents said that they received albendazole at the training class.



**Table 67.** Date of expiry of drug

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Drugs past their expiry date	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Drugs within their expiry date	11	100.0	26	100.0	12	100.0	30	100.0	79	100.0
No date listed – drugs not in original package	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>11</b>	<b>100.0</b>	<b>26</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>30</b>	<b>100.0</b>	<b>79</b>	<b>100.0</b>

When monitors asked the commune health worker to show the containers of albendazole, observation result showed that 100% of schools where drugs were within their expiry date.

**Table 68.** Brands of drug

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Mebendazole	7	70.0	7	36.8	2	16.7	12	48.0	28	42.4
Janssen	3	30.0	8	42.1	6	50.0	11	44.0	28	42.4
Vermox	0	0.0	4	21.1	4	33.3	2	8.0	10	15.2
<b>Total</b>	<b>10</b>	<b>100.0</b>	<b>19</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>25</b>	<b>100.0</b>	<b>66</b>	<b>100.0</b>

Most of brands of drug were Mebendazole (42.4%) and Janssen (42.4%), remaining brands of drugs were Vermox (15.2%).

**Table 69.** Percentage of all schools having sufficient and insufficient tablets

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Sufficient	10	90.9	25	96.2	10	83.3	27	90.0	72	91.1
Insufficient	1	9.1	1	3.8	2	16.7	3	10.0	7	8.9
<b>Total</b>	<b>11</b>	<b>100</b>	<b>26</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>30</b>	<b>100.0</b>	<b>79</b>	<b>100.0</b>

Most information from interviews with commune health workers (91.1%) also showed that the quantity of tablets brought to schools was sufficient for the total number of children at the school. There was a lack of tablets at 7 main schools as following:

**Table 70.** Seven main schools where tablets were insufficient

Province	District	Primary school	# of students	# of tablets	# of insufficient tablets
Thanh Hoa	Hau Loc	Quang Loc	267	226	41
Thanh Hoa	Nhu Xuan	Van Tho	264	260	4
Thanh Hoa	Quang Xuong	Quang Hoa	440	439	1
Phu Tho	Thanh Son	Thuc Luyen	355	280	75
Phu Tho	Lam Thao	Ban Nguyen 2	351	350	1
Hoa Binh	Luong Son	Hop Hoa	251	250	1
Nghe An	Thai Hoa town	Hoa Hieu 1	679	665	14

The number of insufficient tablets was found the highest at Thuc Luyen primary school (Thanh Son district, Phu Tho), followed by Quang Loc school (Hau Loc district, Thanh Hoa) and Hoa

Hieu 1 school (Thai Hoa town, Nghe An) (75 tablets, 41 tablets and 14 ones, respectively). Remaining schools missed only a few tablets.

**Table 71.** Time of ticking off the names of children from the class list

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Names of all children present are ticked off before tablets are distributed	1	9.1	2	7.7	1	8.3	2	6.7	6	7.6
Names of children eligible for receiving a tablet (after ineligible children are excluded) are ticked off before the tablets are distributed	1	9.1	0	0.0	0	0.0	0	0.0	1	1.3
Names are ticked off as the tablets are distributed to children, but without verifying that the child swallows the tablet	4	36.4	16	61.5	5	41.7	15	50.0	40	50.6
Names are ticked off only when children are observed to have swallowed the tablet	4	36.4	8	30.8	6	50.0	11	36.7	29	36.7
All children who received a tablet are ticked off the class list after all tablets are distributed in the class, but all children dewormed were verified as having swallowed the tablet	1	9.1	0	0.0	0	0.0	2	6.7	3	3.8
<b>Total</b>	<b>11</b>	<b>100</b>	<b>26</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>30</b>	<b>100.0</b>	<b>79</b>	<b>100.0</b>

CHC's staff should tick on the next to the name of each student in the class list only when children are observed to have swallowed the tablet. Interview results showed that only 36.7% of respondents answered correctly, up to 50.6% of respondents said their names are ticked off as the tablets are distributed to children, but without verifying that the child swallows the tablet. Still a few commune health workers thought all children's name were ticked off before tablets are distributed (7.9%).

**Table 72.** Plan for mop-up day via interviewing with CHC's staff (%)

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Main school</b>										
on November 10	7	70.0	12	63.2	10	83.3	18	72.0	47	71.2
other day this week	2	20.0	5	26.3	1	8.3	2	8.0	10	15.2
next week	1	10.0	0	0.0	1	8.3	0	.0	2	3.0
Mop-up day will happen at the school <u>if necessary</u>	0	0.0	2	10.5	0	0.0	1	4.0	3	4.5
mop-up day will happen at the commune health center	0	0.0	0	0.0	0	0.0	3	12.0	3	4.5
mop-up day will happen at the local village communal houses	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
mop-up day will be arranged by health workers going door-to-door	0	0.0	0	0.0	0	0.0	1	4.0	1	1.5
there is no mop-up day	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Not aware how mop-up day is arranged	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>10</b>	<b>100.0</b>	<b>19</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>25</b>	<b>100.0</b>	<b>66</b>	<b>100.0</b>

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Satellite schools</b>										
on November 10	0	0.0	5	71.4			5	100.0	10	76.9
other day this week	1	100.0	1	14.3			0	0.0	2	15.4
next week	0	0.0	0	0.0			0	0.0	0	0.0
Mop-up day will happen at the school <u>if necessary</u>	0	0.0	1	14.3			0	0.0	1	7.7
mop-up day will happen at the commune health center	0	0.0	0	0.0			0	0.0	0	0.0
mop-up day will happen at the local village communal houses	0	0.0	0	0.0			0	0.0	0	0.0
mop-up day will be arranged by health workers going door-to-door	0	0.0	0	0.0			0	0.0	0	0.0
there is no mop-up day	0	0.0	0	0.0			0	0.0	0	0.0
Not aware how mop-up day is arranged	0	0.0	0	0.0			0	0.0	0	0.0
<b>Total</b>	<b>1</b>	<b>100.0</b>	<b>7</b>	<b>100.0</b>			<b>5</b>	<b>100.0</b>	<b>13</b>	<b>100.0</b>

A total of 66 CHC's staff at main schools and 13 CHC's staff at satellite schools were interviewed on the plan for conducting the mop-up day. The results showed that more than most of respondents reported the mop-up day would be conducted on November 10 as planned, 15.2% of respondents said the mop-up day would be conducted on other day this week.

**Table 73.** Plan for mop-up day via interviewing with head teachers and class teachers at satellites (%)

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Head teachers</b>										
on November 10	2	20.0	11	57.9	10	83.3	16	64.0	39	59.1
other day this week	1	10.0	4	21.1	0	.0	3	12.0	8	12.1
next week	1	10.0	0	0.0	2	16.7	0	.0	3	4.5
Mop-up day will happen at the school <u>if necessary</u>	2	20.0	3	15.8	0	0.0	3	12.0	8	12.1
mop-up day will happen at the CHC	1	10.0	1	5.3	0	.0	3	12.0	5	7.6
mop-up day will happen at the local village communal houses	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
mop-up day will be arranged by health workers going door-to-door	1	10.0	0	0.0	0	0.0	0	0.0	1	1.5
there is no mop-up day	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Not aware how mop-up day is arranged	2	20.0	0	0.0	0	0.0	0	0.0	2	3.0
<b>Total</b>	<b>10</b>	<b>100.0</b>	<b>19</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>25</b>	<b>100.0</b>	<b>66</b>	<b>100.0</b>
<b>Class teachers at satellites</b>										
on November 10	1	25.0	6	75.0			5	55.6	12	57.1
other day this week	3	75.0	1	12.5			0	0.0	4	19.0
next week	0	0.0	0	0.0			2	22.2	2	9.5
Mop-up day will happen at the school <u>if necessary</u>	0	.0	1	12.5			0	.0	1	4.8
mop-up day will happen at the CHC	0	0.0	0	0.0			1	11.1	1	4.8
mop-up day will happen at the local village communal houses	0	0.0	0	0.0			0	0.0	0	0.0
mop-up day will be arranged by health workers going door-to-door	0	0.0	0	0.0			0	0.0	0	0.0
there is no mop-up day	0	0.0	0	0.0			0	0.0	0	0.0
Not aware how mop-up day is arranged	0	0.0	0	0.0			1	11.1	1	4.8
<b>Total</b>	<b>4</b>	<b>100.0</b>	<b>8</b>	<b>100.0</b>	<b>0</b>		<b>9</b>	<b>100.0</b>	<b>21</b>	<b>100.0</b>

Most head teachers and class teachers at satellites said that a mop-up day would be implemented on November 10, 2017 (59.1% and 57.1%, respectively).

**Table 74.** Using class list after MDA

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Take them back to the CHC	8	72.7	23	88.5	10	83.3	24	80.0	65	82.3
Send them all to the DHC	4	36.4	8	30.8	2	16.7	12	40.0	26	32.9
Give them to the school principal to keep	0	0.0	3	11.5	1	8.3	5	16.7	9	11.4
Don't know	0	0.0	0	0.0	0	0.0	1	3.3	1	1.3
<b>Total</b>	11	100.0	26	100.0	12	100.0	30	100.0	79	100.0

After the MDA is completed at the school, most of CHC's staff took the individual class lists back to the CHC (82.3%). Some CHC's staff said that the individual class lists would be sent to the DHC (32.9%) or given to the school principal to keep (11.4%).

**Table 75.** Deadline for submitting the commune summary form to the district

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
On November 15, 2017	6	60.0	19	100.0	10	83.3	24	96.0	59	89.4
Don't know/remember	4	40.0	0	0.0	2	16.7	1	4.0	7	10.6
Total	10	100.0	19	100.0	12	100.0	25	100.0	66	100.0

About 89.4% of CHC's staff said that the deadline for submitting the commune summary form to the district was on November 15, 2017. However, about 10.6% said they did not know/remember the deadline.

**Table 76.** The ways that CHCs received the reporting forms (%)

Information	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
At the training	63.6	61.5	58.3	60.0	60.8
Commune staff traveled to DHC to collect a hard copy	9.1	15.4	8.3	20.0	15.2
DHC delivered a hard copy directly to CHC	9.1	7.7	16.7	10.0	10.1
DHC e-mailed a soft copy to the CHC	18.2	23.1	25.0	26.7	24.1
Don't know	0.0	0.0	0.0	0.0	0.0
<b>Total (n)</b>	11	26	12	30	79

More than a half of commune staff said the CHCs received the reporting forms at the training (60.8%), followed by DHC e-mailed a soft copy to the CHC (24.1%), commune staff traveled to district health center to collect a hard copy (15.2%). Some commune staff mentioned DHC delivered a hard copy directly to CHC (10.1%).

**Table 77.** Average number of CHC's staff at CHCs

Information	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Total of CHC's staff	60	96	58	122	336
Average number of CHC's staff ( $\pm$ SD)	6.0 $\pm$ 2.0	5.1 $\pm$ 1.0	4.8 $\pm$ 1.2	4.9 $\pm$ 1.4	5.1 $\pm$ 1.4
The least number of CHC's staff	4	3	2	2	2
The most number of CHC's staff	9	7	7	9	9

On average, there were about 5 CHC's staff at each CHC. The least number of CHC's staff was 2 persons and the most number of teachers was 9 persons.

**Table 78.** Number of CHC's staff coming to schools to distribute tablets, by province

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
1 staff	4	36.4	3	11.5	1	8.3	0	0.0	8	10.1
2 staff	1	9.1	14	53.8	6	50.0	12	40.0	33	41.8
More than 2 staff	6	54.5	9	34.6	5	41.7	18	60.0	38	48.1
<b>Total</b>	11	100.0	26	100.0	12	100.0	30	100.0	79	100.0

At least 2 CHC's staff were present at most schools on the deworming day (89.9%), 8 schools where only one CHC's staff came to schools to distribute tablets.

**Table 79.** Plan for commune health staff's visiting satellite schools to administer tablets to the children

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
November 6, 2017	2	50.0	6	75.0			5	55.6	13	61.9
November 7, 2017	2	50.0	1	12.5			4	44.4	7	33.3
Other	0	0.0	1	12.5			0	0.0	1	4.8
Commune health staff will not visit this school	0	0.0	0	0.0			0	0.0	0	0.0
<b>Total</b>	4	100.0	8	100.0	0		9	100.0	21	100.0

Results from interviewing the commune health worker show that most of commune health staff would visited satellite schools to administer tablets to the children on November 6-7, 2017 as planned. Only 1 school in Nghe An would be visited by CHC's staff on another day.

**Table 80.** Non-enrolled children from the community come to school for deworming

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Yes	2	20.0	3	15.8	5	41.7	7	28.0	17	25.8
No	2	20.0	9	47.4	4	33.3	11	44.0	26	39.4
Don't know the process for dealing with non-enrolled children	2	20.0	0	.0	0	.0	0	.0	2	3.0
Other	4	40.0	7	36.8	3	25.0	7	28.0	21	31.8
<b>Total</b>	10	100.0	19	100.0	12	100.0	25	100.0	66	100.0

Data from interviews with head teachers, 25.8% of interviewees said if non-enrolled children from the community come to school for deworming, they would be dewormed at this school, 39.4% of head teachers said no deworming for non-enrolled children at their schools. According to monitors' observation, no main schools and no satellites where non-enrolled children received tablet.

