Inter-Agency Coordination Lebanon

Water Sector
WaSH Assessment Platform (WAP)

Date: 16.07.2018

Eng. Mahdi Wehbi
Water sector information manager (Consultant)

Inter-Agency Coordination Lebanon

Agenda

1. WAP overview
2. Baseline Analysis
3. Development Update (WAP 2018)
4. WAP tool

Inter-Agency Coordination Lebanon

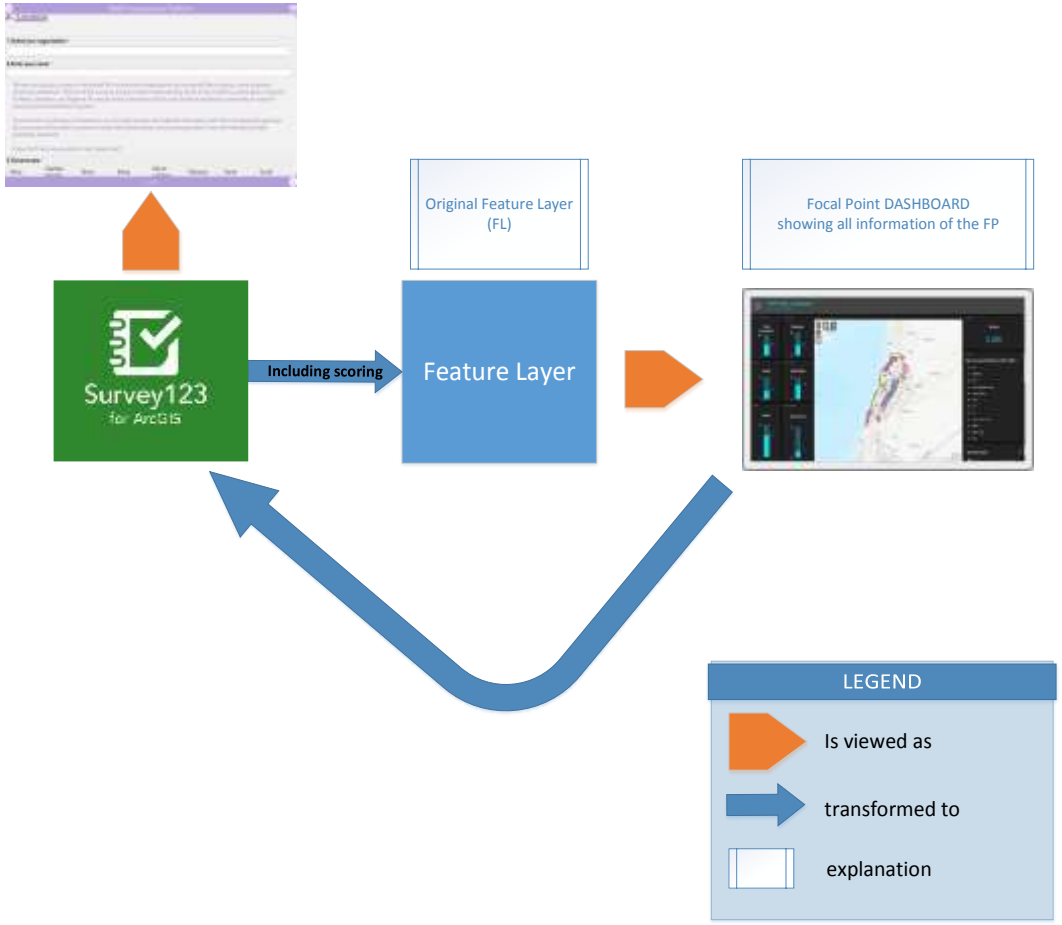
1. WAP tool Overview – objectives

Anticipating a continued reduction in availability of funding, the sector developed an approach for targeting and prioritising its WASH response.

- Based on a number of agreed criteria to determine a site's level of vulnerability;
- Establish a baseline and ranking of all sites in terms of their vulnerability;
- Enable sector partners to ensure that the most critical and urgent WASH needs are met, which reduce the risk of WASH related disease and negative environmental impact, regardless of the level of funding, by prioritising the most vulnerable sites first;
- Enable sector partners to tailor their WASH response to ITSs in a more systematic and harmonised manner;
- Enable measuring the impact of the approach by evaluating ITSs at the end of the period, likely one year, to determine their new vulnerability status;

1. WAP tool Overview – process

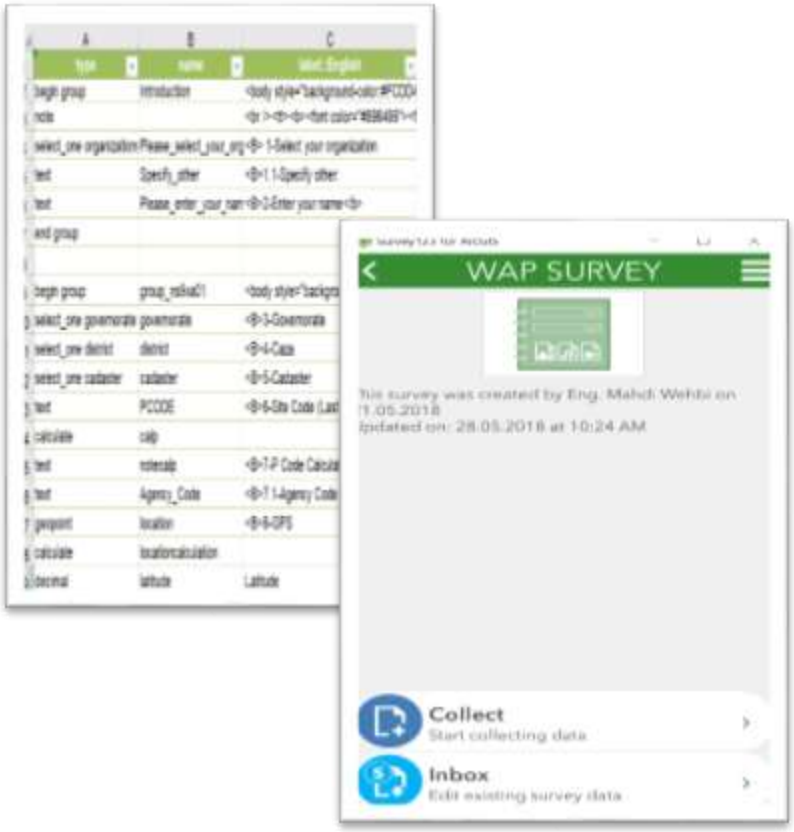
- Data Collection
- Scoring
- Hosted feature layer
- Dashboards
- Reviewing by WaSH/IM
- Updating from survey 123

