

## DETAILED ANALYSIS OF INDEPENDENT MONITORING INDICATORS FOR THE STATE OF BIHAR

<b>Table A: Sample sizes during independent monitoring.</b>	<b>No. of schools visited</b>	<b>No. of headmasters/teachers interviewed</b>	<b>No. of children interviewed</b>
<b>Day of visit</b>			
<b>Deworming day</b>	123	123	123 (1 child per school)
<b>Mop-up day</b>	124	124	124 (1 child per school)
<b>Coverage validation</b>	748	748	2,244 (3 children per school)
<b>Total</b>	<b>995</b>	<b>995</b>	<b>2,491</b>

<b>Table 1: Training Related Indicators</b>	<b>Deworming Day</b>	<b>Mop-Up Day</b>	<b>Aggregate (DD &amp; MUD)</b>
<b>Indicators</b>	<b>Percentage</b>	<b>Percentage</b>	<b>Percentage</b>
<b>Responses from the headmasters/principals interviewed:</b>			
<b>Attended training for deworming program</b>	82.1	84.7	83.4
<b>For schools that didn't attend training, reasons were:</b>			
Problem with the location of training	0.0	0.0	0.0
Problem with the timing of training	11.1	0.0	5.9
Weren't aware of the date of training	44.4	87.5	64.7
Problem due to monitory constraints	16.7	0.0	8.8
No information about the training	16.6	9.4	13.2
Other reasons	11.2	3.1	7.4
<b>Responses from the teachers interviewed:</b>			
<b>Training status of teachers who were conducting deworming:</b>			
Teachers who were trained at block level training	26.0	32.3	29.1
Teachers trained by headmaster or other teachers	43.1	48.4	45.7
Teachers who did not receive training	23.6	15.3	19.4
<b>Based on monitor's observation:</b>			
<b>Deworming activities were taken place in the class</b>	82.9	85.5	84.2
<b>Type of health education about deworming had given</b>			
Harmful effects of worms	50.0	47.7	48.8
How worms get transmitted	50.0	47.7	48.8
Benefits of deworming	48.1	50.5	49.3
Methods of STH prevention	43.3	44.1	43.7
No health education given	16.3	16.2	16.3
<b>Percentage of teachers who identified sick children before administering the tablet</b>	79.8	80.2	80.0
<b>Schools where the drug was being given by teachers/headmasters</b>	94.2	95.5	94.9
<b>Teachers who told the children to chew the tablets before swallowing it</b>	90.4	88.3	89.3
<b>Teachers who followed the correct recording protocol of</b>	80.8	56.8	68.4

ticking (single tick on Deworming Day and double tick on Mop-Up Day)			
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<b>Table 2: Awareness Related Indicators</b>	<b>Deworming Day</b>	<b>Mop-Up Day</b>	<b>Aggregate (DD &amp; MUD)</b>
<b>Indicators</b>	<b>Percentage</b>	<b>Percentage</b>	<b>Percentage</b>
<b>Poster visibility</b>			
Schools in which the poster was clearly visible to all	31.7	41.1	36.4
Schools in which the poster was partially visible/ hidden in a room	3.3	3.2	3.2
Schools in which the poster was not visible	8.1	13.7	10.9
Schools which did not receive the poster	56.9	41.9	49.4
<b>Received SMS about deworming program</b>	63.4	63.7	63.6
<b>Schools where handouts about deworming program was available</b>	69.1	71.0	70.0
<b>Handouts was helpful for:</b>			
Drug dosage and administration	52.9	44.3	48.6
Adverse event	56.5	51.1	53.8
Health information on STH and transmission	54.1	42.0	48.0
Prevention of worm infection	58.8	65.9	62.4
<b>Schools where safe drinking water was available</b>	90.4	87.4	88.8
<b>Teachers aware that if child is unwell could not give her/him the deworming tablet</b>	85.4	87.9	86.6
<b>Teachers aware that one deworming tablet were to be given</b>	86.2	90.3	88.3
<b>Responses from the children interviewed:</b>			
<b>Children who knew what the medicine was for deworming</b>	85.0	83.6	84.3
<b>Children who knew about deworming, even though they did not know what the tablet was for</b>	5.9	16.7	11.4
<b>Children who had heard of deworming before Deworming Day/before Mop-Up Day</b>	46.2	71.6	58.7
<b>Children who had heard of deworming on Deworming Day/Mop-Up Day</b>	37.7	21.6	29.8
<b>The following are the mediums through which children became aware of deworming-</b>			
Teacher/school	78.3	85.3	81.7
Radio	0.0	3.9	1.9
TV	4.7	5.9	5.3
Newspaper	2.8	3.9	3.4
Posters	3.8	5.9	4.8
Street theatre	0.9	0.0	0.5
Parents/siblings	14.2	11.8	13.0
Friends/relatives	5.7	4.9	5.3