**Table 81.** The process for deworming non-enrolled children via interviewing commune health workers (%)

Information	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
	They are encouraged to come to the school on deworming day	9.1	7.7	8.3	26.7
They are encouraged to come to the school on mop-up day	9.1	15.4	0.0	3.3	7.6
They are dewormed at the commune health center	36.4	46.2	41.7	33.3	39.2
They are dewormed at the village communal house	0.0	0.0	0.0	0.0	0.0
They are dewormed by health workers going door-to-door	0.0	7.7	0.0	10.0	6.3
There is no process in place for deworming non-enrolled children	0.0	15.4	16.7	10.0	11.4
Non-enrollment is not an issue in this commune	27.3	7.7	16.7	0.0	8.9
Other	18.2	3.8	16.7	26.7	16.5
<b>Total (n)</b>	11	26	12	30	79

Most of commune health workers said that non-enrolled children would be dewormed at the commune health center (39.2%). Only 15.2% of commune health workers said non-enrolled children are encouraged to come to the school on deworming day.

### 3.3.2.4. Students

At each monitored schools, one student in the observed class was randomly selected to interview on the deworming day. A total of 66 students at main schools and 20 ones at satellite schools were interviewed (one student at Ta Ca primary school where deworming was not happened on the day of visit was not interviewed). All students (100%) were interviewed privately.

**Table 82.** Percentage of students knowing why tablets are being given out on the main deworming day and mop-up day

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
To treat worms	11	78.6	26	100.0	9	75.0	33	97.1	79	91.9
To treat anything else	0	0.0	0	0.0	1	8.3	0	0.0	1	1.2
Don't know/don't remember	3	21.4	0	0.0	2	16.7	1	2.9	6	7.0
<b>Total</b>	14	100.0	26	100.0	12	100.0	34	100.0	86	100.0

Results showed that most of the students knew they were given tablets for treating worms (91.9%), the highest rate in Nghe An (100%). Only a few students did not know what tablets given out to treat for (7%).

**Table 83.** Percentage of students hearing tablets would be given

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
The teacher told us this morning	3	21.4	10	38.5	2	16.7	5	14.7	20	23.3
The teacher told us in the past few days	11	78.6	23	88.5	7	58.3	25	73.5	66	76.7
There were announcements made during school assembly	1	7.1	13	50.0	4	33.3	16	47.1	34	39.5
Posters/banners were hung in the schools	1	7.1	13	50.0	2	16.7	11	32.4	27	31.4
My parents told me	1	7.1	13	50.0	1	8.3	9	26.5	24	27.9
There were announcements made on the loudspeaker in the village	1	7.1	5	19.2	0	0.0	5	14.7	11	12.8
Don't know	1	7.1	0	0.0	0	0.0	1	2.9	2	2.3
Other	0	0.0	1	3.8	0	0.0	0	0.0	1	1.2
<b>Total number of students interviewed<sup>22</sup></b>	14	100.0	26	100.0	12	100.0	34	100.0	86	100.0

Most of the students said that their teacher told them tablets would be given in the past few days (76.7%), followed by announcements made during school assembly (39.5%) and posters/banners hung in the schools (31.4%).

**Table 84.** Percentage of students explained the tablets were for

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
To treat worms	5	35.7	19	73.1	11	91.7	24	70.6	59	68.6
To treat anything else	0	0.0	0	0.0	1	8.3	0	0.0	1	1.2
We were not told what the tablets were for	4	28.6	0	0.0	0	0.0	0	0.0	4	4.7
Don't know/don't remember	4	28.6	7	26.9	0	.0	10	29.4	21	24.4
Total	14	100.0	26	100.0	12	100.0	34	100.0	86	100.0

Before tablets were given out in the class, 68.6% of students were explained that the tablets were for treat worms, 4.7% of students were not explained this.

The results from interviews showed that up to 96.5% of children had eaten before coming to school. All interviewed students (100%) said that they received only 1 tablet, 96.5% of students said that the tablet is white. Also 96.5% of students felt fine BEFORE taking the tablet.

<sup>22</sup> Some students provided more than one response, thus total of percentage is more than 100%

**Table 85.** Students' feeling BEFORE and AFTER taking the tablet

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Before taking the tablet</b>										
I felt fine	13	92.9	25	96.2	11	91.7	34	100.0	83	96.5
I felt nauseated	1	7.1	1	3.8	1	8.3	0	0.0	3	3.5
Total	14	100.0	26	100.0	12	100.0	34	100.0	86	100.0
<b>After taking the tablet</b>										
I feel fine	13	92.9	25	96.2	10	83.3	34	100.0	82	95.3
I feel nauseated	0	0.0	1	3.8	0	0.0	0	0.0	1	1.2
Other	1	7.1	0	.00	2	16.7	0	0.0	3	3.5
<b>Total</b>	<b>14</b>	<b>100.0</b>	<b>26</b>	<b>100.0</b>	<b>12</b>	<b>100.0</b>	<b>34</b>	<b>100.0</b>	<b>86</b>	<b>100.0</b>

About 95.3% of the children who receives medicine said that they felt well AFTER taking tablets, 1 child said that he/she felt nauseated (1.2%).

### 3.4. Coverage validation

#### 3.4.1. Assessment of deworming activities at CHCs

The assessment of deworming was conducted at 73 main schools and 59 satellite schools in 123 communes distributed across 70 of the 72 districts in all 4 provinces targeted by the program. However, My Ly commune of Ky Son district in Nghe couldn't be assessed due to deworming was delayed to November 21, 2017.

**Table 86.** The date of the main deworming day taking place

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
6th November	8	42.1	14	42.4	14	60.9	26	54.2	62	50.4
7th November	9	47.4	12	36.4	5	21.7	21	43.8	47	38.2
6th and 7th November	2	10.5	6	18.2	4	17.4	1	2.1	13	10.6
Other day	0	0	1	3.0	0	0	0	0	1	0.8
Total	19	100	33	100.0	23	100	48	100	123	100

The table above presents that all supervised schools in Hoa Binh, Phu Tho and Thanh Hoa conducted deworming for students as the province's plan (November 6 or/and 7, 2017), in which 62/123 communes (50.4%) implemented deworming for students on November 6, 2017, 47/123 communes (38.2%) implemented deworming activities on November 7, 2017 and 12/123 communes (10.6%) conducted this activity during 2 days (November 6 and 7, 2017). Only one satellite of My Ly commune (Ky Son, Nghe An) conducted on other day (0.8%). Because of no data from My Ly commune, the below 'analyzable' sample of satellites schools is 58 and the total 'analysable' sample for Coverage Validation' is 131.



**Table 87.** The plan for conducting a mop-up day

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
10 November 2017	7	36.8	16	50.0	13	56.5	30	62.5	66	54.1
Other date	5	26.3	9	28.1	4	17.4	11	22.9	29	23.8
No mop-up day	7	36.8	7	21.9	6	26.1	7	14.6	27	22.1
<b>Total</b>	<b>19</b>	<b>100.0</b>	<b>32</b>	<b>100.0</b>	<b>23</b>	<b>100.0</b>	<b>48</b>	<b>100.0</b>	<b>122</b>	<b>100.0</b>

Interviewing CHC's leader illustrate that 77.9% communes had a mop-up beside a main day; in which 54.1% a mop-up day had conducted as plan (on 10 November 2017), 23.8% had organized in other day.

The mop-up activities have mainly implemented at schools (66/95 schools, accounting for 69.5%), the rest ones had conducted at 26 CHCs (27.4%) and other places including CHC's staff go household-to-household and at village (3.2%).

**Table 88.** The reasons for no mop-up day

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Mop-up day was planned, but all children were dewormed on the main deworming day	5	71.4	7	100.0	6	100.0	6	85.7	24	88.9
We didn't plan a mop-up day as we have always had good success on the main deworming day	2	28.6	0	0.0	0	0.0	1	14.3	3	11.1
<b>Total</b>	<b>7</b>	<b>100.0</b>	<b>7</b>	<b>100.0</b>	<b>6</b>	<b>100.0</b>	<b>7</b>	<b>100.0</b>	<b>27</b>	<b>100.0</b>

Twenty seven communes where no mop-up day was conducted, reason for most of these was that mop-up day was planned, but all children were dewormed on the main deworming day (88.9%).

**Table 89.** Mop-up day at the commune health center

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
They were brought as a group	0	.0	1	16.7	5	27.8	6	23.1	6	23.1
They were expected to make their own arrangements to visit the commune health center	2	100.0	5	83.3	13	72.2	20	76.9	20	76.9
<b>Total</b>	<b>2</b>	<b>100.0</b>	<b>6</b>	<b>100.0</b>	<b>18</b>	<b>100.0</b>	<b>26</b>	<b>100.0</b>	<b>26</b>	<b>100.0</b>

For mop-up day at the commune health center, almost children were expected to make their own arrangements to visit the commune health center (76.9%).

**Table 90.** Percentage of CHCs where deworming reports were available

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Available	18	94.7	32	100.0	22	95.7	47	97.9	119	97.5
Not available	1	5.3	0	0.0	1	4.3	1	2.1	3	2.5
<b>Total</b>	<b>19</b>	<b>100.0</b>	<b>32</b>	<b>100.0</b>	<b>23</b>	<b>100.0</b>	<b>48</b>	<b>100.0</b>	<b>122</b>	<b>100.0</b>

At supervised time, 119/122 communes (97.5%) had a deworming report at commune. The deworming reports were not available at 3 communes.

**Table 91.** Percentage of CHCs completed the reporting form

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
<b>Completion of the report</b>										
Completed	15	83.3	32	100.0	21	95.5	45	95.7	113	95.0
Not yet completed	2	11.1	0	0.0	1	4.5	0	0.0	3	2.5
In the process of completion	1	5.6	0	0.0	0	.0	2	4.3	3	2.5
<b>Total</b>	<b>18</b>	<b>100.0</b>	<b>32</b>	<b>100.0</b>	<b>22</b>	<b>100.0</b>	<b>47</b>	<b>100.0</b>	<b>119</b>	<b>100.0</b>
<b>Submission of the report to DHC</b>										
Submitted	15	83.3	32	100.0	20	90.9	44	93.6	111	93.3
Not yet submitted	3	16.7	0	0.0	2	9.1	3	6.4	8	6.7
Don't know	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>18</b>	<b>100.0</b>	<b>32</b>	<b>100.0</b>	<b>22</b>	<b>100.0</b>	<b>47</b>	<b>100.0</b>	<b>119</b>	<b>100.0</b>

At 119 communes where deworming reports were available, 2.5% of CHCs had not yet completed the deworming report and 2.5% communes were still in the process of completion. The percentage of CHCs which submitted the deworming report to DHCs until supervised time achieves 93.3%; 6.7% communes had completed but did not submit and 0.8% rest communes didn't know the deworming was submitted or not.

**Table 92.** Date for submission of the deworming report to the district health center

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
On or before November 15	14	93.3	32	100.0	20	100.0	43	97.7	109	98.2
Other	1	6.7	0	0.0	0	0.0	1	2.3	2	1.8
<b>Total</b>	<b>15</b>	<b>100.0</b>	<b>32</b>	<b>100.0</b>	<b>20</b>	<b>100.0</b>	<b>44</b>	<b>100.0</b>	<b>111</b>	<b>100.0</b>

Among 111 communes that submitted the report, 98.2% of communes submitted on or before November 15, 2017. The 2 remaining communes (1.8%) submitted the report on November 17 (Nuong Dam commune, Kim Boi district, Hoa Binh) and November 20, 2017 (Ha Trung commune, Ba Thuoc district, Thanh Hoa).

The main reason why 8 communes have not submitted the deworming report to DHCs is that "didn't have time to complete the form in time" (3 out 8 communes), "thought the deadline was another date" (1 out 8 communes), "thought the deadline was another date" (1 out 8 communes), beside that there are some other reasons such as "have a lot of things to do and have just assigned to do this deworming activity" (Da Loc school, Da Loc commune, Hau Loc district, Thanh Hoa province), "Have just reported via telephone" (Tien Du school, Tien Du commune, Phu Ninh district, Phu Tho province), "The time is not suitable" (Nam Son 2 school, Thu Phong commune, Cao Phong district, Hoa Binh province).

**Table 93.** Deadline of sending the report to DHC from CHC's head information

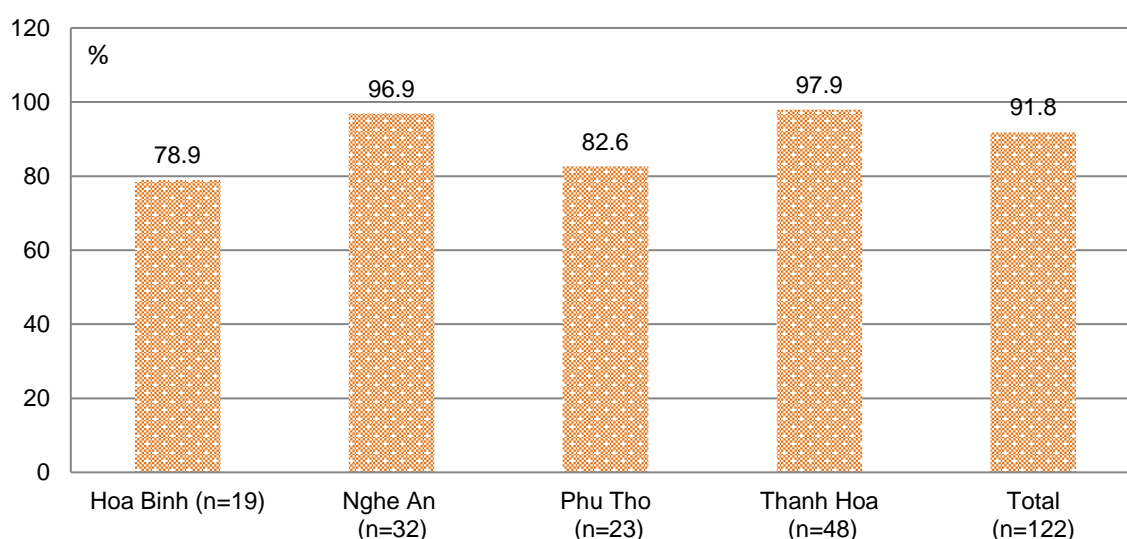
Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
15 November 2017	14	73.7	31	96.9	13	56.5	42	87.5	100	82.0
Other date	4	21.1	1	3.1	7	30.4	4	8.3	16	13.1
Don't know	1	5.3	0	0.0	3	13.0	2	4.2	6	4.9
Total	19	100.0	32	100.0	23	100.0	48	100.0	122	100.0

As project's regulations, CHC's staff will complete a report and send it to DHCs on 15<sup>th</sup> November 2017. This information is delivered in contents of the training course for CHC's staff and teachers. The results show that 82% leader of CHCs knew the day to submit a report following regulation, 13.1% CHCs told that the deadline day was after 15 November 2017 and 4.9% did not know what day was deadline to submit a report.