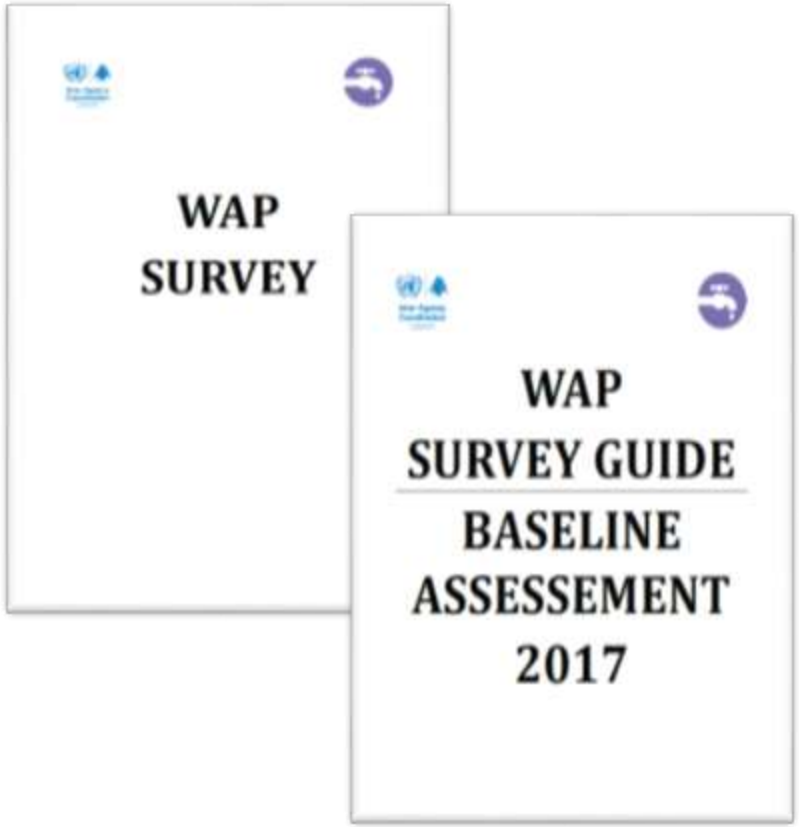


Inter-Agency Coordination Lebanon

1. WAP tool Overview – data collection

- xls form (Survey 123)
- Questionnaire and guidance





Inter-Agency Coordination Lebanon

1. WAP tool Overview – scoring

Social | Water | Sanitation | Solid Waste | Environment

- Social – 10/100
- Water – 30/100
- Sanitation – 25/100
- Solid waste – 16/100
- Environment – 19/100
- Total score (Vulnerability) – 100/100

Section	Max score
Water	30
Sanition	25
Environment	19
Solid Waste	16
Social	10
Total	100

Social	Special Needs	Female-headed households	0.75	3
		Children	0.75	
		Elderly	0.75	
		Physically Disabled	0.75	
	Community Structures	WaSH Structure	1	2
		Community Structure	1	
	Crowdedness	Crowdedness (distance)	1	3
		Crowdedness (density)	2	
	Seasonality	Seasonality (quantity)	1	2
		Seasonality (duration)	1	
Water	Access	Water Storage Capacity	3	15
		Source type	12	
	Availability	Quantity when accessed	4	9
		Frequency of access	2	
		Seasonality	3	
	Quality	Fecal Coliform	4.5	6
		Turbidity	0.75	
		Nitrates	0.75	
Sanitation	Access	Latrine access (structures)	9	12
		Latrine access (expansion)	3	
	Wastewater Disposal	Grey Water Disposal	2	11
		Black Water Disposal	3	
		Desludging (frequency)	3	
		Desludging (seasonality)	3	
	Treatment	On-site treatment	2	2
Solid Waste	Storage	Waste_storage_score	6	6
	Handling	Collection_waste_score	3	10
		Collection_freq_score	3	
		Cost_burden_score	4	

		Weight	Criterion	Description
Social	10	0.75	Female_headed_score	#Female/HeadedHouseholds/#Households 0 scores 0 | 40+ scores 100 | Between 0 & 40 scores 0 to 100 (linear)
		0.75	Children_score	#Children/#Individuals 25- scores 0 | 75+ scores 100 | Between 25 & 75 scores 0 to 100 (linear)
		0.75	Elderly_score	#Elderly/#Individuals 0 scores 0 | 10+ scores 100 | Between 0 & 10 scores 0 to 100 (linear)
		0.75	Physically_disabled_score	#Disabled/#Individuals 0 scores 0 | 10+ scores 100 | Between 0 & 10 scores 0 to 100 (linear)
		1	WaSH_structure_score	Selection Yes scores 0 | No scores 100
		1	Community_structure_score	Selection Yes scores 0 | No scores 100
		1	Crowdedness_distance_score	Selection Lessthan2 scores 100 | 2to4 scores 50 | Morethan4 scores 0
		2	Crowdedness_density_score	#Households/#Shelters 100- scores 0 | 200+ scores 100 | Between 100 & 200 scores 0 to 100 (linear)
		1	Seasonality_quantity_score	#Seasonal/#Households/#Households Between 0 & 100 scores 0 to 100 (linear)
		1	Seasonality_duration_score	#Months/6 Between 0 & 100 scores 0 to 100 (linear) |
		10	Social_Score	Sum of All Above

Restrictions:

1- Script must not run for empty sites (It should scores "Null" or write "empty site" in all scores)

2- If #Households = 0 => Female_headed_score = 0

3- Social_Score to be rounded to nearest hundredth

Inter-Agency Coordination Lebanon

1. WAP tool Overview – scoring

Total

		Weight	Criterion	Description
Total Score	100	100	Total_Score	Social_Score+Water_Score+Sanitation_Score+SolidWaste_Score+Environment_Score

1. WAP tool Overview – hosted feature layer and dashboard

- Reviewing by WaSH/IM
- Updating from survey 123

2. Baseline analysis

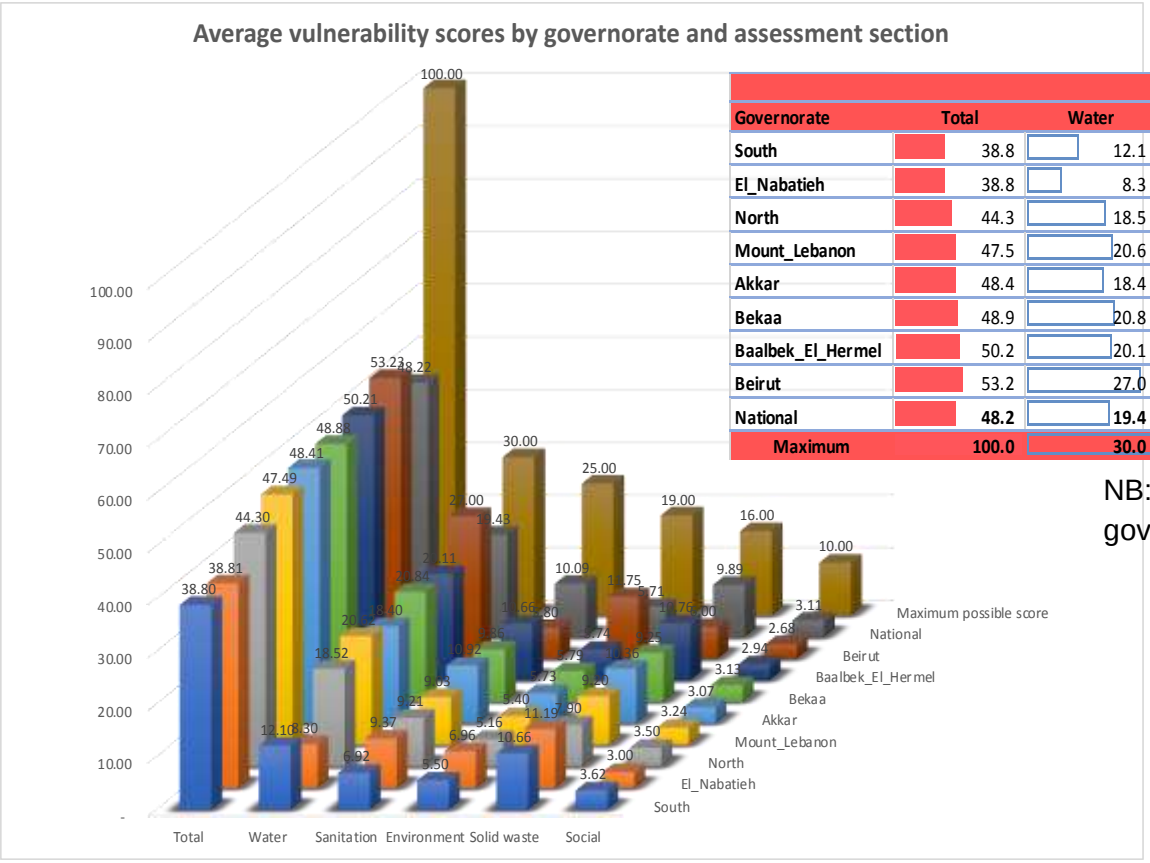
- The report summarizes the findings and analysis of the baseline data collected in the 1st assessment of WAP.

