Community Based Flood Early Warning and Dissemination System

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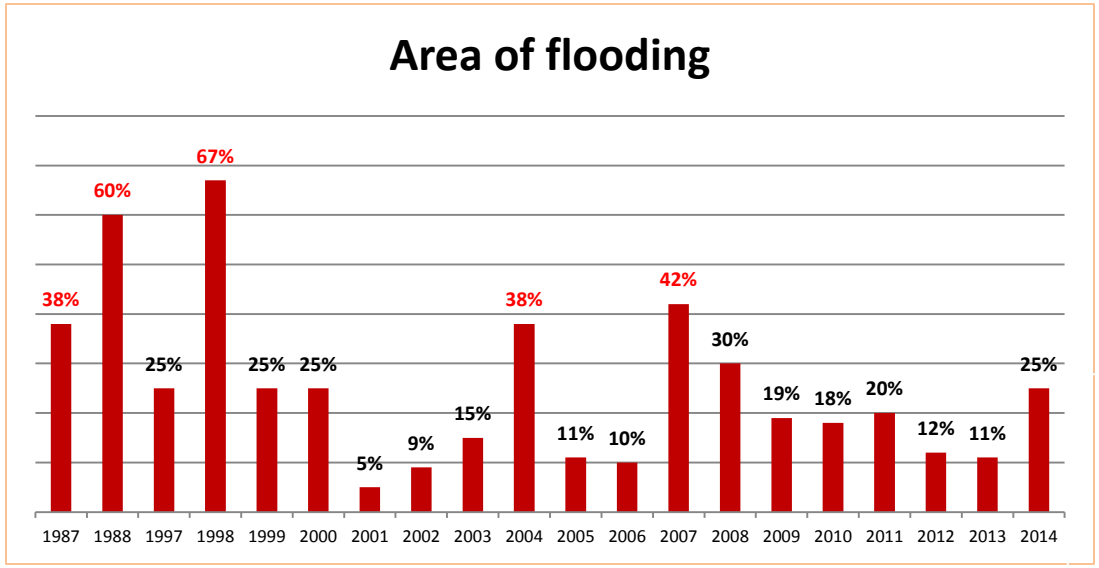
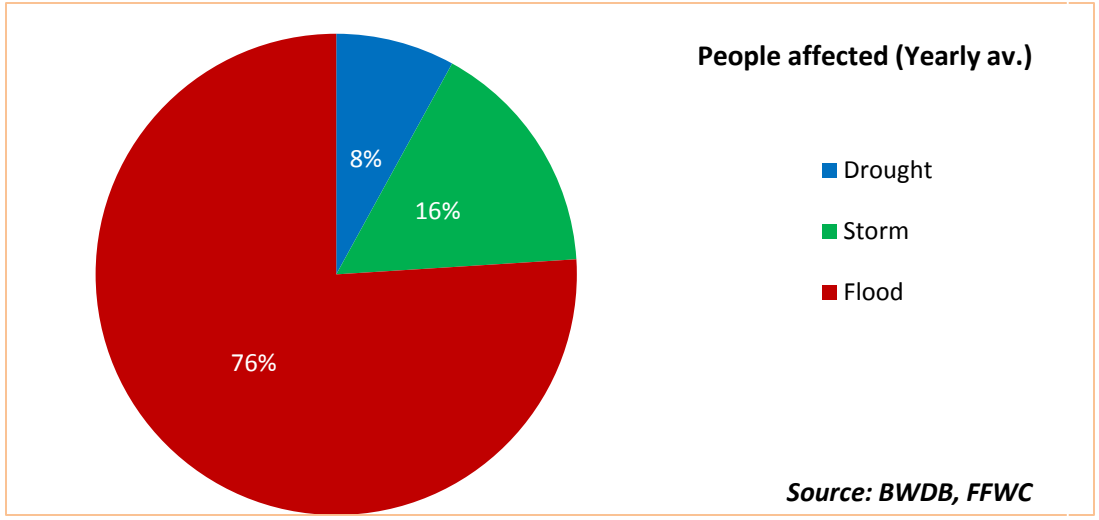
Bangladesh