**Table 94.** How the commune reporting form was completed (%)

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Only used the class lists to count the number of children dewormed in each class	17	89.5	29	90.6	19	82.6	47	97.9	112	91.8
Only counted the number of permission forms collected	2	10.5	2	6.3	1	4.3	1	2.1	6	4.9
Only requested the head teacher to provide us with the number of children in-attendance on the day of deworming	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other	0	0.0	1	3.1	3	13.0	0	0.0	4	3.3
<b>Total of CHCs</b>			<b>19</b>		<b>32</b>		<b>23</b>		<b>48</b>	<b>122</b>

Following to the opinion of CHC's leaders, most of CHCs (91.8%) only used all the class lists to count the number of children dewormed in each class. In addition, 4.9% CHCs only used counted the number of permission forms collected. About 3.3% of CHCs only used requesting the head teacher to provide them with the number of children in-attendance on the day of deworming.



**Figure 22.** Percentage of CHCs having available list of children for deworming

Among 122 monitored communes, 91.8% had available list of each class used in the deworming day at CHC. Ten remaining communes (8.2%) where the lists of children for deworming were unavailable. The reasons are that some communes stored the lists at the schools including Tho Van area B (Tho Van commune, Mai Hoang Son (Mai Hich commune, Mai Chau district, Hoa Binh province), Nuong Dam (Nuong Dam commune, Kim Boi district, Hoa Binh province), Dong Hieu (Dong Hieu commune, Thai Hoa town, Nghe An province), some communes stored the lists at the health worker's house including Truc Son (Toan Son commune, Da Bac district, Hoa Binh province), Ba Tri Area of Dao Xa 2 (Dao Xa commune, Thanh Thuy district, Phu Tho province), and some communes could not find the list including Dau Duong (Dau Duong commune, Tam Nong district, Phu Tho province).

**Table 95.** The percentage of children were dewormed under CHC's reports

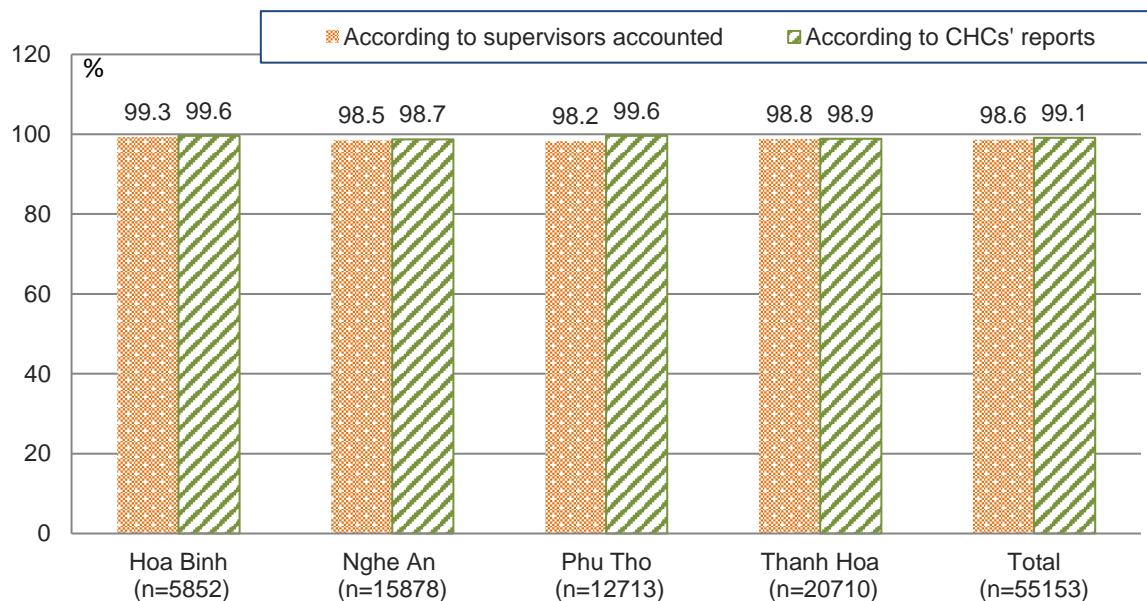
Information	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Total number of enrolled students in communes included in monitoring sample	5,846	15,822	12,655	20,648	54,971
% enrolled students dewormed in communes included in monitoring sample	99.7	98.9	99.7	99.0	99.2
Total number of non-enrolled school-aged children in communes included in monitoring sample	6	56	58	62	182
% non-enrolled school-aged children dewormed in communes included in monitoring sample	66.7	42.9	100.0	90.3	78.0
Total number of school-age children (enrolled plus non-enrolled) in communes included in monitoring sample	5,852	15,878	12,713	20,710	55,153
% school-age children (enrolled plus non-enrolled) dewormed in communes included in monitoring sample	99.6	98.7	99.6	98.9	99.1
<b>Total of CHCs</b>	<b>15</b>	<b>31</b>	<b>19</b>	<b>47</b>	<b>112</b>

The analysis was based on the 112 schools that the reporting forms and class lists were available. As report from 112/122 communes, the percentage of students dewormed achieves 99.2%, ranging from 98.9 to 99.7% among provinces. The percentage of children who are not student were dewormed achieves 78% (reluctance from 66.7% to 100.0%). In general, the percentage of children were dewormed achieves 99.1%, in which lowest proportion in Nghe An (98.7%) and highest in Hoa Binh and Phu Tho (99.6%).

**Table 96.** Average number of children who were enrolled in the commune, according to the commune reporting form

Information	Hoa Binh	Nghe An	Phu Tho	Thanh Hoa	Total
Boys (±SD)	198,8±141,3	269,5±133,1	338,2±209,1	227,9±138,5	254,8±157,2
Girls (±SD)	181,8±137,2	241,9±124,1	323,2±208,8	211,5±126,6	235,5±150,5
Average total number of children (±SD)	380,6±277,7	511,4±255,2	661,4±415,5	439,3±263,2	490,4±305,8
The least number of children	122	70	137	27	27
The most number of children	1368	1245	1731	1317	1731

According to data from CHCs, in average each commune has 491 children were dewormed, in which highest place in Phu Tho (662 children) and lowest place in Hoa Binh (381 children). In general, the number of boy children is higher than the number of girl children (255/236).



**Figure 23.** Comparison between the percentage (%) of children were dewormed following CHC's report and accounting by supervisors of the class lists

The figure above presents that the percentage of children were dewormed in 4 whole provinces following CHC's report achieved 99.1%, a little bit higher compared to data from accounting by supervisors of the class lists (98.6%).

**Table 97.** Total number of students whose names were ticked in the class list and total number of students reported in the commune reporting form

No.	District	Commune	Total # Boys		Total # of Girls		TOTAL # of children		Reporting/ counting
			Dewormed in commune		Dewormed in commune		Dewormed in the commune		
			Number obtained from counting of the class lists	Number reported in commune reporting form	Number obtained from counting of the class lists	Number reported in commune reporting form	Number obtained from counting of the class lists	Number reported in commune reporting form	
<b>Hoa Binh</b>									
1	Cao Phong	Nam Phong	189	197	199	198	388	395	Higher
2		Thu Phong	137	142	128	133	265	275	Higher
3	Đà Bắc	Mường Tuồng	55	57	67	65	122	122	Equal
4		Toàn Sơn	-	-	-	-	-	205	NA
5	Kim Bôi	Kim Bình	237	237	189	191	426	428	Higher
6		Nuông Dâm	-	214	-	176	-	399	NA
7	Kỳ Sơn	Dân Hòa	89	89	93	93	182	182	Equal
8		Hợp Thịnh	204	204	196	196	400	400	Equal
9	Lạc Sơn	Hương Nhượng	174	177	186	191	360	368	Higher
10		Mỹ Thành	184	184	161	161	345	345	Equal
11	Lạc Thủy	Hưng Thị	211	211	151	151	362	362	Equal
12	Lương Sơn	Lâm Sơn	149	149	124	124	273	273	Equal
13		Thanh Sơn	-	-	-	-	-	-	NA
14	Mai Châu	Mai Hích	-	118	-	117	-	235	NA
15		Tân Dân	107	107	106	106	213	213	Equal
16	Tân Lạc	Ngõ Lương	89	89	59	59	148	148	Equal
17		Phong Phú	257	257	236	236	493	495	Higher
18	Tp Hòa Bình	Phường Tân Thịnh	689	694	667	674	1356	1368	Higher
19	Yên Thủy	Lạc Lương	256	256	222	222	478	478	Equal
<b>Nghệ An</b>									
20	Anh Sơn	Đĩnh Sơn	290	290	292	292	582	582	Equal
21		Phúc Sơn	351	351	302	302	653	653	Equal
22	Con Cuông	Môn Sơn	369	369	409	409	778	778	Equal
23	Cửa Lò	Nghi Hòa	149	178	156	176	305	354	Higher

No.	District	Commune	Total # Boys		Total # of Girls		TOTAL # of children		Reporting/ counting
			Dewormed in commune		Dewormed in commune		Dewormed in the commune		
			Number obtained from counting of the class lists	Number reported in commune reporting form	Number obtained from counting of the class lists	Number reported in commune reporting form	Number obtained from counting of the class lists	Number reported in commune reporting form	
24	Diễn Châu	Diễn Thịnh	511	519	424	430	935	949	Higher
25	Đô Lương	Đại Sơn	32	32	38	38	70	70	Equal
26		Thuận Sơn	228	228	206	206	434	434	Equal
27	Hưng Nguyên	Hưng Long	178	184	163	181	341	365	Higher
28		Hưng Trung	380	380	371	371	751	751	Equal
29	Kỳ Sơn	Keng Đu	-	330	-	295	-	625	NA
30	Nam Đàn	Nam Anh	350	350	292	292	642	642	Equal
31		Nam Lĩnh	225	230	183	185	408	415	Higher
32	Nghi Lộc	Nghi Thịnh	219	231	141	148	360	379	Higher
33		Nghi Yên	300	301	318	322	618	623	Higher
34	Nghĩa Đàn	Nghĩa Tân	57	57	67	67	124	124	Equal
35	Quế Phong	Châu Thôn	208	208	207	208	415	416	Higher
36		Nậm Giải	130	130	97	97	227	228	Higher
37		Tri Lễ	498	544	543	499	1041	1043	Higher
38	Quỳ Châu	Châu Thắng	161	161	133	133	294	294	Equal
39		Diễn Lâm	130	130	119	119	249	249	Equal
40	Quỳ Hợp	Yên Hợp	286	286	188	189	474	475	Higher
41	Quỳnh Lưu	Quỳnh Văn	655	655	590	590	1245	1245	Equal
42	Tân Kỳ	Hương Sơn	241	241	224	224	465	465	Equal
43		Nghĩa Hành	268	268	205	206	473	474	Higher
44	Thanh Chương	Thanh Xuân	114	114	95	95	209	209	Equal
45	Thành Phố Vinh	Nghi Đức	248	296	215	252	463	548	Higher
46	Thị Xã Thái Hòa	Đông Hiếu	245	245	225	225	470	470	Equal
47		Tây Hiếu	351	352	296	297	647	676	Higher
48	Tương Dương	Lưu Kiên	201	201	175	175	376	376	Equal
49		Yên Hòa	193	193	166	166	359	359	Equal
50	Yên Thành	Đức Thành	311	311	343	343	654	654	Equal
51		Lăng Thành	309	309	269	269	578	578	Equal

No.	District	Commune	Total # Boys		Total # of Girls		TOTAL # of children		Reporting/ counting
			Dewormed in commune		Dewormed in commune		Dewormed in the commune		
			Number obtained from counting of the class lists	Number reported in commune reporting form	Number obtained from counting of the class lists	Number reported in commune reporting form	Number obtained from counting of the class lists	Number reported in commune reporting form	
<b>Phú Thọ</b>									
52	Cẩm Khê	Phượng Vĩ	422	437	415	415	837	852	Higher
53		Tạ Xá	389	391	318	318	707	709	Higher
54	Đoan Hùng	Phượng Trung	-	7	-	6	-	180	NA
55	Hạ Hòa	Hương Xạ	270	288	244	254	515	542	Higher
56		Lệnh Khanh	64	80	41	57	105	137	Higher
57	Lâm Thao	Vĩnh Lại	297	297	319	319	616	616	Equal
58		Xuân Lũng	199	204	199	204	398	408	Higher
59	Phù Ninh	Tiên Du	244	249	206	215	450	464	Higher
60		Trạm Thán	163	165	174	175	337	340	Higher
61	Tam Nông	Dậu Dương	-	120	-	110	-	230	NA
62		Thọ Văn	-	-	-	-	-	-	NA
63	Tân Sơn	Thạch Kiệt	203	204	186	186	389	390	Higher
64	Thanh Ba	Đông Lĩnh	93	93	51	51	144	144	Equal
65		Khải Xuân	340	340	339	339	679	679	Equal
66	Thanh Sơn	Thị trấn Thanh Sơn	826	830	905	910	1731	1740	Higher
67		Yên Lương	174	182	219	225	393	407	Higher
68	Thanh Thủy	Đào Xá	-	535	-	476	-	1011	NA
69		Thạch Đồng	193	252	160	195	353	447	Higher
70	TX Phú Thọ	Hà Lộc	303	303	342	342	645	645	Equal
71		Hà Thạch	-	353	-	407	747	760	Higher
72	Việt Trì	Thọ Sơn	811	811	709	709	1520	1520	Equal
73		Vân Phú	585	585	552	552	1137	1137	Equal
74	Yên Lập	Lương Sơn	420	420	356	356	776	776	Equal