- Baseline data is considered as the first extraction at the end line of the assessment. It was on 27.12.2017.

- 6 key findings which are elaborated in 6 different sections. Location, social, water, sanitation, solid waste and environment. In each section, most of the questions are analyzed. Errors and data limitations are noted where relevant.

- In addition to the findings, recommendations were made to rectify errors found in the process of compiling the raw collected data by applying data verification methods such as 3rd party monitoring and the increased automation of the process in order to reduce the room for human error.

2. Baseline analysis – WASH Vulnerability Scores

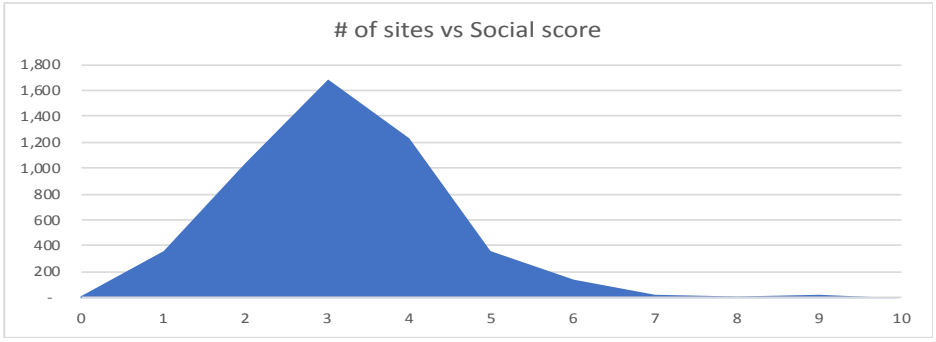


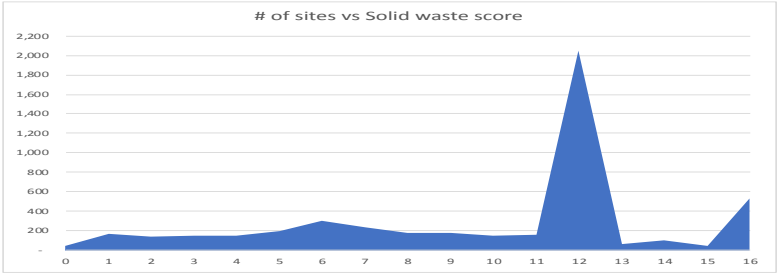
Average WASH vulnerability scores								
Governorate	Total	Water	Sanitation	Environment	Solid waste	Social	# of sites	% of sites
South	38.8	12.1	6.9	5.5	10.7	3.6	193	4%
El_Nabatieh	38.8	8.3	9.4	7.0	11.2	3.0	71	1%
North	44.3	18.5	9.2	5.2	7.9	3.5	355	7%
Mount_Lebanon	47.5	20.6	9.0	5.4	9.2	3.2	238	5%
Akkar	48.4	18.4	10.9	5.7	10.4	3.1	958	20%
Bekaa	48.9	20.8	9.9	5.8	9.3	3.1	1,617	33%
Baalbek_El_Hermel	50.2	20.1	10.7	5.7	10.8	2.9	1,410	29%
Beirut	53.2	27.0	5.8	11.8	6.0	2.7	1	0%
National	48.2	19.4	10.1	5.7	9.9	3.1	4,843	100%
Maximum	100.0	30.0	25.0	19.0	16.0	10.0		

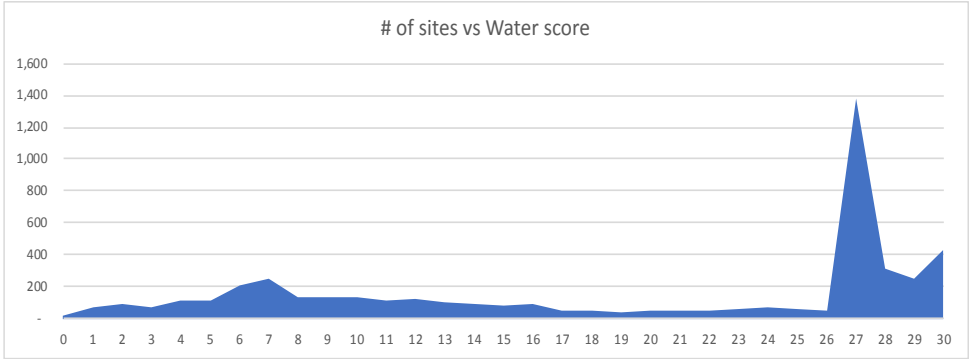
NB: Beirut governorate has only one site giving it the highest governorate WASH vulnerability score of 53.2.

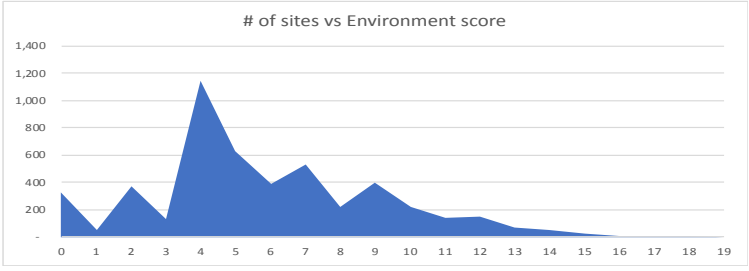
Inter-Agency Coordination Lebanon

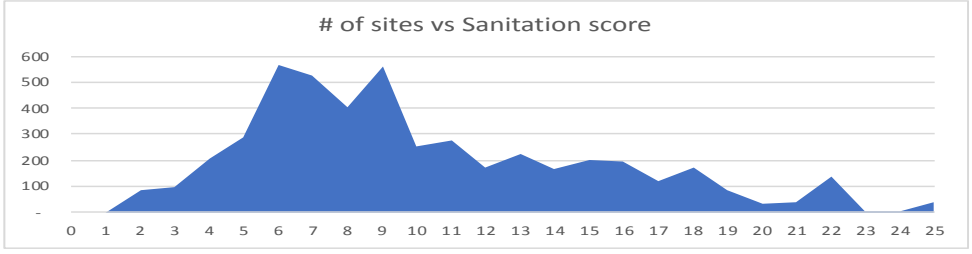
2. Baseline analysis – WASH Vulnerability Scores