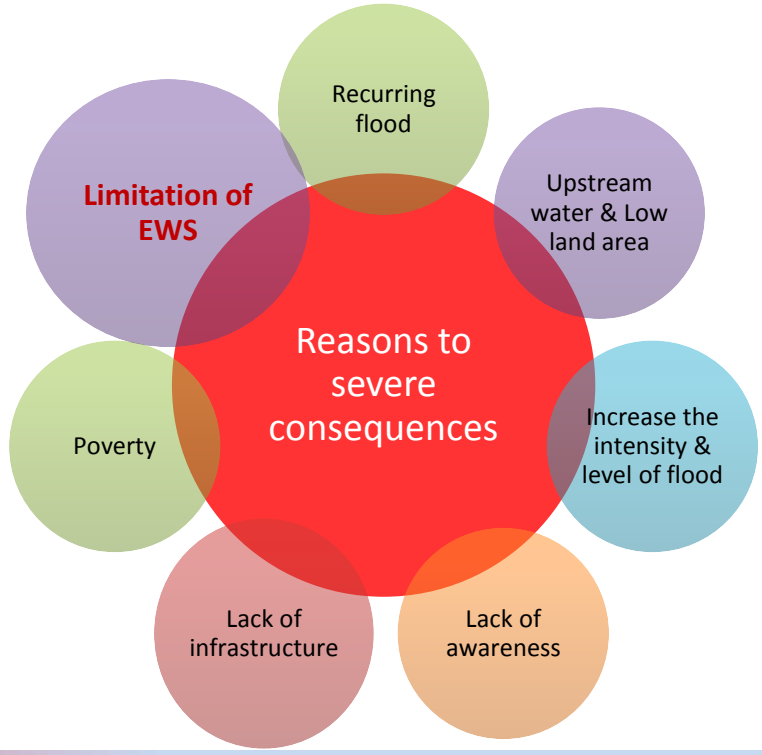
- Geographically, Bangladesh is situated at the tip of a funnel, through which huge amount of water discharged in monsoon
- 95% water come from upstream river of India