No.	District	Commune	Total # Boys		Total # of Girls		TOTAL # of children		Reporting/ counting
			Dewormed in commune		Dewormed in commune		Dewormed in the commune		
			Number obtained from counting of the class lists	Number reported in commune reporting form	Number obtained from counting of the class lists	Number reported in commune reporting form	Number obtained from counting of the class lists	Number reported in commune reporting form	
<b>Thanh Hóa</b>									
75	Bá Thước	Điền Lư	142	142	120	120	262	262	Equal
76		Hạ Trung	132	132	129	129	261	261	Equal
77	Bỉm Sơn	Bắc Sơn	370	373	219	220	589	593	Higher
78		Phường Ba Đình	670	670	647	647	1317	1317	Equal
79	Cẩm Thủy	Cẩm Long	86	89	103	105	189	194	Higher
80		Cẩm Sơn	186	186	174	174	360	360	Equal
81	Đông Sơn	Đông Khê	109	109	103	103	212	212	Equal
82	Hà Trung	Hà Bình	66	66	60	60	126	126	Equal
83		Hà Vân	127	127	145	145	272	272	Equal
84	Hậu Lộc	Đa Lộc	264	291	275	299	539	590	Higher
85		Hòa Lộc	371	371	372	372	743	743	Equal
86	Hoằng Hóa	Hoằng Hà	164	167	105	106	269	273	Higher
87	Lang Chánh	Giao Thiện	204	208	201	204	405	412	Higher
88	Mường Lát	Mường Lý	313	313	304	304	617	617	Equal
89		Phù Nhi	334	336	313	317	647	653	Higher
90		Tam Chung	239	240	231	233	470	473	Higher
91	Nga Sơn	Nga Phú	-	-	-	-	-	-	NA
92		Nga Thắng	103	103	95	95	198	200	Higher
93	Ngọc Lặc	Thúy Sơn	287	289	215	216	502	505	Higher
94	Như Thanh	Xuân Khang	276	279	267	268	543	547	Higher
95		Xuân Phúc	145	147	131	134	276	281	Higher
96	Như Xuân	Bài Thành	233	240	228	230	461	470	Higher
97		Xuân Bình	239	243	277	282	516	525	Higher
98	Nông Cống	Tế Lợi	198	210	176	182	374	392	Higher
99		Yên Mỹ	105	125	106	127	211	252	Higher

No.	District	Commune	Total # Boys		Total # of Girls		TOTAL # of children		Reporting/ counting
			Dewormed in commune		Dewormed in commune		Dewormed in the commune		
			Number obtained from counting of the class lists	Number reported in commune reporting form	Number obtained from counting of the class lists	Number reported in commune reporting form	Number obtained from counting of the class lists	Number reported in commune reporting form	
100	Quan Hóa	Nam Tiến	104	104	111	111	215	215	Equal
101		Phú Nghiệm	51	51	41	44	92	95	Higher
102		Thanh Xuân	135	135	130	130	265	265	Equal
103	Quan Sơn	Na Mèo	177	177	137	137	314	314	Equal
104		Thị Trấn Quan Sơn	113	113	144	144	257	257	Equal
105	Quảng Xương	Quảng Văn	182	182	207	207	389	389	Equal
106	Sầm Sơn	Bắc Sơn	475	480	423	430	898	910	Higher
107		Trường Sơn	628	638	511	519	1139	1157	Higher
108	Thạch Thành	Thành Kim	304	308	276	278	580	586	Higher
109		Thành Vân	244	249	206	212	450	461	Higher
110	Thành Phố Thanh Hóa	Đông Hưng	319	319	276	276	595	595	Equal
111		Quảng Thành	14	14	12	13	26	27	Higher
112	Thiệu Hóa	Thiệu Nguyên	278	281	281	278	559	559	Equal
113	Thọ Xuân	Quảng Phú	358	358	319	319	677	677	Equal
114		Xuân Minh	153	153	129	129	282	282	Equal
115	Thường Xuân	Bát Mọt	122	122	107	107	229	231	Higher
116		Yên Nhân	239	239	214	214	453	453	Equal
117	Tĩnh Gia	Hải Châu	376	376	405	405	781	781	Equal
118		Hải Thanh	317	325	310	316	627	641	Higher
119	Vĩnh Lộc	Vĩnh An	134	134	133	133	267	267	Equal
120		Vĩnh Long	340	344	325	327	665	671	Higher
121	Yên Định	Yên Lâm	67	67	52	52	119	119	Equal
122		Yên Ninh	116	117	110	111	226	228	Higher

According to supervisors' observation, 56/122 communes (accounting for 45.9%) have higher number of children were dewormed (this data belongs to CHC's report) comparing to total number of children were marked from class lists.

**Table 98.** Percentage of communes over-reporting

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
Over-reporting 1-5	2	11.8	6	20.7	3	15.8	12	25.5	23	20.5
Over-reporting 6-10	3	17.6	1	3.4	2	10.5	6	12.8	12	10.7
Over-reporting 11-20	1	5.9	2	6.9	4	21.1	5	10.6	12	10.7
Over-reporting 21-30	0	0.0	2	6.9	1	5.3	0	0.0	3	2.7
Over-reporting >30	0	0.0	2	6.9	2	10.5	2	4.3	6	5.4
<b>Total of over-reporting</b>	<b>6</b>	<b>35.3</b>	<b>13</b>	<b>44.8</b>	<b>12</b>	<b>63.2</b>	<b>25</b>	<b>53.2</b>	<b>56</b>	<b>50.0</b>
<b>Total of providing class lists</b>	<b>17</b>		<b>29</b>		<b>19</b>		<b>47</b>		<b>112</b>	

The table above shows the accuracy of reporting. Twenty-three communes out of the 112 (20.5%) that provided class lists over-reported 1-5, the highest rate was found in Thanh Hoa (25.5%). Especially, six out of 112 communes (5.4%) over-reported over 30. This result shows that, the quality of CHC's deworming reports need to be pay attention during coming time, through training in a report form and to unify blank table in class lists of each class to make advantages in accounting data.

STT	Họ tên trẻ	Ngày tháng năm sinh	Ngày uống	Tên thuốc	Ghi chú
1	Đỗ Thành Chung	25.09.2009	06/11/2017	Mebendazole	
2	Vũ Ngọc Dương	10.07.2009	06/11/2017	Mebendazole	
3	Nguyễn Đức Duy	18.05.2009	06/11/2017	Mebendazole	
4	Vũ Đình Đức	14.09.2009	06/11/2017	Mebendazole	
5	Lê Duy Hà	08.11.2009	06/11/2017	Mebendazole	
6	Hà Văn Huy	18.04.2009	06/11/2017	Mebendazole	
7	Nguyễn Đức Huy	20.03.2009	06/11/2017	Mebendazole	
8	Tạ Quang Huy	30.12.2009	06/11/2017	Mebendazole	
9	Đào Trung Kiên	07.11.2009	06/11/2017	Mebendazole	
10	Nguyễn Bảo Linh	20.10.2009	06/11/2017	Mebendazole	
11	Phạm Gia Linh	15.07.2009	06/11/2017	Mebendazole	
12	Nguyễn Đức Mạnh	26/08/2009	06/11/2017	Mebendazole	
13	Nguyễn Hà Nam	18.01.2009	06/11/2017	Mebendazole	
14	Vũ Hoài Ngọc	03.07.2009	06/11/2017	Mebendazole	
15	Dương Thế Quân	17.12.2009	06/11/2017	Mebendazole	
16	Phạm Đức Quân	27.12.2009	06/11/2017	Mebendazole	
17	Trần Minh Quân	06.11.2009	06/11/2017	Mebendazole	
18	Tạ Văn Thành	28.06.2009	06/11/2017	Mebendazole	
19	Nguyễn Phương Thảo	22.09.2009	06/11/2017	Mebendazole	
20	Hoàng Thu Thủy	07.08.2009	06/11/2017	Mebendazole	
21	Mã Thủy Trang	02.11.2009	06/11/2017	Mebendazole	
22	Đình Văn Tú	23.08.2009	06/11/2017	Mebendazole	
23	Nguyễn Anh Tuấn	11.07.2009	06/11/2017	Mebendazole	

TT	Họ và tên học sinh	Ngày sinh	Giới tính	Số lượng uống (Viên)	Ghi chú
1	Tạ Thị Kim Huệ		Nữ	<	
2	Tống Thị Kim Ngân		Nữ	<	
3	Hoàng Thị Quỳnh Chi		Nữ	>	
4	Tạ Nguyễn Minh Châu		Nam	>	
5	Tạ Quang Vinh		Nam	>	
6	Huỳnh Thị Hương Giang		Nữ	<	
7	Nguyễn Thị Phương Hạnh		Nữ	<	
8	Hoàng Ngọc Thương		Nữ	>	
9	Trần Minh Khang		Nam	<	
10	Nguyễn Đức Minh		Nam	>	
11	Đỗ Minh Chí		Nam	>	
12	Nguyễn Thị Thanh Tâm		Nữ	>	
13	Hoàng Văn Huy		Nam	<	
14	Phùng Anh Dũng		Nam	>	
15	Vũ Gia Khánh		Nam	<	
16	Tạ Đức Chí		Nam	>	
17	Lưu Hữu Đạt		Nam	>	
18	Bùi Xuân Đức		Nam	>	
19	Đặng Xuân Huy		Nam	>	
20	Tạ Công Huy		Nam	>	
21	Tạ Quốc Huy		Nam	>	
22	Vũ Nguyễn Cẩm Ly		Nữ	>	
23	Đình Hoàng Hà My		Nữ	<	
24	Nguyễn Thị Thuý Ngọc		Nữ	>	
25	Nguyễn Công Quyền		Nam	>	
26	Nguyễn Công Quyết		Nam	0	x Báo T
27	Vũ Phương Tâm		Nam	0	x Báo T
	Nguyễn Đình Quỳnh		Nam	0	x Báo T

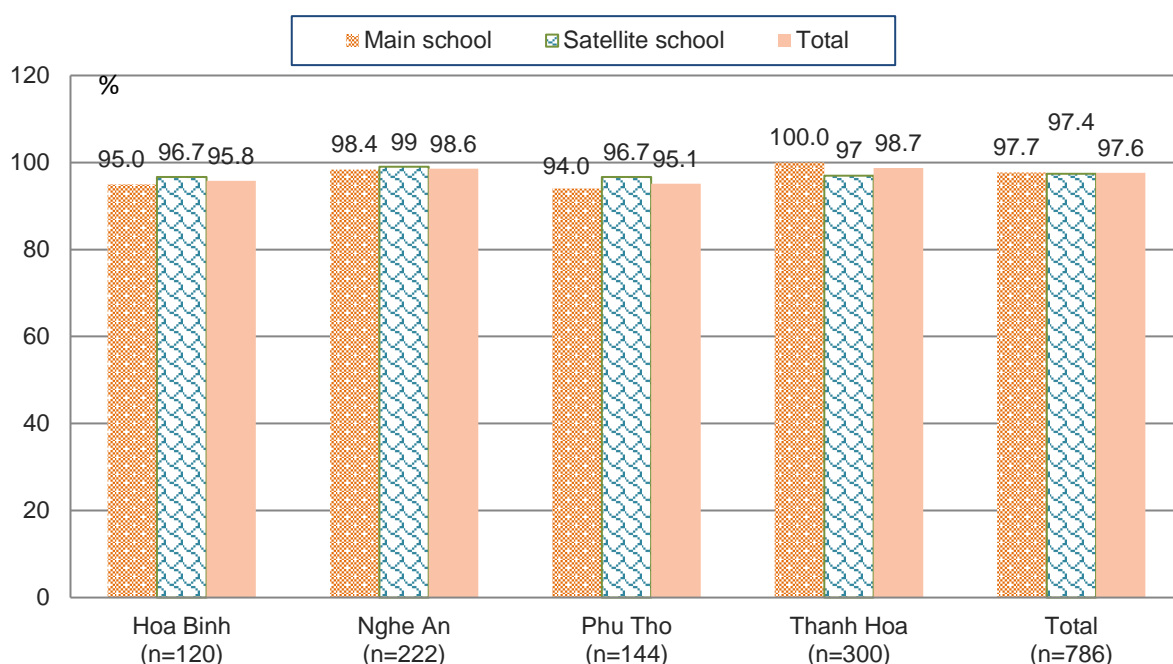
Children lists without sex information that show children drinking pills to deworm