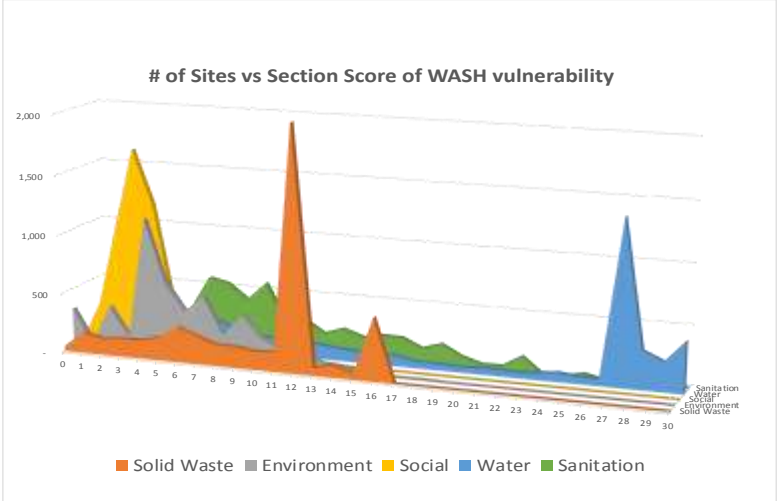






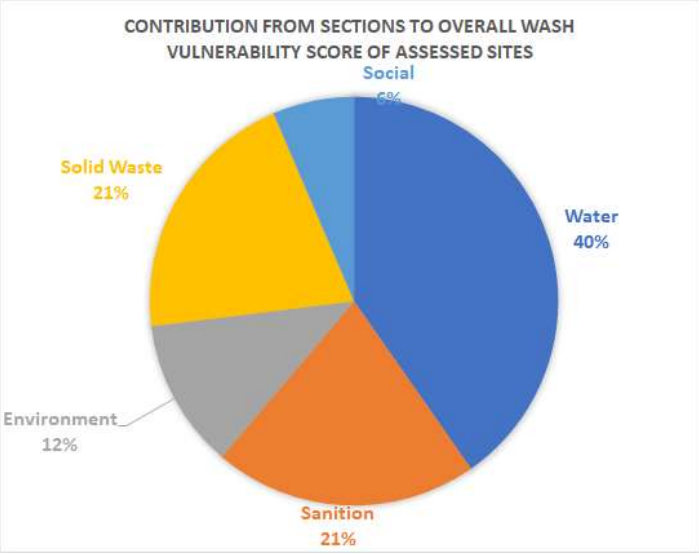






2. Baseline analysis – WASH Vulnerability Scores

WASH vulnerability of site	Quintile	#sites	# households	# individuals	Min Score	Max Score
Severe	1	975	12,170	66,064	60.1	86.6
High	2	971	14,889	77,282	53.0	60.1
Moderate	3	973	13,847	74,036	45.4	53.0
Low	4	975	10,705	52,851	35.3	45.4
Very low	5	973	8,803	43,784	9.6	35.2
	Totals	**4,867**	**60,414**	**314,017**	**9.6**	**86.6**



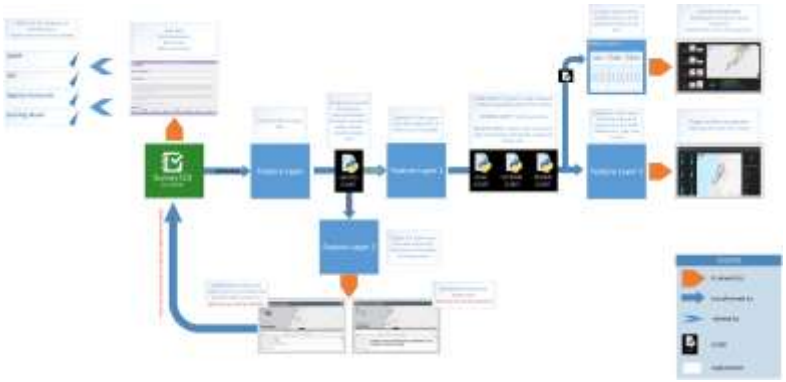
# of sites per governorate per WASH vulnerability category						
WASH vulnerability	Severe	High	Moderate	Low	Very low	
Quintile	1	2	3	4	5	Totals
Baalbek_El_Hermel	314	320	306	260	210	1,410
Bekaa	277	374	381	333	252	1,617
Akkar	249	148	151	193	219	960
North	50	66	54	80	106	356
Mount_Lebanon	42	41	52	55	48	238
South	37	16	22	40	99	214
El_Nabatieh	6	5	7	14	39	71
Totals	**975**	**970**	**973**	**975**	**973**	**4,866**

3. Development Update

- Errors and data limitations were noted where relevant;
- Recommendations were made;
  - ✓ It is crucial to ensure the data received is accurate and verified;
  - ✓ Process is streamlined and automated;
  - ✓ Monitoring and evaluation; etc..