Bangladesh

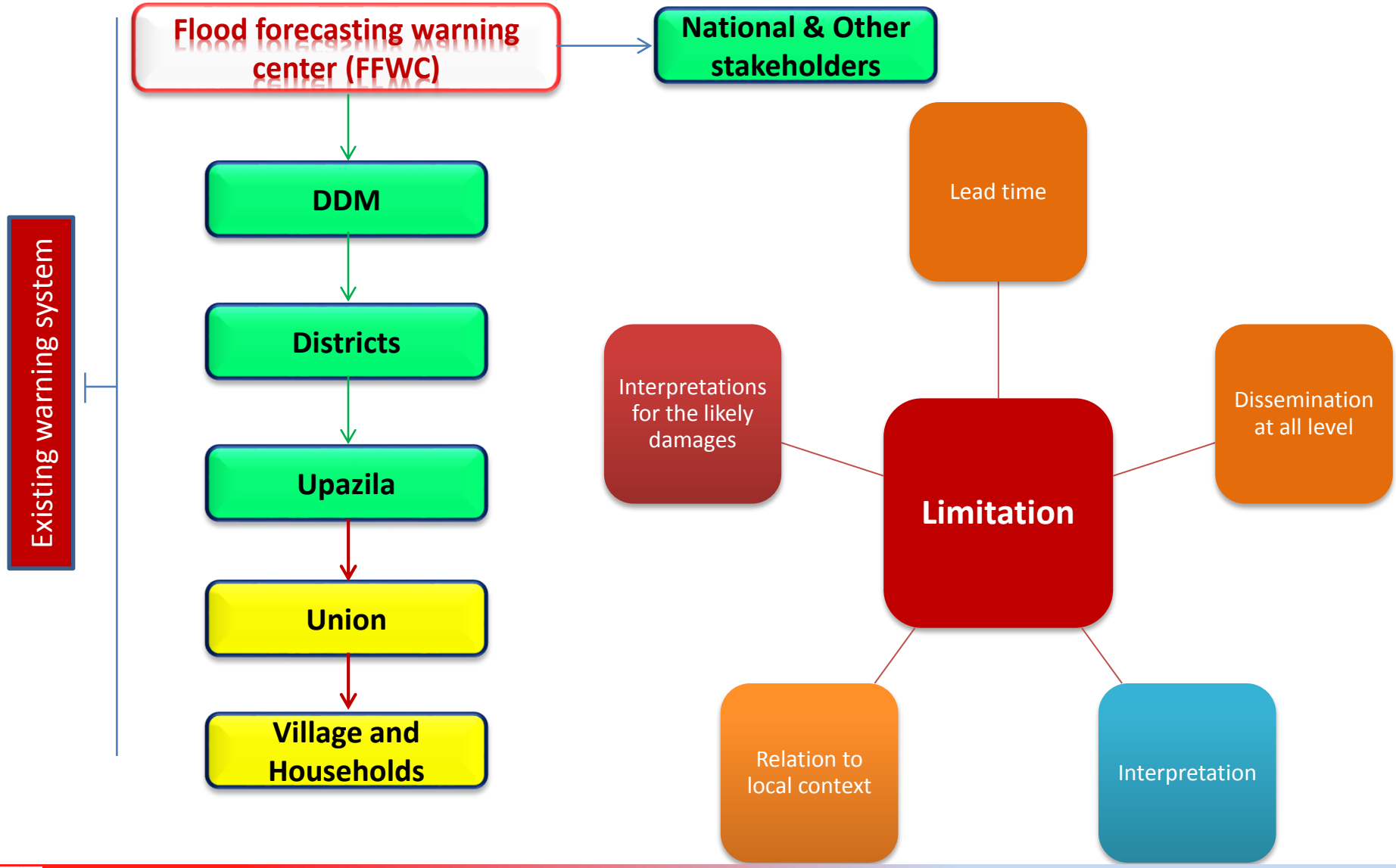




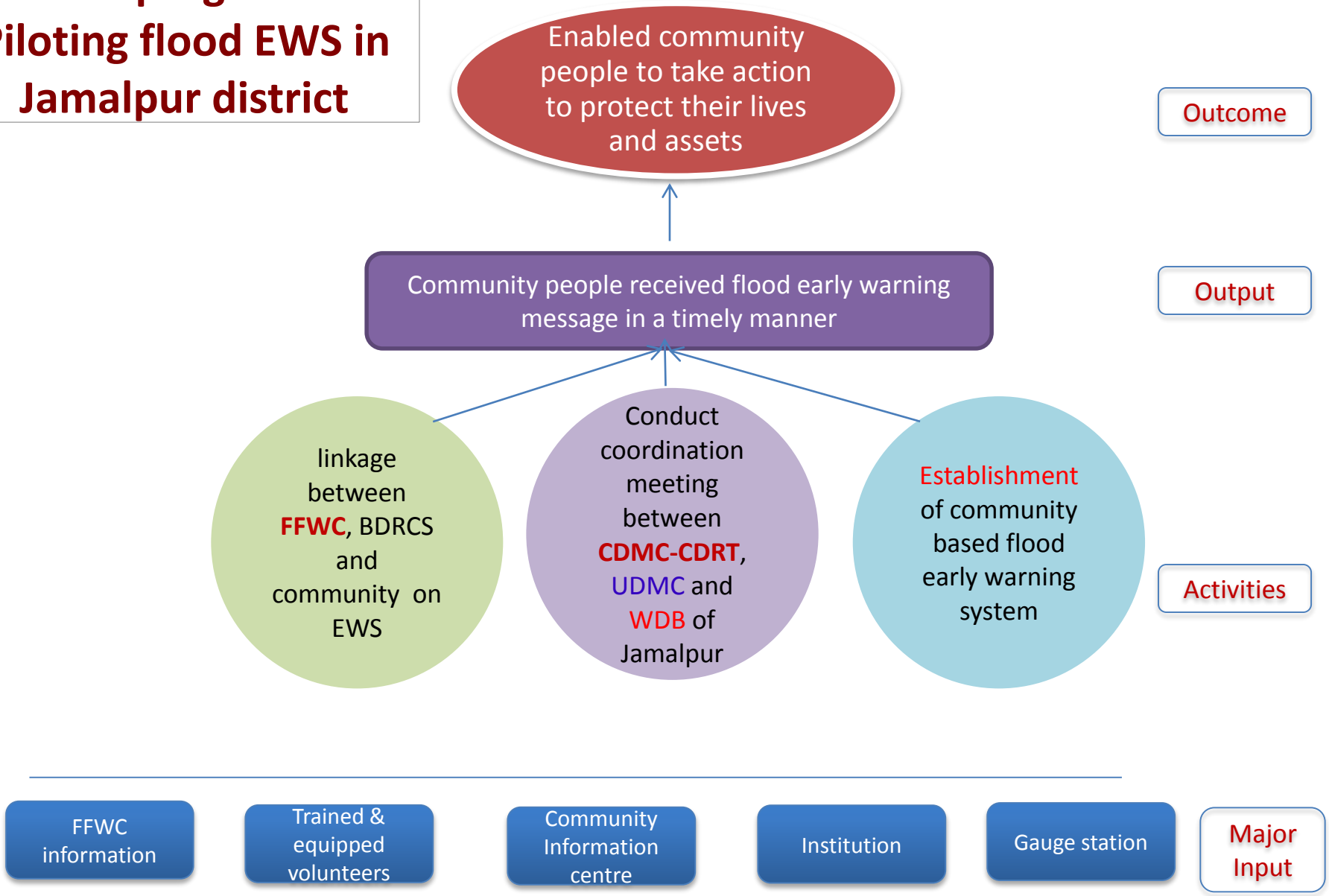
- The top 5 floods in terms of inundated area occurred in last 20 years in 60 years of history.
- 24% of the country inundated in a normal flood,
- the highest flood inundates 67% in 1998