Children lists with sex information that show children drinking pills to deworm

### 3.4.2. Results of interviews with students

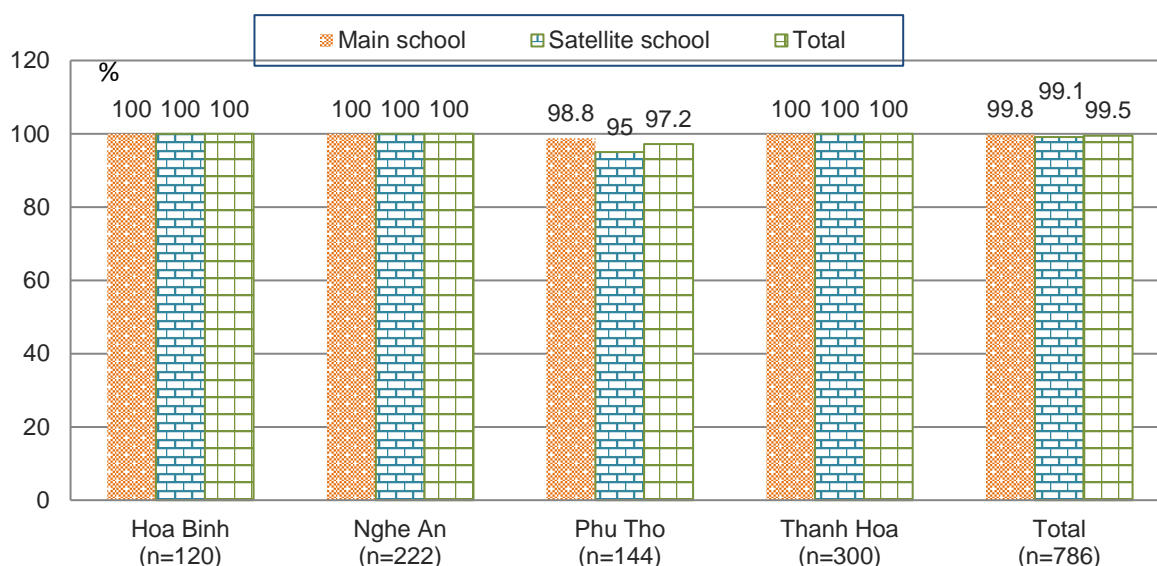
The selection of students for interviews was implemented following to two steps: (i) Randomly select two class lists corresponding to two classes according to the EMW's procedure (If the satellite school has only 1-2 classes, select all class lists); (ii) Randomly select THREE children according to the EMW's procedure for interviews.

Total 786 students belong to 131 primary schools (73 main schools and 58 satellite schools) in 4 project's provinces were interviewed during coverage validation time. 100% of students who attended in interviews without attendance of their teachers during the interview.



**Figure 24.** The percentage of students who reported receiving medicine at schools in the previous week

The results from interviewing student show that 97.6% of students told that they had received pills at schools in previous week (around from 95.1% in Phu Tho province to 98.7% in Thanh Hoa and Nghe An provinces). There was no disparity in the percentage of students receiving pills at the main and satellite schools (97.7% and 97.4% respectively).



**Figure 25.** The percentage of student’s answers corresponding with note in class lists

The figure above illustrates that 99.5% of student’s answers corresponding with note in class lists. There was no disparity in the percentage of student’s answers corresponding with note in class lists at the main and satellite schools (99.8% and 99.1%).

**Table 99.** Percentage of students share information about who delivered pills for them

Information	Hoa Binh	Phu Tho	Thanh Hoa	Nghe An	Total
Main school	n=57	n=124	n=79	n=168	n=428
CHC’s staff	91.2	91.1	98.7	89.9	92.1
Teacher	8.8	8.9	1.3	8.9	7.5
Don’t know/Don’t remember	0.0	0.0	0.0	1.2	0.5
Satellite school	n=58	n=95	n=58	n=128	n=339
CHC’s staff	86.2	91.6	74.1	93.0	88.2
Teacher	10.3	7.4	24.1	6.3	10.3
Don’t know/Don’t remember	3.4	1.1	1.7	0.8	1.5
Total	n=115	n=219	n=137	n=296	n=767
CHC’s staff	88.7	91.3	88.3	91.2	90.4
Teacher	9.6	8.2	10.9	7.8	8.7
Don’t know/Don’t remember	1.7	0.5	0.7	1.0	0.9

According to students’ answers, 90.4% students were delivered pills from CHC’s staff (around from 88.3% in Thanh Hoa province to 91.3% in Phu Tho province). The percentage of students who were delivered pills at the main schools was higher than that at the satellite schools (92.1% and 88.2%).

The results in the table above also show that, still 8.7% students were delivered pills from teachers with fluctuating rate from 7.8% in Nghe An to 10.9% in Thanh Hoa. Still 0.9% students did not remember who delivered pills for them in previous week (interview time).

**Table 100.** Percentage of students told that during deworming time CHC's staff was there while teachers delivered pills

Information	Hoa Binh	Phu Tho	Thanh Hoa	Nghe An	Total
<b>Main school</b>	n=5	n=11	n=1	n=15	n=32
Having CHC's staff	100.0	81.8	100.0	73.3	81.3
No CHC's staff	0.0	0.0	0.0	26.7	12.5
Don't know/Don't remember	0.0	18.2	0.0	0.0	6.3
<b>Satellite school</b>	n=6	n=7	n=14	n=8	n=35
Having CHC's staff	50.0	100.0	57.1	100.0	74.3
No CHC's staff	50.0	0.0	14.3	0.0	14.3
Don't know/Don't remember	0.0	0.0	28.6	0.0	11.4
<b>Total</b>	n=11	n=18	n=15	n=23	n=67
Having CHC's staff	72.7	88.9	60.0	82.6	77.6
No CHC's staff	27.3	0.0	13.3	17.4	13.4
Don't know/Don't remember	0.0	11.1	26.7	0.0	9.0

The table above shows that 77.6% students received pills from teachers reported that when they received pills from teachers while CHC's staff were available there. However, still 13.4% those received while CHC's staff were unavailable there, and 9% ones did not know about during deworming time CHC's staff were there or not while teachers delivered pills.

When asked "What type of medicine was given out?", up to 99.9% of students reported that they had received tablets, one student at satellite of Tho Van primary school (Tam Nong district, Phu Tho) said it was liquid/syrup. This child said that he received medicine at school last week but infact he was not recorded in the class list. 99.7% of students received 1 tablet, only one received 2 or more tablets. 98.7% of students who received tablets said they are white.

**Table 101.** Percentage of students knowing what the medicine was for

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
To treat worms	101	87.8	210	95.9	124	90.5	281	94.9	716	93.4
To treat anything else	0	0.0	0	0.0	2	1.5	0	0.0	2	0.3
Don't know/don't remember	14	12.2	9	4.1	11	8.0	15	5.1	49	6.4
<b>Total</b>	<b>115</b>	<b>100.0</b>	<b>219</b>	<b>100.0</b>	<b>137</b>	<b>100.0</b>	<b>296</b>	<b>100.0</b>	<b>767</b>	<b>100.0</b>

767 students received tablets, 93.4% of them said the medicine was to treat worms, some students didn't know or remember what the medicine was for (6.4%).

**Table 102.** Reasons for students who did not receive the medicine

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
	I refused	0	0.0	0	0.0	0	0.0	0	0.0	0
My parents didn't sign my permission form	0	0.0	0	0.0	4	42.9	1	25.0	5	26.3
I was feeling unwell, so the teacher/commune health worker wouldn't give me a tablet	1	20.0	1	33.3	0	0.0	0	0.0	2	10.5
I was taking other medication, so the teacher/commune health worker wouldn't give me a tablet	0	0.0	0	0.0	1	14.3	1	25.0	2	10.5
I didn't eat breakfast, so the teacher/commune health worker wouldn't give me a tablet	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
I was dewormed recently, so the teacher/commune health worker wouldn't give me a tablet	4	80.0	2	66.7	2	28.6	1	25.0	9	47.4
Other	0	0.0	0	0.0	0	0.0	1	25.0	1	5.3
<b>Total</b>	<b>5</b>	<b>100.0</b>	<b>3</b>	<b>100.0</b>	<b>7</b>	<b>100.0</b>	<b>4</b>	<b>100.0</b>	<b>19</b>	<b>100.0</b>

Total of 19 students did not receive tablets. The main reasons were: they were dewormed recently (47.4%), followed by "their parents didn't sign my permission form" (21.1%). Some students were feeling unwell or taking other medication, so the teacher/commune health worker wouldn't give me a tablet.

**Table 103.** Percentage of students who were dewormed recently

Information	Hoa Binh		Nghe An		Phu Tho		Thanh Hoa		Total	
	n	%	n	%	n	%	n	%	n	%
< 1 month	3	75.0	1	50.0	0	0.0	1	100.0	5	55.6
≥1 month, <5 months	0	0.0	1	50.0	0	0.0	0	0.0	1	11.1
Don't remember	1	25.0	0	0.0	2	100.0	0	0.0	3	33.3
<b>Total</b>	<b>4</b>	<b>100.0</b>	<b>2</b>	<b>100.0</b>	<b>2</b>	<b>100.0</b>	<b>1</b>	<b>100.0</b>	<b>9</b>	<b>100.0</b>

Five out of nine students were dewormed <1 month ago (55.6%), only one student was dewormed from 1 to 5 months ago (11.1%).

## 4. Conclusion and recommendation

### 4.1. Conclusion

#### *Monitoring of training of front line workers*

There were 38 facilitators for 27 training sessions, 1.4 facilitators per each training session on average. All facilitators were staff of DHCs. The percentage of facilitators attending the training session in the Provincial capital was 81.6%.

As expected by the facilitators, there were a total of 1192 trainees, in fact, according to the data from the monitors' counting, number of trainees were 1013. There was no significant difference between percentage of CHC's staff and teachers as expected of the facilitators (46.1% and 53.9% respectively) as well as data from the monitors' counting (50.5% and 49.5% respectively).

Training hand-out would be provided to each participant at 100% of training sessions. However, the percentage of training sessions with stationery provided to all participants was 74.1% according to answer of facilitators, much higher than monitors' observation (51.9%).

92.6% of training sessions were held in the morning and most training sessions lasted from 2-3 hours (48.1%); 77.8% of training sessions had presentation material of trainers used clearly visible, 96.3% of training sessions had slides to present the training lecture. Only one training session in Cam Thuy district (Thanh Hoa province) did not use projector but only by oral presentation.

Topics related to STH, activities need to be implemented before the MDA, some contents related to deworming were introduced in most training sessions.

The principal deworming day on November 6 and/or 7, 2017 was informed by facilitators at all training sessions (100%). However, only 92.6% of training sessions where facilitators mentioned to the mop-up day November 10, 2017 (excluding 2 training sessions in Nghe An).

Contents related to reporting were mentioned at most of training sessions, ranging from 85.2% to 96.3%, in which, the highest rates were found in the training sessions in Thanh Hoa.

Three most common questions that were asked by the trainees included "Questions about managing serious adverse events", "Questions about what children to exclude from deworming" and "Questions about managing mild adverse events" with rate of 25.9%, 18.5% and 14.8% respectively. The results also showed that 12/27 training sessions (accounted for 44.4%) where facilitators answered all trainees's questions. If it was counted for 12 among 13 training sessions where questions were asked by the trainees, this rate of facilitators answered all trainees's questions was 92.3%.



### ***Monitoring of the deworming day***

A total of 87 schools (66 main and 21 satellite schools) were visited, however, observation of deworming process was conducted at 80 schools (66 main and 13 satellite schools).

Most of main schools implemented deworming for students before 10am (98.5%), meanwhile only 76.9% of satellite schools implemented deworming for students before 10am, 23.1% of satellite schools implemented deworming from 10.am to 12.am.

Over 77.3% of the schools where CHC's staff/teachers explained to the children about mild side effects might occur. The proportion of schools where CHC's staff/teachers asked children if they were feeling unwell before drug-administration was relatively high at main schools but quite low at satellites (92.4% and 76.9%, respectively).

The observation results show that unwell children were identified at 50 main schools and 8 satellites. Forty eight main school (96%) and all 8 satellites (100%) excluded them from participating in the MDA. One main school in Hoa Binh and one in Nghe An did not implement this step.

Administering tablets is responsibility of the CHC's staff, however, only 81.8% of schools where CHC's staff administered tablets for students, 18.2% of schools where CHC's staff and teachers together administered tablets and none of selected schools where teachers administered tablets for students. It means that CHC's staff were present at all main schools.

Overall, the knowledge of CHC's staff and teachers about possible side effects when children use albendazole was quite good.

Most information from interviews with commune health workers also showed that the quantity of tablets brought to schools was sufficient for the total number of children at the school.

### ***Coverage validation***

The assessment of deworming was conducted at 73 main schools and 59 satellite schools in 123 communes distributed across 70 of the 72 districts in all 4 provinces targeted by the program. However, My Ly commune of Ky Son district in Nghe couldn't be assessed due to deworming was delayed to November 21, 2017.

All supervised schools in Hoa Binh, Phu Tho and Thanh Hoa conducted deworming for students as the province's plan (November 6 or/and 7, 2017), in which 62/123 communes (50.4%) implemented deworming for students on November 6, 2017, 47/123 communes (38.2%) implemented deworming activities on November 7, 2017 and 12/123 communes (10.6%) conducted this activity during 2 days (November 6 and 7, 2017). Only one satellite of My Ly commune (Ky Son, Nghe An) conducted on other day (0.8%).

At supervised time, 119/122 communes (97.5%) had a deworming report at commune. The deworming reports were not available at 3 communes. At 119 communes where deworming

reports were available, 2.5% of CHCs had not yet completed the deworming report and 2.5% communes were still in the process of completion.