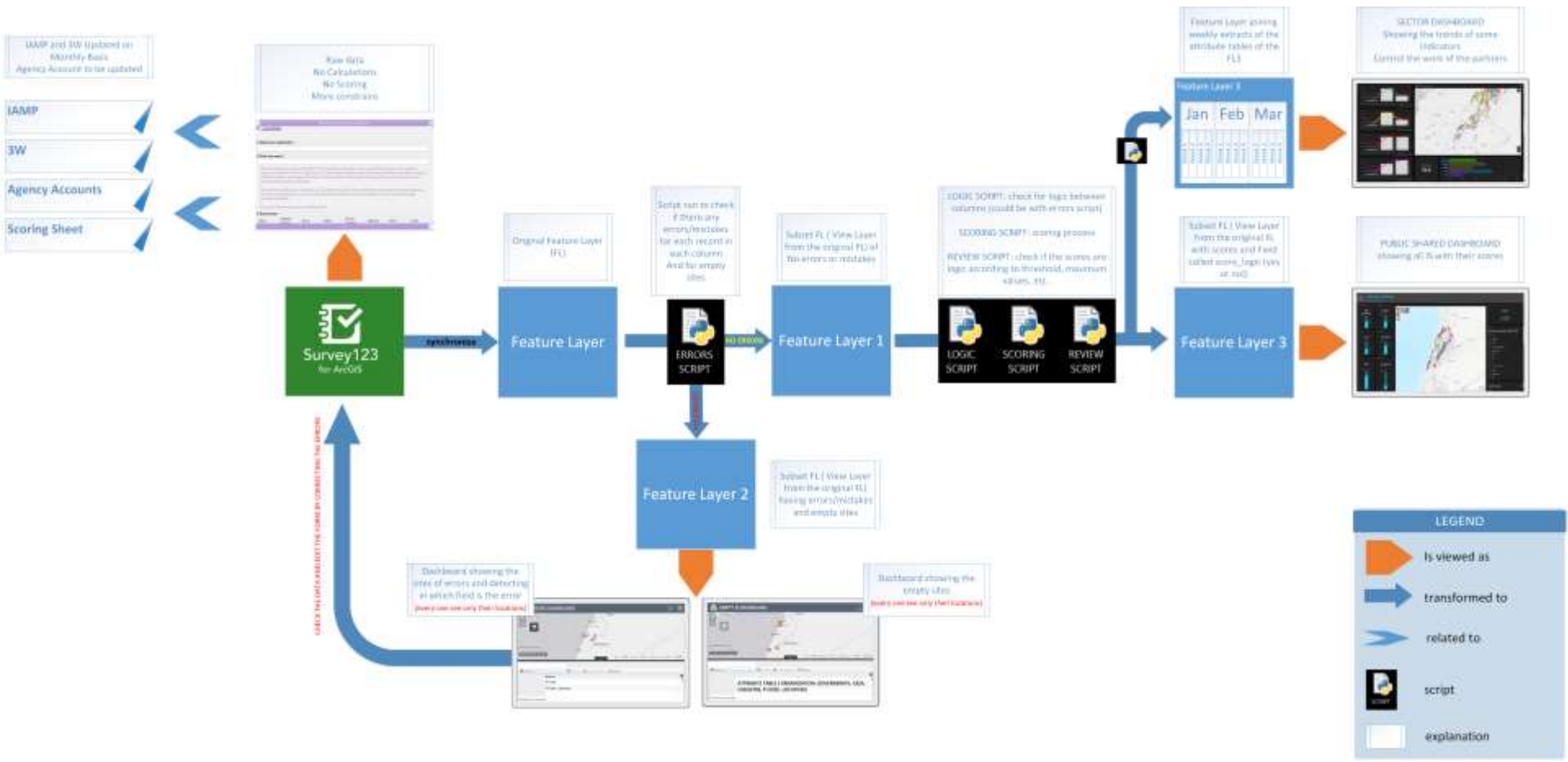
3. Development Update – specialty

- Errors are almost non-existent
- If any errors (detected using special dashboard)
- Logical relationship between fields
- Synchronized (related to each other) in all directions.
- More operational dashboards
- Trends and analysis



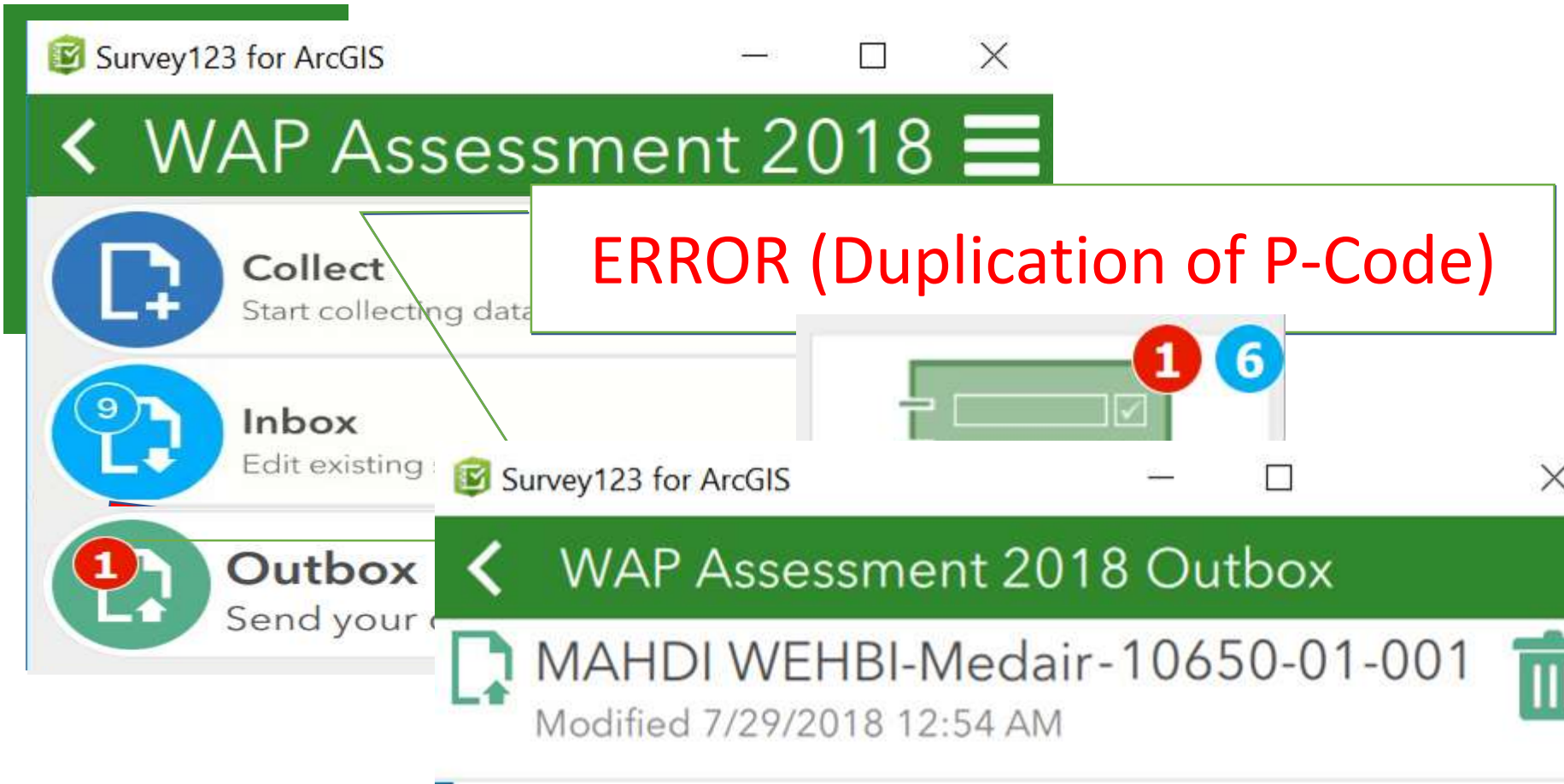
```
spacial_ref = query_result.spatial_reference

features_for_update = []

for feat in query_dict['features']:
        entry = feat['attributes']
        objectid = entry['objectid']

        original_feature = [f for f in all_features if f.attributes['object
        feature_to_be_updated = deepcopy(original_feature)

        female_hh = entry['What_is_the_number_o_le_headed_households']
        assert(type(female_hh) is int)

        total_hh = entry['HH']
        assert(type(total_hh) is int)

        score = float(female_hh)/float(total_hh)
        if score > 40:
                score = 100
        else:
                score = (score/float(40)) * 100
        score*=float(0.75)

        print(score)

        feature_to_be_updated.attributes['female_headed_score'] = score
```