PRESENT EARLY WARNING DISSEMINATION SYSTEM



CBDRR programme: Piloting flood EWS in Jamalpur district



Jamalpur district: Piloting Area

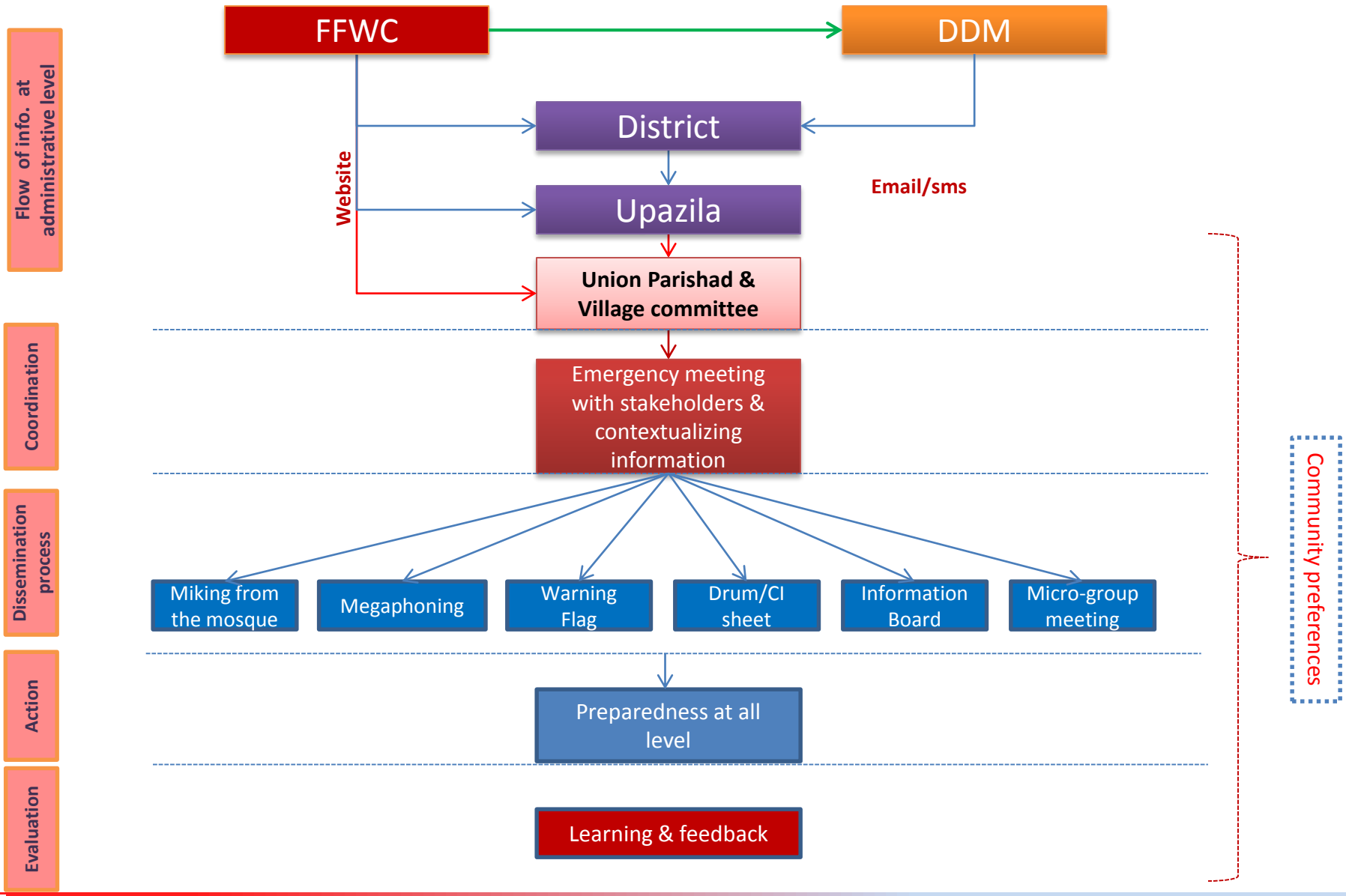
Community Preferences

- People want a **"*direct or parallel mode*"** of early warning information sharing up to the union levels instead of district only.

- In terms of ***dissemination mode***, people from the household level have repeatedly talked about **"verbal/audible systems"** using cell phones, megaphones, door-to-milking as well as various **community based billboards** and information sharing points.