<b>Table 3: Reporting Indicators</b>	<b>Deworming Day</b>	<b>Mop-Up Day</b>	<b>Aggregate (DD &amp; MUD)</b>
<b>Indicators</b>	<b>Percentage</b>	<b>Percentage</b>	<b>Percentage</b>
Schools where school reporting form was available	78.0	78.2	78.1
Respondents who were aware of the last date of submission of school reporting form	66.7	68.5	67.6
Respondents who were aware of whom to submit the school reporting form to	74.0	68.5	71.3
Respondents who were aware of one copy of school reporting form to be submitted	78.0	73.4	75.7
Respondents who were aware that a copy of school reporting form have to retain in the school	48.8	56.5	52.6

<b>Table 4: Drug availability and storage Indicators</b>	<b>Deworming Day</b>	<b>Mop-Up Day</b>	<b>Aggregate (DD &amp; MUD)</b>
<b>Indicators</b>	<b>Percentage</b>	<b>Percentage</b>	<b>Percentage</b>
Respondents who got information about drug delivery at block level headmaster's training	74.8	72.6	73.7
Schools received deworming tablets	88.6	91.9	90.3
According to the drug packets, the expiration date was			
Before Deworming Day on Deworming Day schools/before Mop-Up Day on Deworming Day schools	1.8	4.4	3.1
After Deworming Day on Deworming Day schools/before Mop-Up Day on deworming day schools	98.2	93.9	96.0
Schools received deworming drug at block level training	38.5	46.5	42.6
Schools received deworming drug, delivered by the BEO	45.9	37.7	41.7
Schools where children got deworming tablet on Deworming Day/ Mop-Up Day	82.9	84.7	83.8
Schools where storage was away from the reach of children	95.4	96.5	96.0
<b>Responses from the children interviewed:</b>			
Percentage of children who received a deworming tablet	83.7	82.3	83.0
Percentage of children who received medicine from the teacher/headmaster	86.7	92.7	89.7
Percentage of children consume deworming tablet	88.5	90.9	89.7
Percentage of children chewed tablet before swallowing	80.5	80.0	80.3

<b>Table 5: Adverse Events related Indicators</b>	<b>Deworming Day</b>	<b>Mop-Up Day</b>	<b>Aggregate (DD &amp; MUD)</b>
<b>Indicators</b>	<b>Percentage</b>	<b>Percentage</b>	<b>Percentage</b>
Percentage of teachers aware about unwell children could not get the deworming tablet	85.4	87.9	86.6
Percentage of teachers who thought it was acceptable for sick children to be dewormed	0.8	2.4	1.6
Percentage of teachers who did not identify sick children before administering the tablet	18.3	15.3	16.7
<b>Schools where the monitor observed types of adverse event</b>			
Stomach ache	1.0	5.4	3.3
Nausea	5.8	5.4	5.6
Vomiting	6.7	2.7	4.7
Diarrhea	0.0	-	0.0
Percentage of teachers who did not think there could be adverse effects due to deworming	57.7	62.9	60.3
Percentage of children who felt healthy before taking the tablet	80.5	74.5	77.6
<b>Teachers who believed the following to be the adverse effects of deworming</b>			
Mild abdominal pain	44.2	63.0	53.1
Nausea/vomiting	71.2	87.0	78.6
Diarrhea	9.6	10.9	10.2
Fatigue	9.6	19.6	14.3
<b>When asked about their response in case a student suffers from adverse effects, the teachers answered:</b>			
Make the child lie down in shade	58.5	61.3	59.9
Take the child to the hospital immediately	40.7	50.0	45.3
<b>When asked about their response in case a student continues to suffer from adverse effects, the teachers answered :</b>			
Call PHC or emergency number	24.8	26.5	25.7
Take the child to the hospital immediately	73.4	76.9	75.2