Inter-Agency Coordination Lebanon



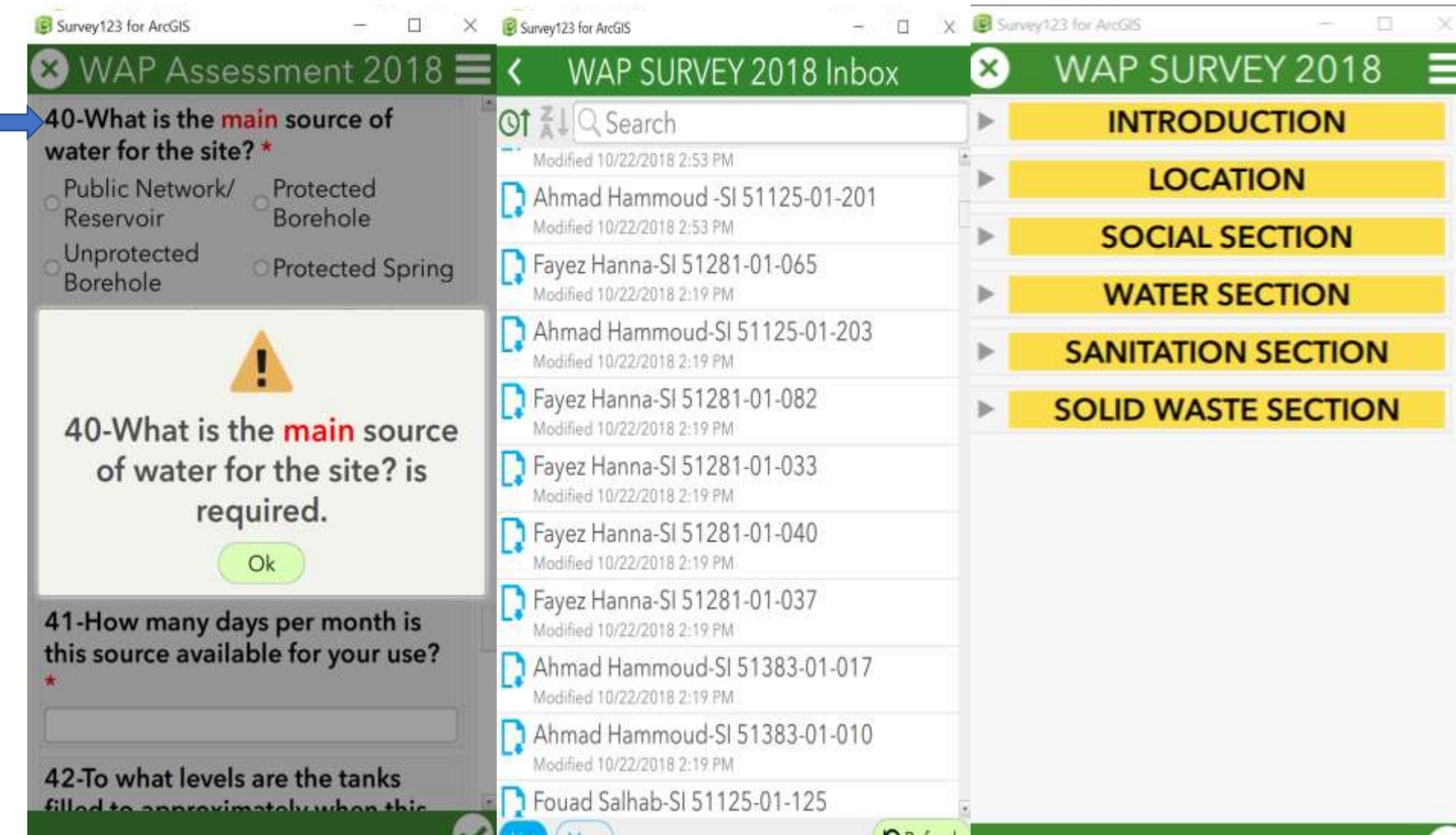
4. WAP tool – (Survey 123)

- WAP survey 123 has been finalized and uploaded on arcgis online. It has been shared for testing.



Inter-Agency Coordination Lebanon

4. WAP tool – (Survey 123)



4. WAP tool – (Error detecting, constrains and logics)

- Errors detected including logics has been solved in survey 123 form using constrains and regex.

- Error detecting script to double-check the errors in arcgis online.

Example:

Do you have water Quality tests ? Yes, No

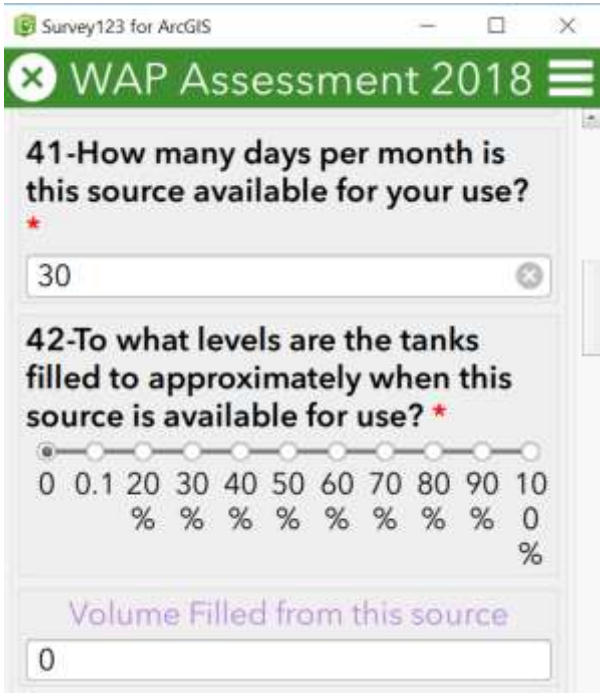
If yes, please enter the figures.

☺ Validated using Survey 123

☹ Not Validated if changed on the server

4. WAP tool – (Scoring script)

- “scoring script” including mathematical error detecting and recalculation of Fields



- Volume Filled from this source
- To what level * Total Volume
- Change from 0 to 50%
- No need to change the result (Volume filled…)

✓ Recalculated by the script

- Total Volume Solid Bins
- How_many_1200L_bins*1200+ 1000L *1000 + etc…
- Distributing additional bins for the site
- No need to change the result (Total Bins)

✓ Recalculated by the script

Inter-Agency Coordination Lebanon

1. WAP tool – (external data)

- Survey 123 now is related to external files
  - ✓ IAMP file
  - ✓ 3W file
  - ✓ HCMT

	A	B	C	D	E	G	H	I	J	K
1	Pcode	Pcode_Name	Governorate	District	Cadaster	Agency	Donor	Funded_until		
2	10650-01-001	Achrafieh foncière 001	Beirut	Beirut	Achrafieh foncière	BLANK	BLANK	BLANK		
3	21133-01-001	Furn Ech-Chebbak 001	Mount Lebanon	Baabda	Furn Ech-Chebbak	BLANK	BLANK	BLANK		
4	21133-01-002	Furn Ech-Chebbak 002	Mount Lebanon	Baabda	Furn Ech-Chebbak	BLANK	BLANK	BLANK		
5	21211-01-001	Baabda 001	Mount Lebanon	Baabda	Baabda	BLANK	BLANK	BLANK		
6	21394-01-001	Salima Baabda 001	Mount Lebanon	Baabda	Salima Baabda	BLANK	BLANK	BLANK		
7	22111-01-001	Bourj Hammoud 001	Mount Lebanon	El Metn	Bourj Hammoud	BLANK	BLANK	BLANK		
8	22111-01-002	Bourj Hammoud 002	Mount Lebanon	El Metn	Bourj Hammoud	BLANK	BLANK	BLANK		
9	22155-01-001	Sinn El-Fil 001	Mount Lebanon	El Metn	Sinn El-Fil	BLANK	BLANK	BLANK		
10	22335-01-001	Naqqach 001	Mount Lebanon	El Metn	Naqqach	BLANK	BLANK	BLANK		
11	22335-01-002	Naqqach 002	Mount Lebanon	El Metn	Naqqach	BLANK	BLANK	BLANK		
12	22423-01-001	Aain Saadé 001	Mount Lebanon	El Metn	Aain Saadé	BLANK	BLANK	BLANK		