- In terms of ***institutional engagement***, people have talked about finding new modalities to make the **UPs, UDMCs,**
  - **local NGOs,**
  - **social institutions** (such as schools, *haat-bazar* committees etc.) engage in regular early warning and preparedness

Flow of Information and Dissemination process at local level



Process of CBEWS establishment

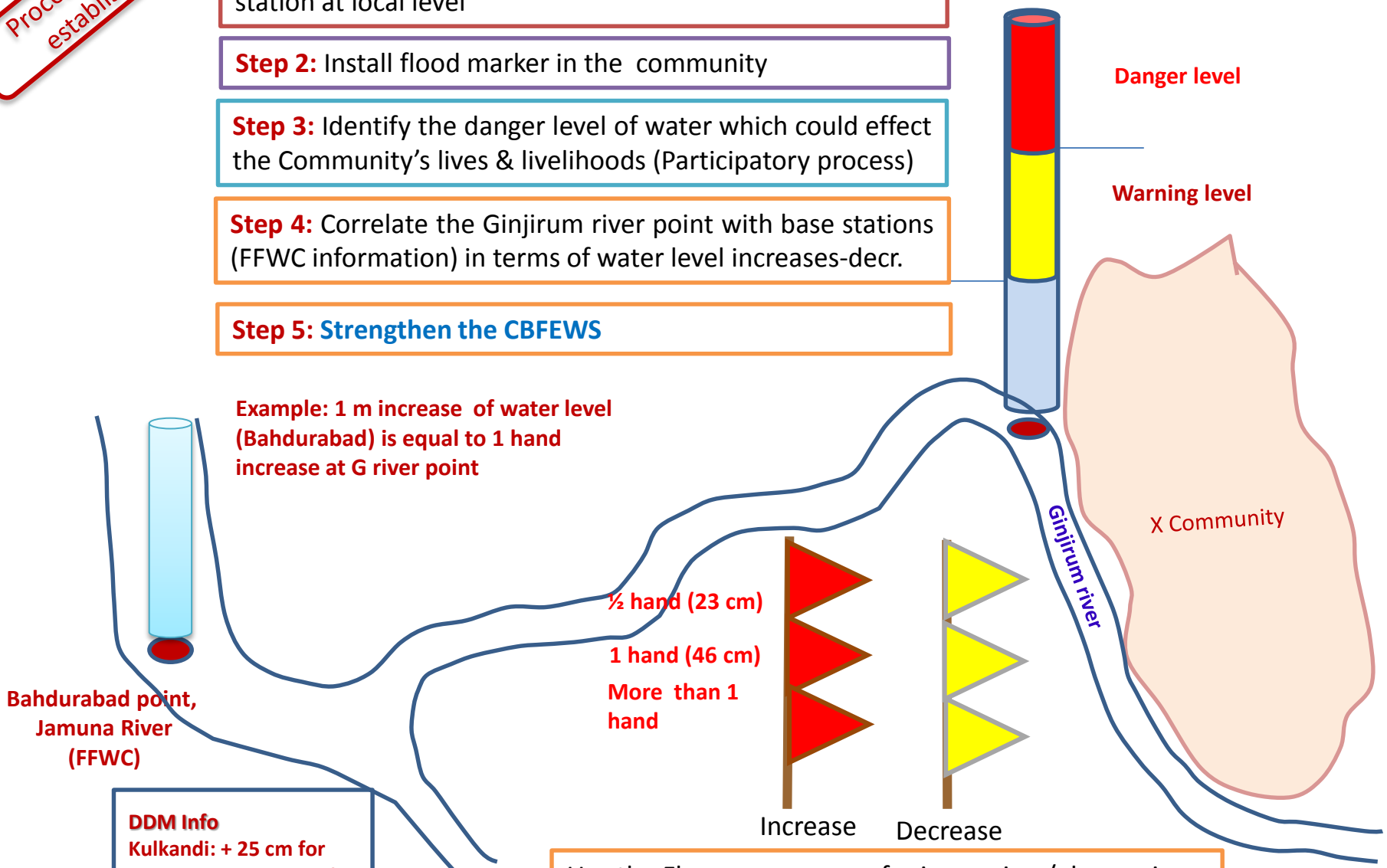
Step 1: Pre assessment to identify the point for gauge station at local level

Step 2: Install flood marker in the community

Step 3: Identify the danger level of water which could effect the Community's lives & livelihoods (Participatory process)

Step 4: Correlate the Ginjirum river point with base stations (FFWC information) in terms of water level increases-decr.