<b>Table 6: Coverage Validation Indicators</b>	
<b>Indicators</b>	<b>Percentage</b>
<b>Responses from the headmasters/principals interviewed:</b>	
<b>Attended training for deworming program</b>	86.6
<b>For schools that didn't attend training, reasons were:</b>	
Problem with the location of training	4.1
Problem with the timing of training	3.1
Weren't aware of the date of training	69.1
Problem due to monitory constraints	1.0
No information about training	14.4
Other reasons	8.3
<b>Schools received the followings</b>	
Poster	51.9
Handouts	66.4
Others	1.2
<b>Received SMS about deworming program</b>	68.2
<b>Schools had the sufficient drugs for deworming</b>	86.1
<b>Schools had surplus storage of drugs after deworming</b>	38.0
<b>Schools where school reporting form was available after Deworming Day and Mop-Up Day</b>	80.7
<b>For schools that didn't have school reporting form, reasons were:</b>	
Did not received	36.1
Submitted to block resource persons (BRP)	33.3
Unable to locate	17.4
Others	4.2
<b>Schools had complete school reporting form</b>	69.8
<b>Schools did deworming on Deworming Day or Mop-Up Day</b>	94.3
<b>Schools reported mild adverse event after taking the medicine</b>	6.2
<b>Schools reported serious adverse event after taking the medicine</b>	0.3
<b>The followings adverse event was happened after taking the medicine</b>	
Mild abdominal pain	39.1
Nausea/vomiting	76.1
Diarrhea	2.2
Fatigue	6.5
<b>When asked about their response in case a student suffers from adverse effects, the headmaster answered:</b>	
Make the child lie down in shade	80.4
Take the child to the hospital immediately	13.0
<b>Schools received the adverse event reporting form</b>	19.9
<b>Schools where adverse event reporting form was available</b>	79.3
<b>Schools those who filled the adverse event reporting form</b>	62.2

**Table 7: Coverage Validation Indicators**

Indicators	
<b>State level verification factor</b>	0.81972
<b>School following the recording protocol</b>	68.6%
<b>State inflation rate</b> (which measures the extent to which the recording in school reporting forms exceeds records at schools)	22.2%
<b>State level inflation rate among trained schools</b> (which measures how much the coverage reported in reporting forms exceeded school records in registers for schools that received training)	21.7%
<b>State level inflation rate among untrained schools</b> (which measures how much coverage reported in reporting forms exceeded school records in registers for schools that were not trained)	25.9%
<b>School level inflation rate for schools that followed the recording protocol</b> (measures how much coverage reported in reporting forms exceeded school records in registers, for schools that were following recording protocols, i.e., ticking).	7.7%
<b>Non-compliance of recording protocol</b>	31.4%
<b>Inaccuracy among compliant schools</b> (schools following recording protocols where ticks in registers did not match what was reported in school reporting forms)	34.2%
<b>Children who were present on Deworming Day or Mop-Up Day received deworming tablet, according to the responses from the children interviewed)</b>	88.5%
<b>Average attendance of children on Deworming Day and Mop-Up Day</b> according to the DD, MUD & CV data	53.1%

<b>Table 8: District level Verification Factor</b>	
<b>District Name</b>	<b>Verification Factor</b>
KISHAN GANJ	0.822
SEKHPURA	0.788
WEST CHAMPARAN	0.647
EAST CHAMPARAN	0.815
MADHUBANI	0.791
DRABHANGA	0.225
SUPAUL	0.842
AURAIYA	0.705
MADHEPURA	0.352
SOHRSA	1.760
SEETAMARHI	1.358
SHEOHAR	0.334
GOPALGANJ	1.625
SIWOH	1.369
MUZAFFARPUR	1.073
SAMASTIPUR	0.906
AURANGABAD	0.703
GAYA	0.774
SARAN	0.712
VAISHALI	0.993
BEGUSARAI	0.449
KHAGARIYA	0.799
BHAGALPUR	0.940
BANKA	0.523
LAKHISARAI	0.969
NALANDA	0.917
NAWADA	0.935
BHOJPUR	0.999
BUXAR	0.905
KAIMUR	0.980
ROHATAS	0.787
JEHANABAD	0.875
ARWAL	1.062
PATNA	0.832
PURNIA	0.795
KATI HAR	1.123
JAMUI	0.278
MUNGER	0.490