Among 111 communes submitted the report, 73% submitted on or before November 15, 2017. The rest schools (27%) submitted the report on the other day from November 10-14, 2017, November 17, 2017, November 20, 2017.

Following to the opinion of CHC's leaders, most of CHCs (91.8%) only used all the class lists to count the number of children dewormed in each class. In addition, still 24.6% CHCs only used counted the number of permission forms collected. 6.6% CHCs only used requesting the head teacher to provide them with the number of children in-attendance on the day of deworming.

The percentage of children were dewormed in 4 whole provinces following CHC's report achieved 99.1%, a little bit higher compared to data from accounting by supervisors of the class lists (98.6%).

According to supervisors' observation, 56/122 communes (accounting for 45.9%) have higher number of children were dewormed (this data belongs to CHC's report) comparing to total number of children were marked from class lists.

The results from interviewing student show that 97.6% of students told that they had received pills at schools in previous week (around from 95.1% in Phu Tho province to 98.7% in Thanh Hoa and Nghe An provinces).

99.5% of student's answers corresponding with note in class lists. There was no disparity in the percentage of student's answers corresponding with note in class lists at the main and satellite schools (99.8% and 99.1%).

## **4.2. Recommendation**

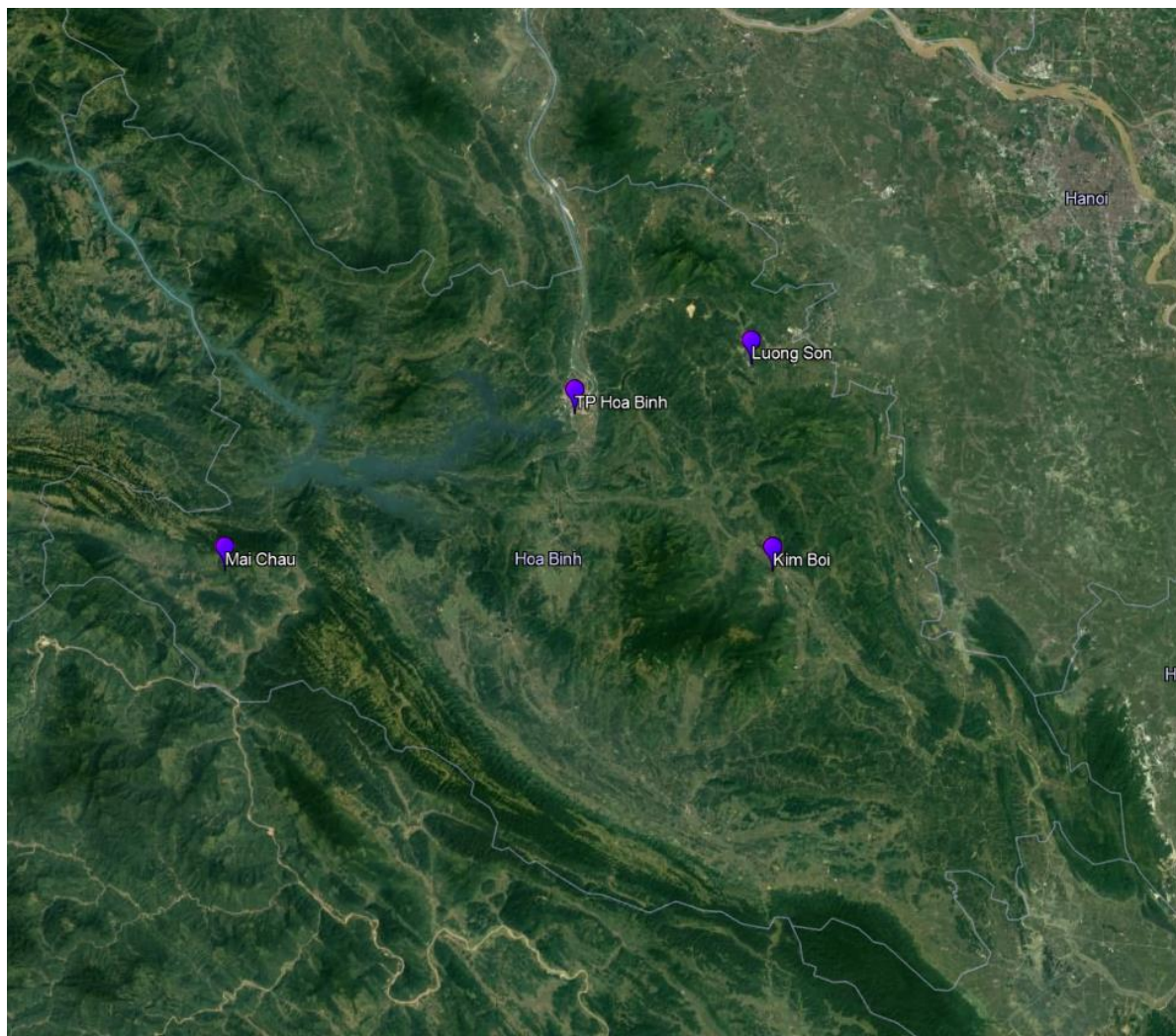
In general, the monitoring showed quite good results on performing the mass drug administration campaign in 4 provinces. Most of commune health workers and teachers followed the expected processes. Some recommendations are drawn as follows:

- Continue to support localities in implementation of school-based mass drug administration campaigns;
- It is necessary to monitor from provincial and district level to ensure the expected process followed by commune health workers and teachers during the school-based deworming campaign, especially at satellite schools;
- Before school-based mass drug administration campaigns, it is necessary to train for commune health workers and teachers on deworming process, focusing on bringing the class lists and how to mark the student's name during deworming and report basing on the form;
- The project should agree on the information in the class list, it should have information about the student's gender as a basis for counting the number of male / female students dewormed;

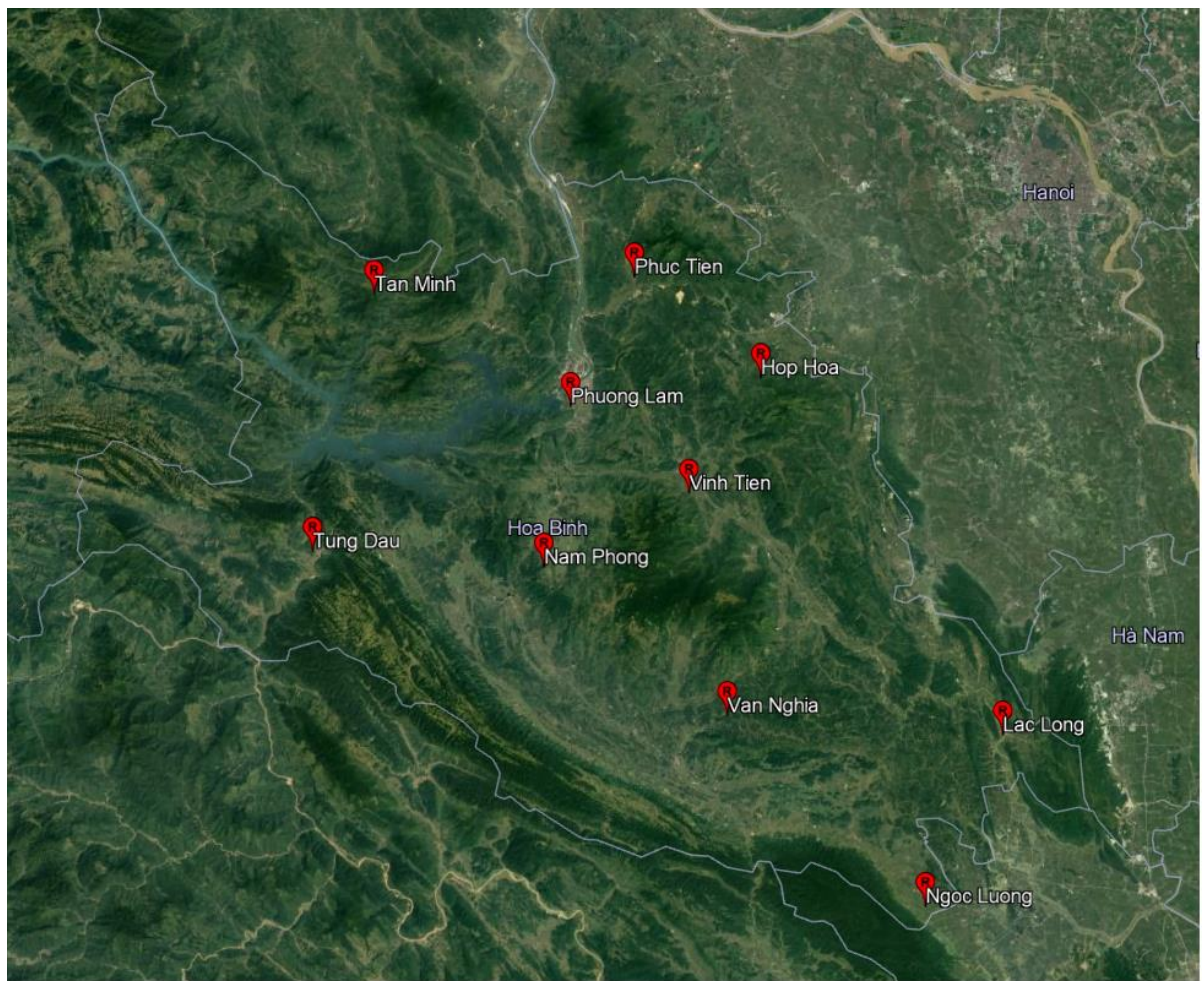
- it should add information about the number of students, the male/female non-enrolled students;
- Local authorities should strengthen communication activities for parents, students on worms and deworming, ensuring coverage of deworming for children reaches to 100%.

## Appendix. Maps of district/main/satellite points of primary schools and CHCs

Map 1. Position of district for the monitoring on **training session** in Hoa Binh



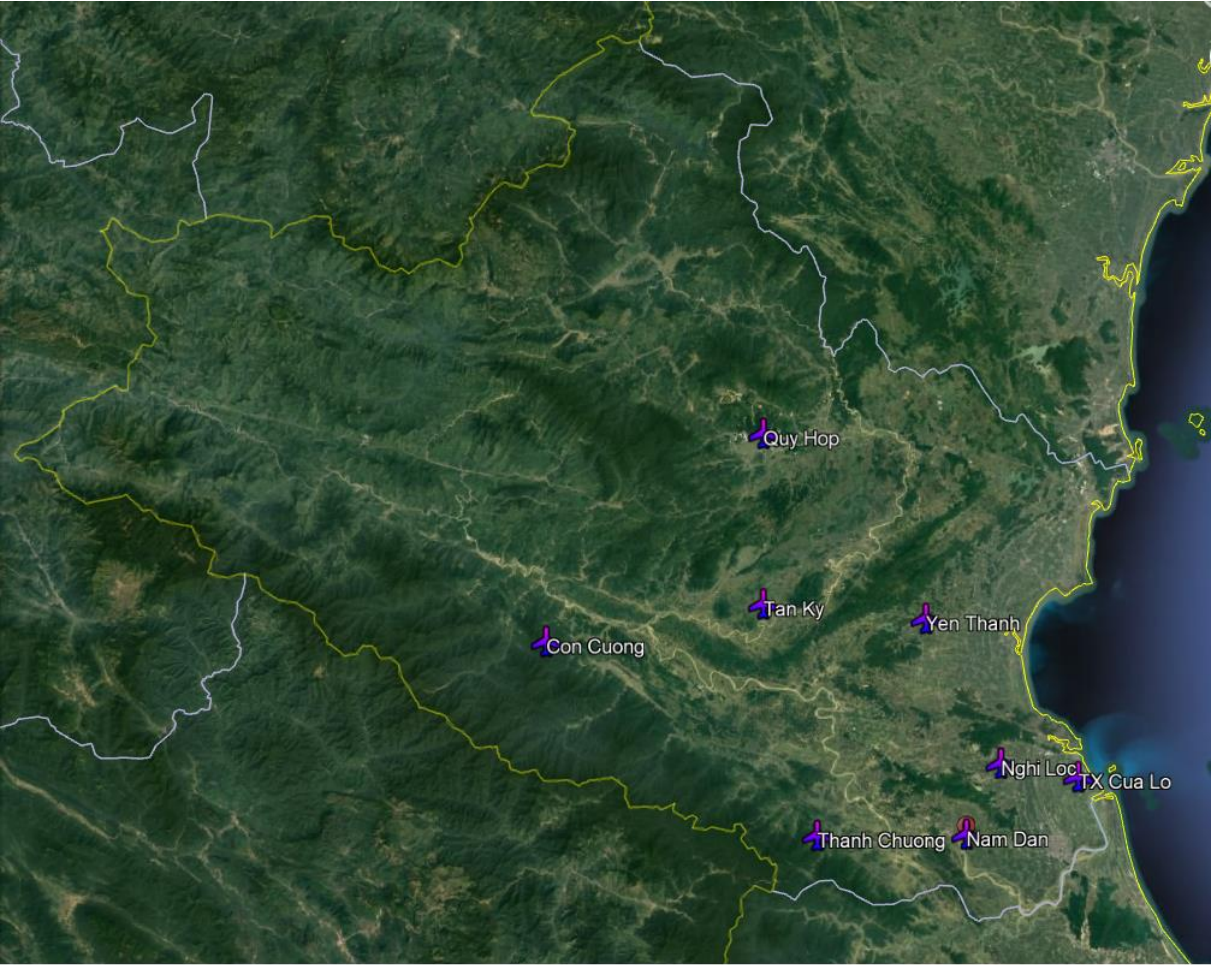
Map 2. Position of district for the monitoring on Main deworming in Hoa Binh