Step 5: Strengthen the CBFEWS



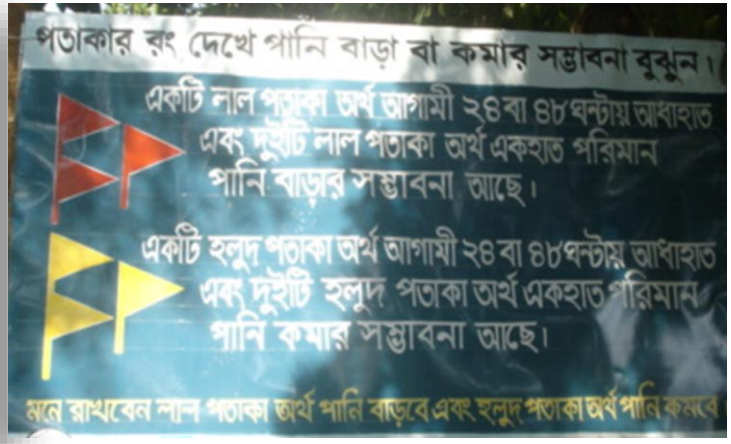
DDM Info
Kulkandi: + 25 cm for next 24 hours, 50 cm for next 3 days

Use the Flag as a message for increasing / decreasing

Action taken to Strengthen CBFEWS

SETTING LOCAL FLOOD REFERENCING SYSTEM

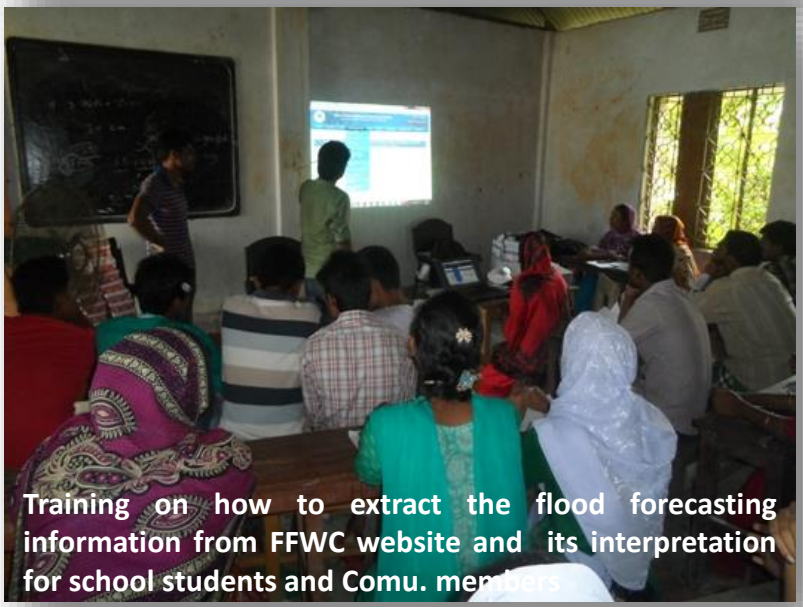
Process of identifying the danger level of water which could affect lives and livelihood (Participatory process)



Installation of flood marker, information board and flag hoisting procedure

Capacity building of DMC, community members and school students

Orientation on community based EW for UzDMC and UDMC



Training on how to extract the flood forecasting information from FFWC website and its interpretation for school students and Comu. members

EXPERIMENTAL 5 Days Forecast (24, 48, 72, 96 & 120 Hrs)
Supported by CDMP-II

FFWC

River	Station	D.L. (meter)	Today 01-09 6:00 AM (meter)	24-hrs forecast 02-09 6:00 AM (meter)	24-hrs +Rise -fall 02-09 6:00 AM (cm)	24-hrs +above -below D.L. 02-09 6:00 AM (cm)	48-hrs forecast 03-09 6:00 AM (meter)	48-hrs +Rise -fall 03-09 6:00 AM (cm)	48-hrs +above below D.L. 03-09 6:00 AM (cm)	72-hrs forecast 04-09 6:00 AM (meter)	72-hrs +Rise -fall 04-09 6:00 AM (cm)
Atrai	Mohadevpur	18.59	16.86	17.14	+28	-145	17.63	+49	-96	17.84	+22
Atrai	Atrai	13.72	-	13.57	-	-15	13.70	+13	-2	13.85	+14
Atrai	Singra	12.65	12.67	12.76	+9	+11	12.88	+11	+23	13.01	+13
Karatoa-Atrai-GGH	Baghabari	10.40	11.71	11.77	+6	+137	11.85	+8	+145	11.91	+7
Little Jamuna	Naogaon	15.24	14.84	15.04	+20	-20	15.21	+16	-3	15.36	+15
Karatoya	Chakrahimpur	20.15	20.22	20.23	+1	+8	20.28	+5	+13	20.32	+5
Karatoya	Bogra	16.32	14.42	14.16	-26	-216	13.84	-32	-248	13.64	-20
Teesta	Kaunia	30.00	28.97	29.07	+10	-93	29.14	+7	-86	29.20	+6
Ghagot	Gaibandha	21.70	21.31	21.36	+5	-34	21.41	+5	-29	21.46	+5
Dharla	Kurigram	26.50	26.70	26.77	+7	+27	26.83	+6	+33	26.88	+5
Brahmaputra	Chilmari	24.00	23.78	23.87	+9	-13	23.94	+7	-6	24.00	+6
Jamuna	Bahadurabad	19.50	19.50	19.62	+12	+12	19.70	+8	+20	19.76	+6
Jamuna	Sariakandi	16.70	16.88	17.02	+14	+32	17.10	+8	+40	17.16	+6
Jamuna	Kazipur	14.85	-	14.62	-	-23	14.71	+9	-14	14.78	+7
Jamuna	Serajganj	13.35	13.54	13.68	+14	+33	13.79	+11	+44	13.87	+8