	Indicators
I_1	Attended Training for Deworming Program
I_2	Received SMS about deworming program
I_3	Received poster about deworming program
I_4	Received handouts about deworming program
I_5	Had the sufficient drugs for deworming
I_6	Had school reporting form available
I_7	Had deworming on deworming or mop-up day

Table 9: District Wise Variation (DD, MUD & CV)									
Sl. No.	Name of Districts	I_1	I_2	I_3	I_4	I_5	I_6	I_7	N
1	KISHAN GANJ	62.5	31.3	62.5	75.0	81.3	87.5	93.8	16
2	SEKHPURA	87.5	12.5	100.0	100.0	75.0	87.5	100.0	8
3	WEST CHAMPARAN	75.0	71.9	19.4	32.3	75.0	62.5	84.4	32
4	EAST CHAMPARAN	85.4	79.2	59.6	76.6	85.4	85.4	85.4	48
5	MADHUBANI	87.2	74.5	53.2	74.5	74.5	87.2	91.5	47
6	DRABHANGA	93.8	84.4	68.8	75.0	71.9	68.8	90.6	32
7	SUPAUL	75.0	87.5	66.7	70.8	70.8	91.7	91.7	24
8	AURAIYA	62.5	75.0	50.0	12.5	66.7	75.0	75.0	24
9	MADHEPURA	75.0	62.5	20.8	50.0	50.0	75.0	91.7	24
10	SOHRSA	80.0	66.7	53.3	33.3	46.7	46.7	80.0	15
11	SEETAMARHI	100.0	91.7	54.2	91.7	79.2	87.5	91.7	24
12	SHEOHAR	87.5	75.0	71.4	85.7	37.5	87.5	87.5	8
13	GOPALGANJ	96.9	53.1	65.6	75.0	71.9	84.4	93.8	32
14	SIWOH	100.0	62.5	37.5	66.7	83.3	75.0	83.3	24
15	MUZAFFARPUR	75.0	82.5	35.9	74.4	70.0	77.5	92.5	40
16	SAMASTIPUR	96.9	90.6	62.5	78.1	75.0	93.8	96.9	32
17	AURANGABAD	95.8	29.2	37.5	75.0	62.5	91.7	91.7	24
18	GAYA	93.8	62.5	56.3	64.6	79.2	81.3	91.7	48
19	SARAN	90.0	67.5	47.5	90.0	77.5	92.5	90.0	40
20	VAISHALI	93.8	65.6	21.9	65.6	68.8	93.8	100.0	32
21	BEGUSARAI	87.5	83.3	83.3	54.2	79.2	66.7	100.0	24
22	KHAGARIYA	75.0	50.0	31.3	56.3	80.0	62.5	87.5	16
23	BHAGALPUR	70.8	79.2	33.3	41.7	79.2	70.8	100.0	24
24	BANKA	93.8	43.8	40.6	71.9	93.8	90.6	100.0	32
25	LAKHISARAI	75.0	62.5	0.0	75.0	75.0	75.0	75.0	8
26	NALANDA	81.3	62.5	59.4	59.4	68.8	71.9	78.1	32
27	NAWADA	95.8	87.5	54.2	87.5	79.2	83.3	95.8	24
28	BHOJPUR	66.7	70.8	50.0	70.8	87.5	79.2	83.3	24
29	BUXAR	93.3	66.7	60.0	80.0	85.7	60.0	100.0	15
30	KAIMUR	100.0	93.8	93.8	37.5	93.8	81.3	100.0	16
31	ROHATAS	81.3	75.0	53.1	62.5	78.1	87.5	90.6	32
32	JEHANABAD	81.3	43.8	56.3	62.5	75.0	87.5	93.8	16
33	ARWAL	100.0	25.0	100.0	100.0	75.0	100.0	100.0	8
34	PATNA	87.3	67.3	69.1	65.5	76.4	76.4	92.7	55
35	PURNIA	83.9	38.7	35.5	64.5	83.9	74.2	96.8	31
36	KATIHAR	79.2	54.2	54.2	79.2	83.3	75.0	95.8	24
37	JAMUI	87.5	58.3	54.2	70.8	79.2	75.0	100.0	24
38	MUNGER	93.8	56.3	37.5	87.5	87.5	75.0	93.8	16