Inter-Agency Coordination Lebanon

4. WAP tool – (monitoring and evaluat

- MEWAP team (Monitoring and Evalu
- MEWAP team were given advanced
- Each member representing an agenc
- Each Agency is being monitored by t

Inter-Agency Coordination Lebanon

MEWAP Field Reports
Weekly report

Date/time	10.Oct.2018
Governorate	South, Baalbeck-Hermel, North, Bekaa, Akkar
Monitored Agencies	DPNA, GVC, Leb-Relief, LRC, Medair, NRC, Oxfam, S

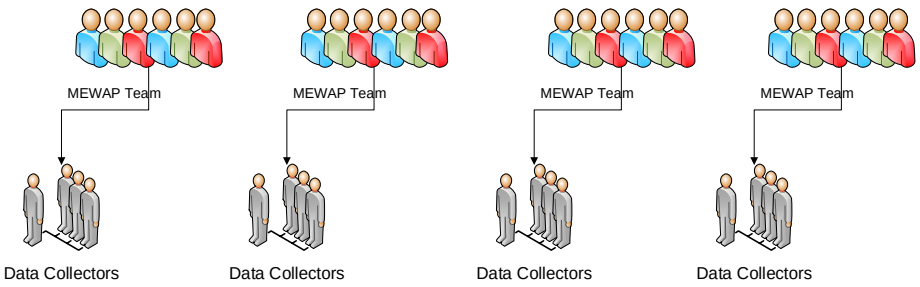
1. Survey 123: Numerators are filling the form in correct manner

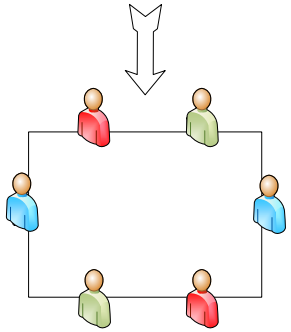
Agency	Yes	No, Small mistakes, corrected directly
DPNA	X	
GVC	X	
Leb-Relief		X
LRC	X	
Medair	X	
NRC	X	
Oxfam	X	
SI	X	
MC	X	
WVI		X

If No, Type of mistakes:

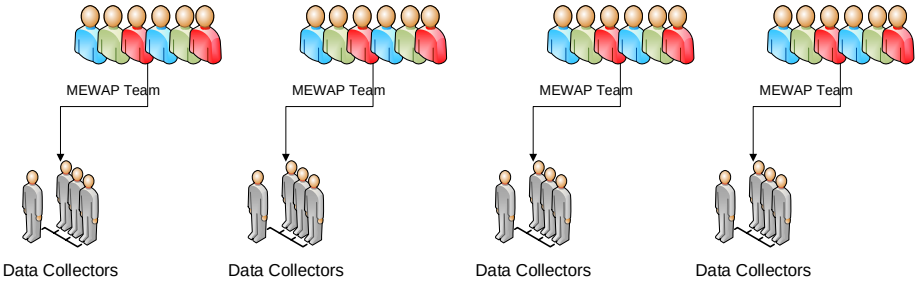
Agency	Mistakes
DPNA	
GVC	
Leb-Relief	- Some sites were not visually observed. - The enumerator didn't know how to check for the grey water syste - Regarding "How many Children" the enumerator didn't specify (be - Poor knowledge concerning type of Black water system (SI uses Sce tanks system
LRC	
Medair	
NRC	
Oxfam	
SI	
MC	
	- In Talia 009: In question # 58 "when desludging trucks cannot acces

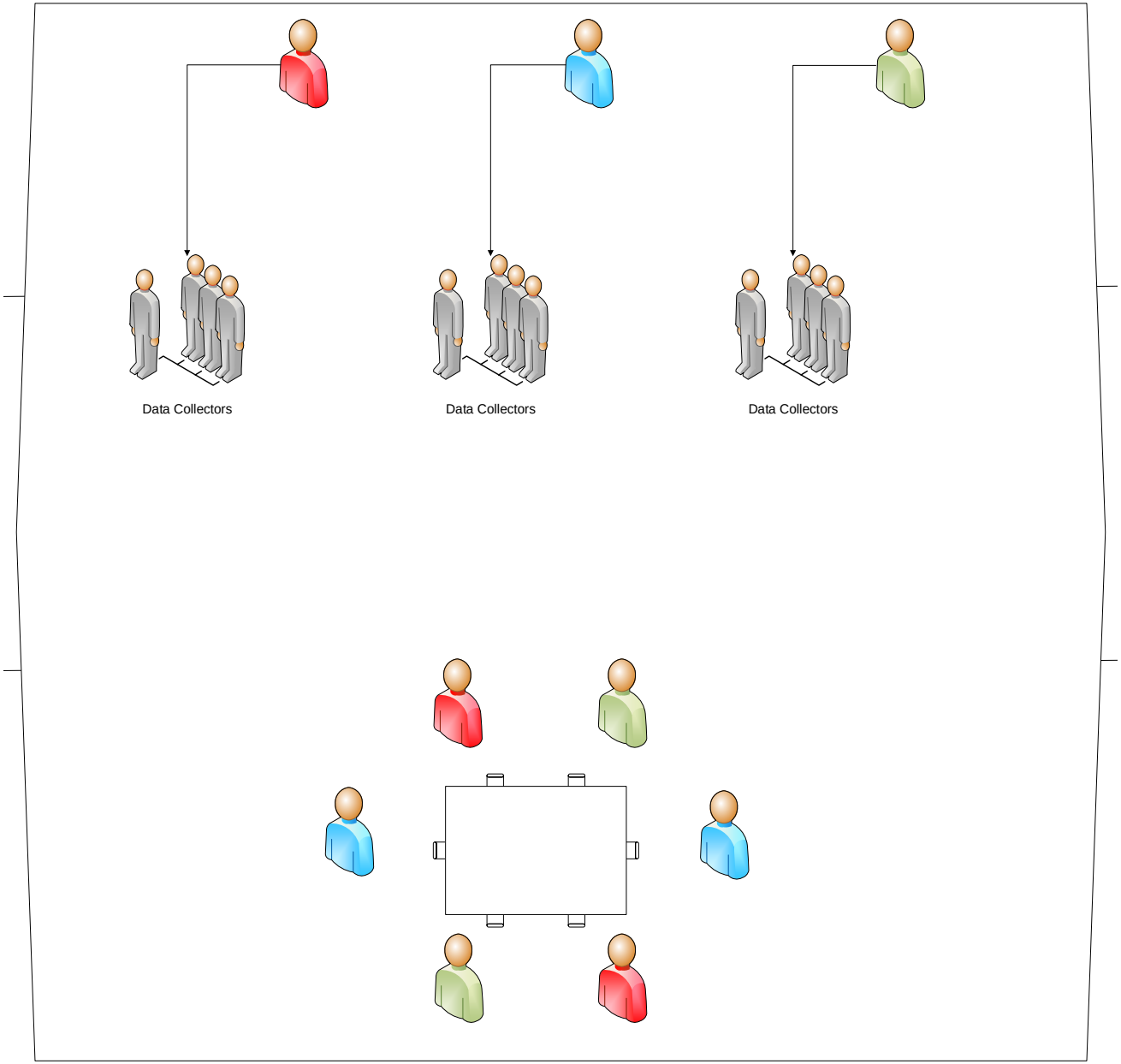
1st Visit: Monitor and validate the numerator's work





2nd Visit: re-assess some sites




Data Collectors
Data Collectors
Data Collectors

4. WAP tool – (Dashboards)

Partners

- Partners Dashboard (WaSH, IM, GIS)
- Gaps finder Dashboard (WAP focal points)
- Error Detecting Dashboard (pending..) (MEWAP and WAP focal points)
- MEWAP Dashboard (temporary) (MEWAP focal points)

IAMP

- IAMP reporting Dashboard (pending..) (IAMP team) – Status.xls

Public

- WAP Public Dashboard
- Trends Dashboard (pending..)