Group work on the interpretation of FFWC information

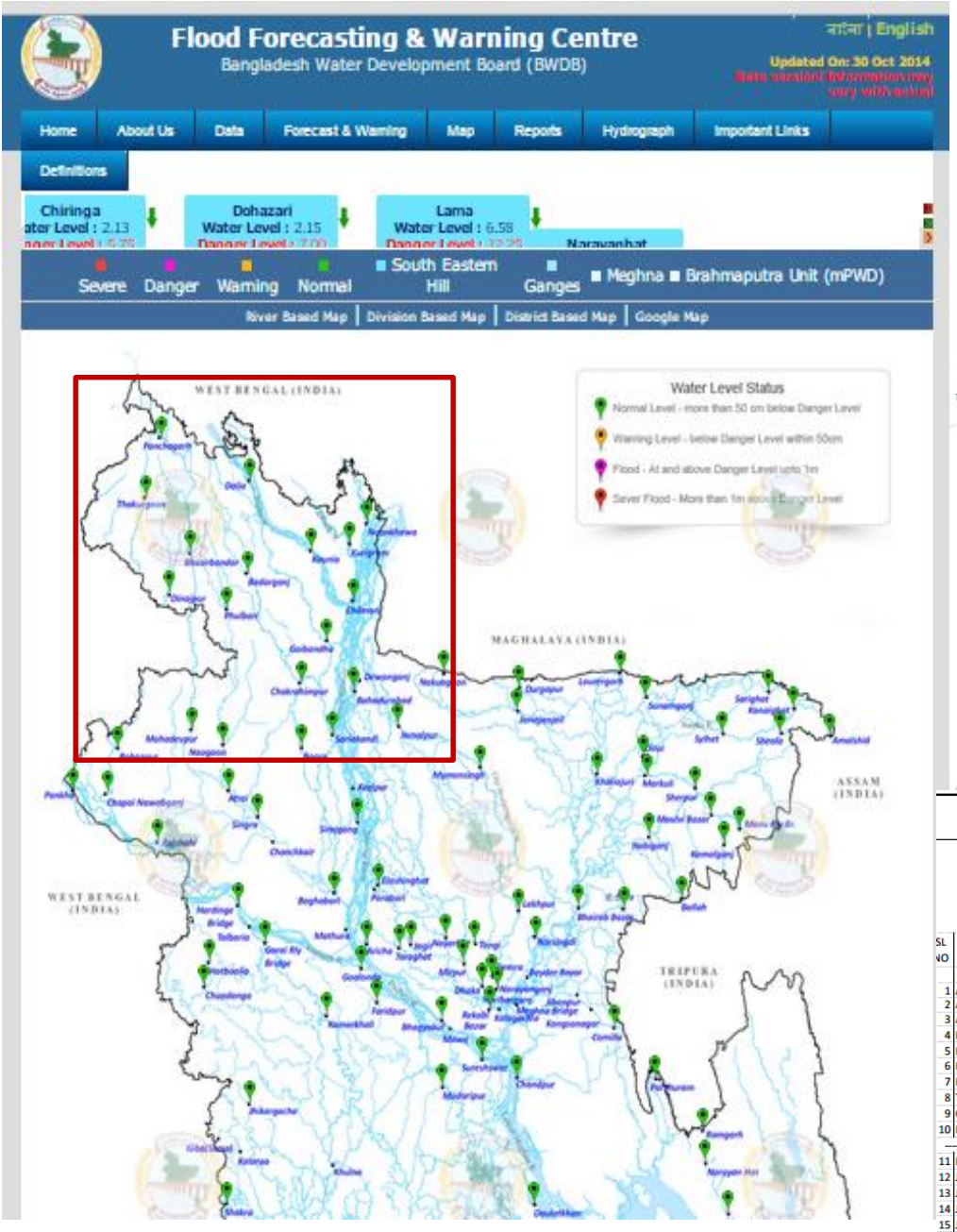
Awareness raising on EW dissemination and preparedness