Table 10: Indicators by Trained and untrained schools	Deworming Day		Mop-Up Day		Aggregate (DD & MUD)	
	Trained Schools (%)	Untrained Schools (%)	Trained Schools (%)	Untrained Schools (%)	Trained Schools (%)	Untrained Schools (%)
Indicators						
Teachers aware that if child is unwell could not give her/him the deworming tablet	93.1	55.6	93.3	62.5	93.2	59.0
Teachers who told the children to chew the tablets before swallowing it	91.5	77.8	92.9	54.5	92.2	65.8
Teachers who followed the correct recording protocol of ticking (single tick on Deworming Day and double tick on Mop-Up Day)	81.9	66.7	60.6	27.3	70.9	46.3
Schools where children were given less than one tablet	9.6	11.1	8.1	0.0	8.8	5.4
Schools where children were given more than one tablet	4.3	0.0	1.0	9.1	2.6	4.7
Teachers aware that one deworming tablet were to be given	95.0	50.0	95.2	62.5	95.1	56.3
Percentage of teachers who did not think there could be adverse effects due to deworming	56.4	72.2	60.0	81.3	58.2	76.8
Teachers who believed the following to be the adverse effects of deworming						
Mild abdominal pain	50.0	20.0	66.7	0.0	57.8	10.6
Nausea/vomiting	79.5	40.0	90.5	33.3	84.7	36.9
Diarrhea	11.4	0.0	11.9	0.0	11.6	0.0
Fatigue	11.4	0.0	16.7	33.3	13.9	15.6
<b>When asked about their response in case a student suffers from adverse effects, the teachers answered:</b>						
Make the child lie down in shade	68.3	11.1	68.6	18.8	68.4	14.9
Take the child to the hospital immediately	45.5	22.2	49.5	50.0	47.5	36.2
<b>When asked about their response in case a student continues to suffer from adverse effects, the teachers answered :</b>						
Call PHC or emergency number	26.5	14.3	27.9	9.1	27.2	11.6
Take the child to the hospital immediately	75.5	71.4	77.9	72.7	76.7	72.1
Respondents who were aware of the last date of submission of school reporting form	77.2	11.1	73.3	50.0	75.3	30.6
Respondents who were aware of whom to submit the school reporting form to	85.1	22.2	73.3	37.5	79.2	29.9
Respondents who were aware of one copy of school reporting form to be submitted	87.1	27.8	77.1	56.3	82.1	42.1
Respondents who were aware that a copy of school reporting form have to retain in the school	55.4	11.1	57.1	62.5	56.3	36.9

<b>Table 11: Aggregate level Analysis (DD, MUD &amp; CV)</b>		
	<b>Indicators</b>	<b>Percentage</b>
	<b>Responses from the headmasters/principals interviewed:</b>	
<b>1</b>	<b>Attended training for deworming program</b>	85.8
<b>2</b>	<b>For schools that didn't attend training, reasons were:</b>	
	Problem with the location of training	3.1
	Problem with the timing of training	3.8
	Weren't aware of the date of training	67.9
	Problem due to monitory constraints	3.1
	No information about training	14.4
	Other Reasons	8.3
<b>3</b>	<b>Received SMS about deworming program</b>	67.0
<b>4</b>	<b>Received poster about deworming program</b>	51.6
<b>5</b>	<b>Received handouts about deworming program</b>	67.3
<b>6</b>	<b>Schools had sufficient drugs for deworming</b>	76.0
<b>7</b>	<b>Schools had extra storage of drugs after deworming</b>	38.6
<b>8</b>	<b>Schools where children got deworming tablet on Deworming Day/ Mop-Up Day</b>	91.7
<b>9</b>	<b>Schools where school reporting form was available</b>	80.1
	<b>Response from the children interviewed:</b>	
<b>10</b>	<b>Percentage of children who were present on Deworming Day or Mop-Up Day received deworming tablet</b>	88.5

<b>Table 12: Enrolment- Attendance Analysis</b>		<b>Percentage</b>
Percentage of children present on Deworming Day(based on two classes)		45.2
Percentage of children present on Mop-Up Day (based on two classes)		51.3
Average attendance of children on Deworming Day and Mop-Up Day ((based on DD MUD & CV data)		53.1