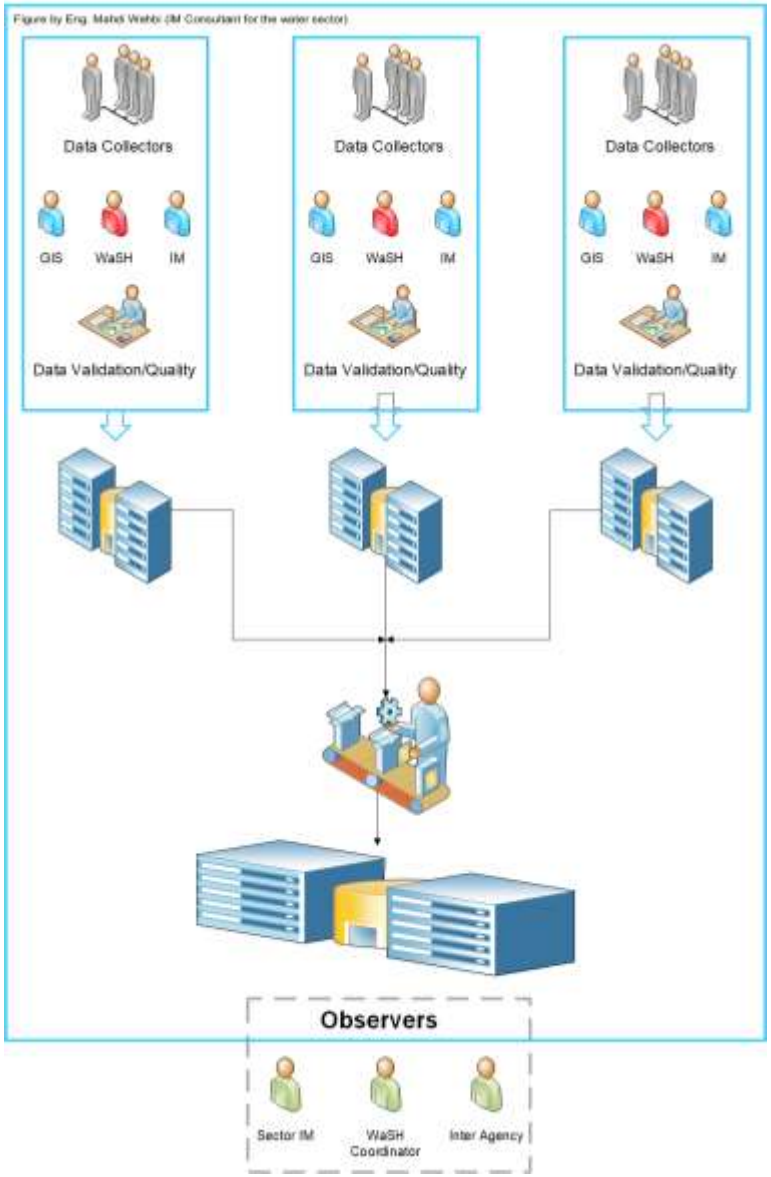
Inter-Agency Coordination Lebanon

4. WAP tool – (Handover sites)

- Simple tool in Partners Dashboard
- Validated by partners through 3W file
- Validated by Water Sector IM
- DONE !

4. WAP tool – (assessment)

- Summary of WAP process starting from data collection.
- Parties involved and the process of assessment.
- 2nd assessment starts on 17 of September and will end on 12 of December.
- Updating should be done on activity-basis. (Deadline for updating data and extraction - 6month)



Inter-Agency Coordination Lebanon

4. WAP tool – (workplan)

2018

SEPTEMBER

S	M	T	W	T	F	S
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	1	2	3	4	5	6

OCTOBER

S	M	T	W	T	F	S
30	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	1	2	3
4	5	6	7	8	9	10

NOVEMBER

S	M	T	W	T	F	S
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	1
2	3	4	5	6	7	8

DECEMBER

S	M	T	W	T	F	S
25	26	27	28	29	30	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	1	2	3	4	5

Legend	
	WAP Assessment 2018
	MEWAP Field Visit
	MEWAP Reporting
	WAP Analysis
	Data Review
	MEWAP Coordination meeting
	1st WAP Extraction
	2nd WAP Extraction

2019

JANUARY

S	M	T	W	T	F	S
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2
3	4	5	6	7	8	9

FEBRUARY

S	M	T	W	T	F	S
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	1	2
3	4	5	6	7	8	9

MARCH

S	M	T	W	T	F	S
24	25	26	27	28	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

APRIL

S	M	T	W	T	F	S
31	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	1	2	3	4
5	6	7	8	9	10	11

MAY

S	M	T	W	T	F	S
28	29	30	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	1
2	3	4	5	6	7	8

JUNE

S	M	T	W	T	F	S
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	1	2	3	4	5	6

JULY

S	M	T	W	T	F	S
30	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	1	2	3
4	5	6	7	8	9	10

AUGUST

S	M	T	W	T	F	S
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

SEPTEMBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5
6	7	8	9	10	11	12

OCTOBER

S	M	T	W	T	F	S
29	30	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2
3	4	5	6	7	8	9

NOVEMBER

S	M	T	W	T	F	S
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
1	2	3	4	5	6	7

DECEMBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4
5	6	7	8	9	10	11

Holidays and Observances	
1-Jan	New Year
9-Feb	St Maron's Day
9-Mar	Teachers' Day
21-Mar	Mother's Day
25-Mar	Feast of the Annunciation
19-Apr	Good Friday
21-Apr	Easter Sunday
22-Apr	Easter Monday
26-Apr	Orthodox Good Friday
28-Apr	Orthodox Easter Day
1-May	Worker's Day
6-May	Martyr's Day
25-May	Liberation and Resistance Day
30-May	Ascension Day
12-Aug	Eid al-Adha
15-Aug	Feast of the Assumption
1-Sep	Muharram
8-Sep	Nativity of Mary
9-Sep	First Day of Ashura
1-Nov	All Saints' Day
10-Nov	The Prophet's Birthday
22-Nov	Independence Day
25-Dec	Christmas Day

Dates are subject to change

WATER SECTOR INFORMATION MANAGEMENT
UNITED NATIONS CHILDREN'S FUND

Inter-Agency Coordination Lebanon

THANK YOU!
Q&A

“The value of information management is never for its own sake, but to provide insight and make a leap of innovation.”

Pearl Zhu

“Water is the driving force of all nature”

Leonardo da Vinci