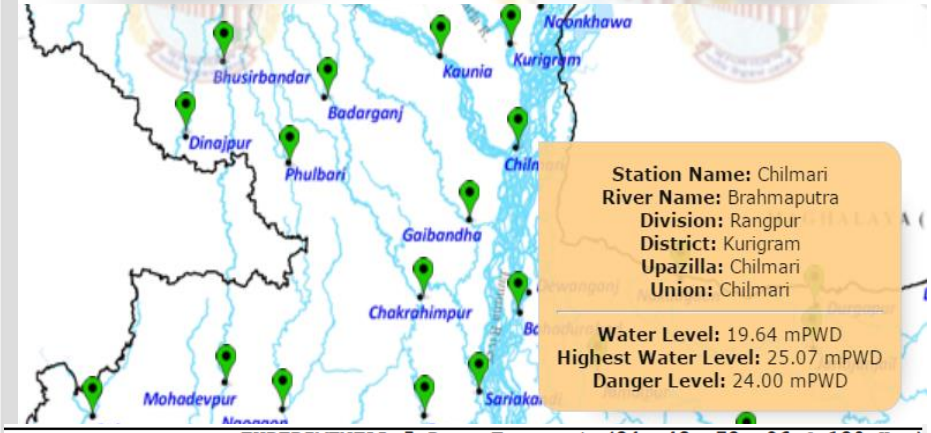
Forecast based Emergency meeting at Union Parishad as part of Mockdrill

As part of mockdrill, Using Flag to disseminate message

Community Organizer facilitating the courtyard session on Flood EW using flipchart

Awareness raising session with school students on DRR (flood early warning)





EXPERIMENTAL 5 Days Forecast (24, 48, 72, 96 & 120 Hrs)
Supported by CDMP-II

SL NO	River	Station	D.L. (meter)	Today 15-10 6:00 AM (meter)	24-hrs forecast 16-10 6:00 AM (meter)	24-hrs +Rise -fall 16-10 6:00 AM (cm)	24-hrs +above -below D.L. 16-10 6:00 AM (cm)	48-hrs forecast 17-10 6:00 AM (meter)	48-hrs +Rise -fall 17-10 6:00 AM (cm)	48-hrs +above -below D.L. 17-10 6:00 AM (cm)	72-hrs forecast 18-10 6:00 AM (meter)	72-hrs +Rise -fall 18-10 6:00 AM (cm)
1	Atrai	Mohadevpur	18.59	13.54	13.56	+2	-503	13.57	+1	-502	13.55	-2
2	Atrai	Atrai	13.72	-	11.17	-	-255	11.16	-1	-256	11.14	-2
3	Atrai	Singra	12.65	11.47	11.46	-1	-119	11.45	-1	-120	11.43	-1
4	Karatoa-Atrai-GGH	Baghabari	10.40	7.71	7.61	-10	-279	7.48	-13	-292	7.34	-14
5	Little Jamuna	Naogaon	15.24	12.12	12.12	0	-312	12.13	+1	-311	12.15	+2
6	Karatoya	Chakrahimpur	20.15	16.45	16.41	-4	-374	16.37	-3	-378	16.34	-3
7	Karatoya	Bogra	16.32	12.20	12.32	+12	-400	12.35	+3	-397	12.35	-1
8	Teesta	Kaunia	30.00	27.60	27.51	-9	-249	27.51	-1	-249	27.37	-14
9	Ghagot	Gaibandha	21.70	18.16	18.08	-8	-362	18.00	-8	-370	17.92	-8
10	Dharla	Kurigram	26.50	24.02	24.08	+6	-242	24.06	-2	-244	24.02	-4
11	Brahmaputra	Chilmari	24.00	20.71	20.53	-18	-347	20.42	-11	-358	20.32	-11
12	Jamuna	Bahadurabad	19.50	16.08	15.93	-15	-357	15.80	-13	-370	15.71	-10
13	Jamuna	Sariakandi	16.70	13.43	13.35	-8	-335	13.27	-9	-343	13.21	-6
14	Jamuna	Kazipur	14.85	-	10.79	-	-406	10.65	-14	-420	10.55	-10
15	Jamuna	Serajganj	13.35	9.41	9.32	-9	-403	9.18	-14	-417	9.06	-12
16	Jamuna	Porabari	12.27	-	7.63	-	-464	7.48	-16	-479	7.33	-15
17	Jamuna	Aricha	9.40	6.06	5.91	-15	-349	5.74	-18	-366	5.56	-18

Challenges Faced

- *Lack of Coordination mechanism between UDMC and UzDMC*
- *Lack of capacity in terms of infrastructural facilities*
- *Literacy rate of remote area is very low*
- *Information on flood forecasting is available 5 hours after the experimental data collected*

Way Forward

- *Coordination meeting with various organization to avoid duplication of effort in the same area*
- *Evaluation of the system after next monsoon and integrating the feedback after evaluation*
- *Replicate the EW system in other flood prone areas including Sirajganj and Pabna districts*

Thanks for your attention