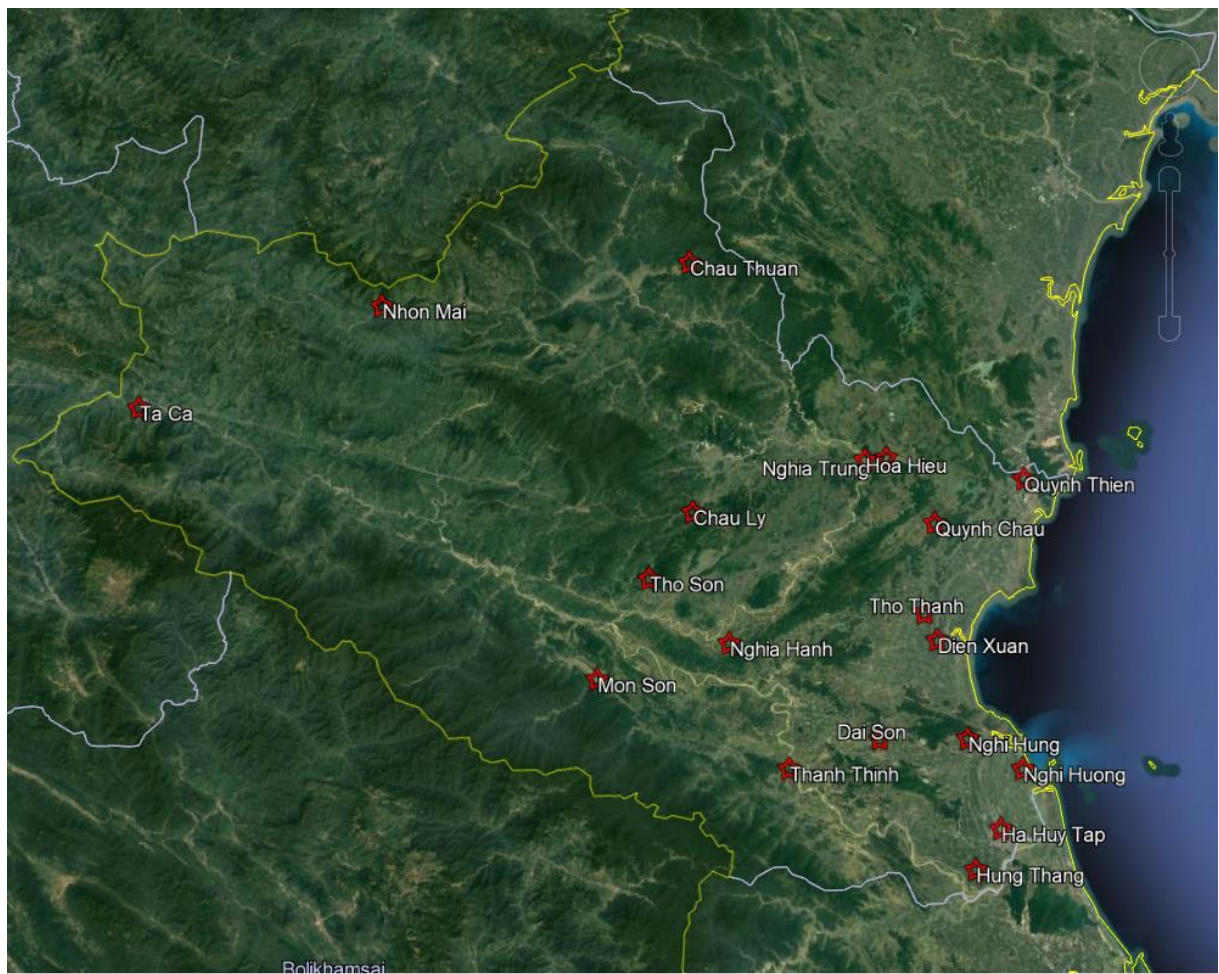
Map 3. Position of district for the monitoring on **Coverage validation** in Hoa Binh



Map 4. Position of district for the monitoring on **training session** in Nghệ An

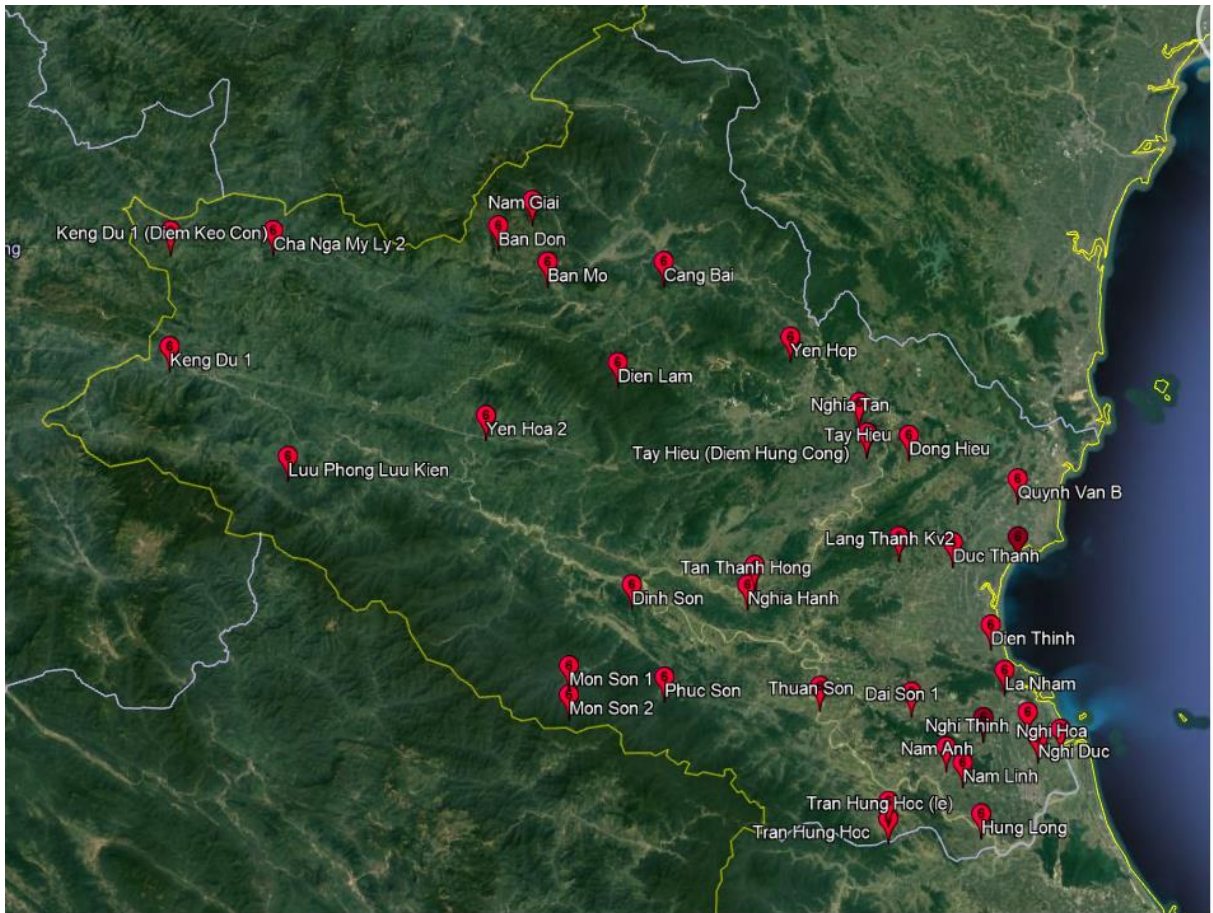


Map 5. Position of district for the monitoring on **Main deworming** in Nghệ An

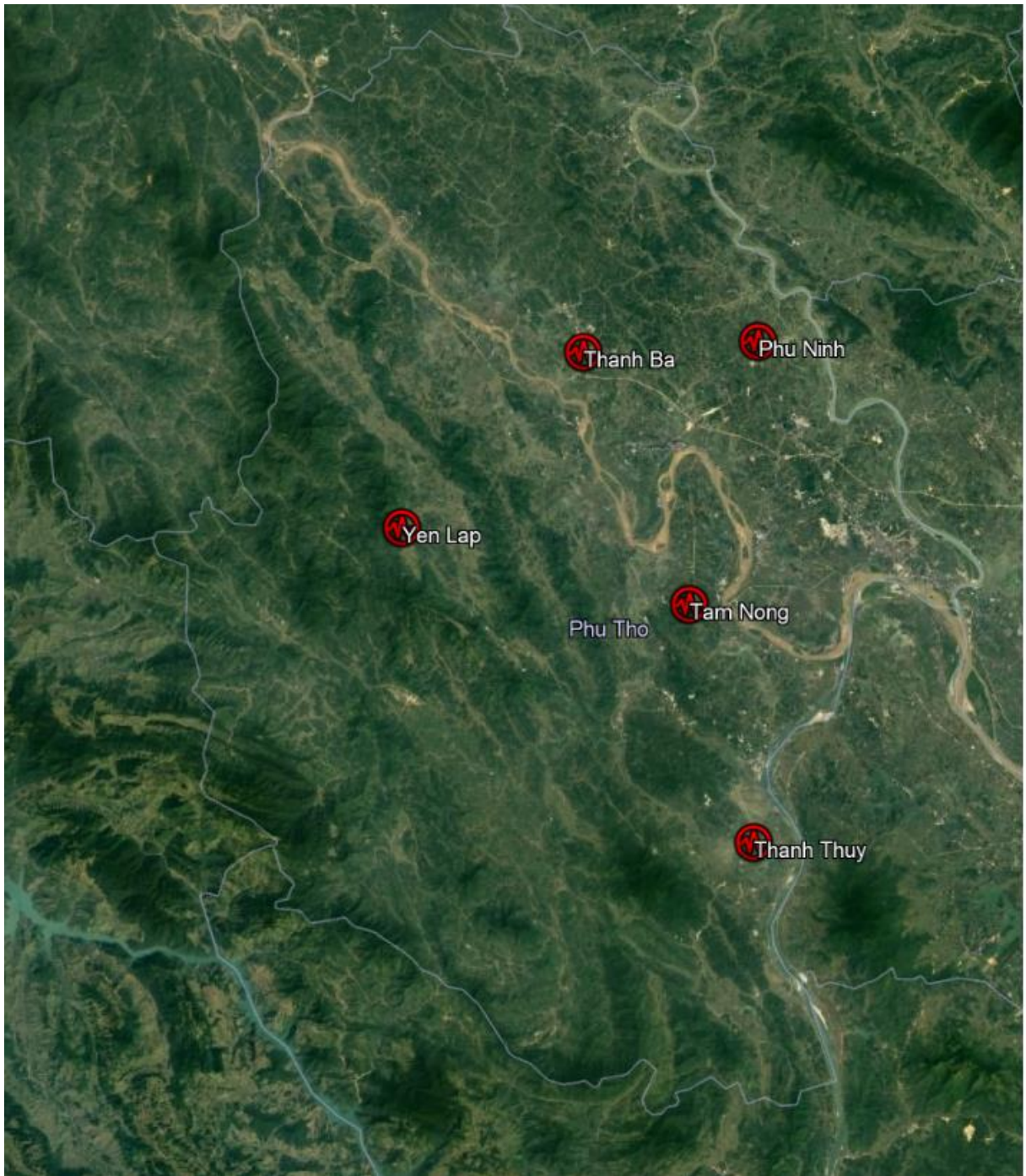




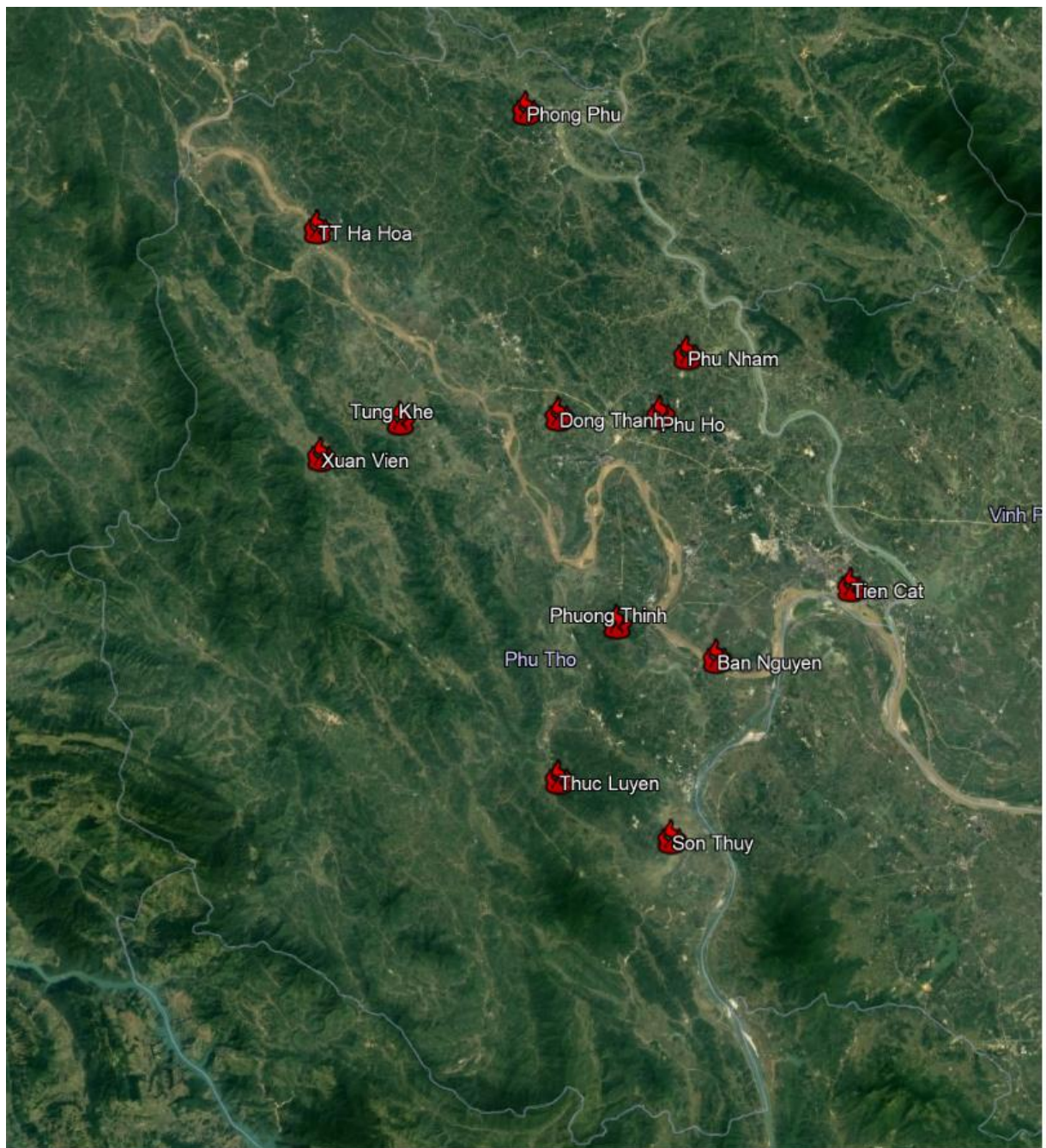
Map 6. Position of district for the monitoring on **Coverage validation** inNghệ An\_



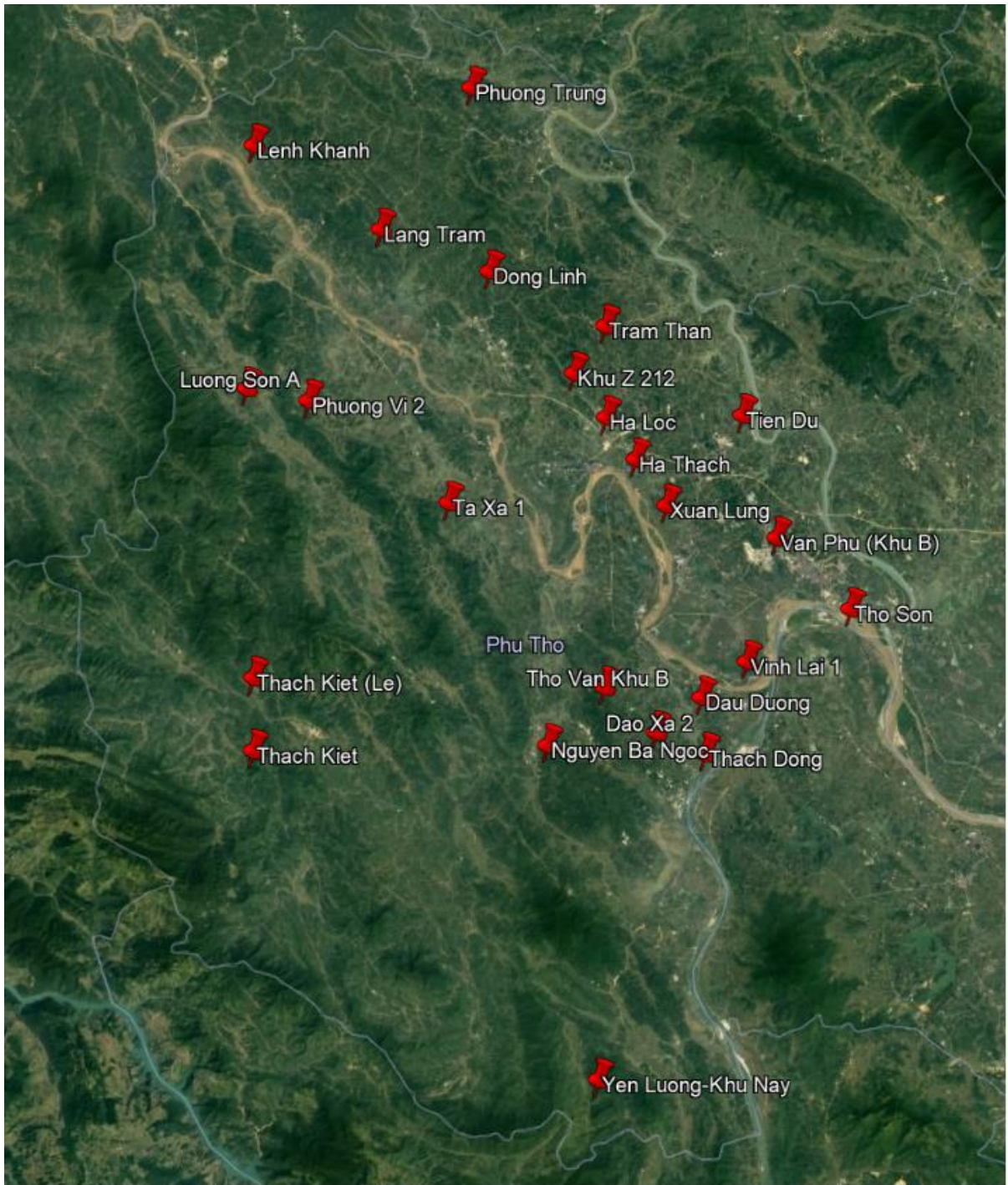
Map 7. Position of district for the monitoring on **training session** in Phú Thọ



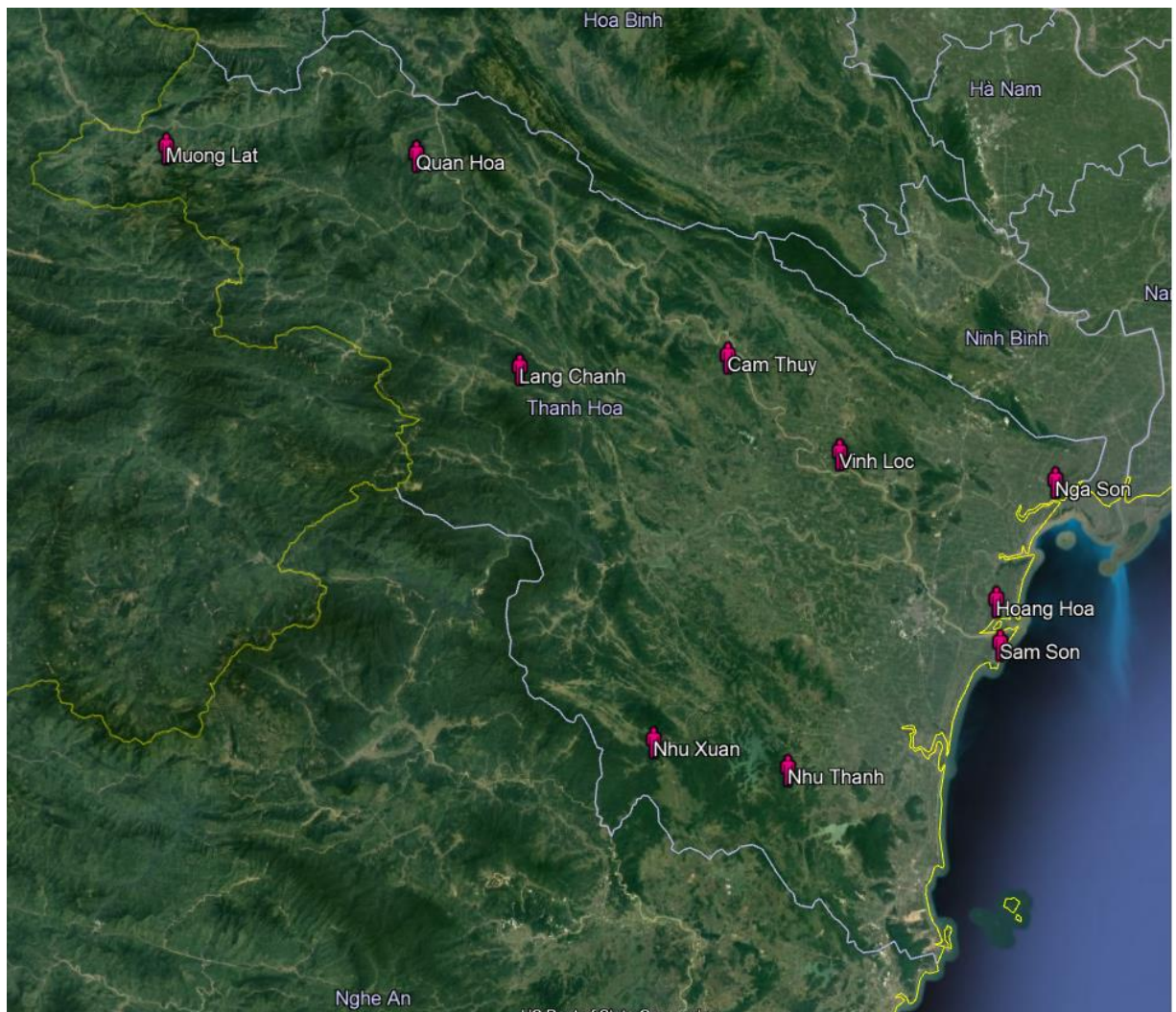
Map 8. Position of primary schools for **main deworming** in Phú Thọ



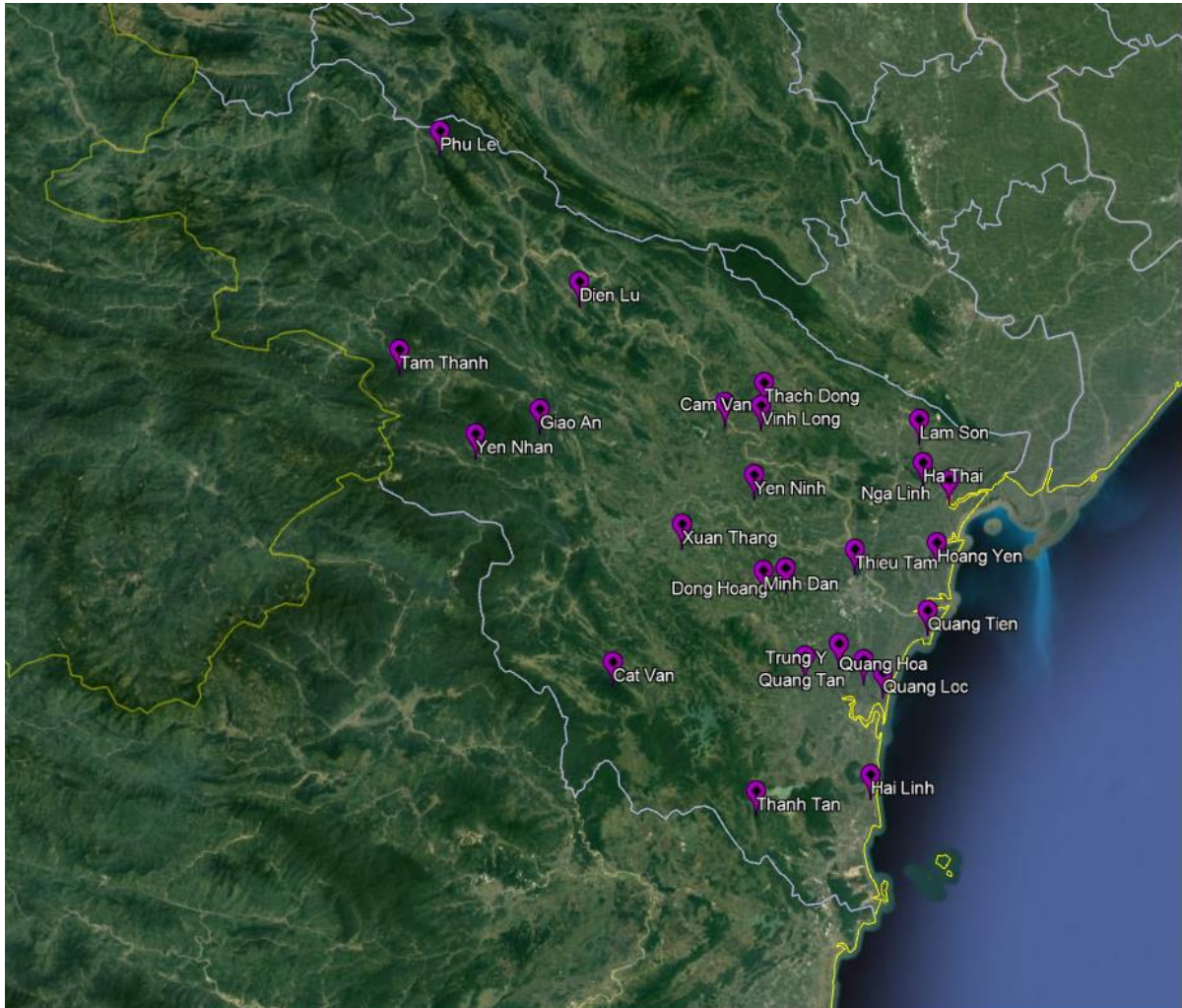
Map 9. Position of primary schools for **coverage validation** in Phú Thọ



Map 10. Position of district for the monitoring on **training session** in Thanh Hóa



Map 11. Position of primary schools for the monitoring on **main deworming day** in Thanh Hóa



Map 12. Position of primary schools for **coverage validation** in Thanh Hóa

