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PREPAREDNESS STATUS IN DISASTER MANAGEMENT STUDY IN WEST BENGAL

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Introduction:

Not a year passes when disaster does not happen in any part of the globe causing loss of lives.damage to the properties and suffering of the millions(1). Each country thus being attacked with disaster suffers also economic loss and if it is developing country, it creates an added economic strain to her people (2)

West Bengal state has a perineal problem of disaster dueto floods and as such miseries and calamities do effect the lives of millions residing in the vicinity of flood zones

It is also the fact that some disasters may be prevented, some may be mitigated whereas in some cases intensity may be reduced. It is because of the fact that disaster from flood every year is almost inevitable, strategies for mitigating the effects have to be formulated so as to minimize the damages. Eversince the proclaimanation of UNO as Ninteen Nintees be the decade for reduction of natural disaster, most of the countries prone to disaster have adopted the WHO 's theme on the "World Health Day" in 1991 i.e. "Should Disaster Strike - be prepared"(4), as the practical measure to safeguard the life and propserties of their people Thus, preparedness against the havoc of disaster has become key strategy for disaster mitigation. It is with this background Disaster Management Centre (DMC) at All India Institute of Hygiene and Public Health, Calcutta conducted an indepth research study in flood prone districts of West Bengal with following objectives.

1. To examine the preparedness plan of flood prone districts in relation to pre,during and post disaster phses of disaster management.

2. To identify weaknesses, if any, in the plan and to compare districts quantitively in relation to their preparedness status useing preparedness indicators.

3. To recommend measuires so as to strengthen the plan in order to mitigate effects of disaster effectively.

Methodology:

1. **Area:** Eleven districts in West Bengal which are known to be regularly affected with flood/drought were surveyed. These districts are: Hoogly, West Dinajpur, Maldah, Murshidabad, Midnapur, Nadia, 24 Parganas(n), 24 Parganas(s), Burdwan,

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Bankura and Purulia.Among these most are known to have suferred from flood disaster except parts of Bankura and Purulia which have the problem of drought.

2. **Design of Study:** From each of the districts, two most vulnerable blocks were selected for study except Burdwan and Hoogly where one block in each dist. was selected. Again, from each selected block, two most vulnerable villages were selected for survey. From each of the selected villages, ten famillies were selected using random sampling method in order to understand the pattern, type and indegenous methods of community preparedness.

Data were collected at state level, district level, block level and village level from different records maintained by the authorities and also through interview methods using pretested structured questionnaire/schedule, as detailed bewlow:

State schedule	5 (2 Govt. and 3 NGOs)
District schedule	11 x 3 = 33
Block schedules	60
Village schedule(leader)	80
Family schedules	400

The Officers at state, district and block levels engaged in disaster management from various sectors were interviewed

3. **Survey team:** Eleven steams were formed to carry out the survey work in eleven districts. Each survey team consisted of two medical personnel (from faculty of community medicine,Medical Colleges) and one non-medical assistant. The survey work of each team was supervised by one supervisor of high academic and research status from faculty of Community Medicine of Medical Colleges in Calcutta and faculty of DMC.

4. **Survey details:** The survey workers while visiting their respective areas noted down all the factors which could pre-dispose a disaster. They also noted down details of contingency plan meant for mitigating the effects. The preparatory action plan that have to be implemented before disaster,the action plans that are to be taken during and after disaster were also noted. Also the details of action plan so far implemented were noted together with reasons for non-implementation, if any. The linkage of activities between states , districts and blocks were also examined. The co- ordination between different sections at the planning and implementation stages at the village level, so vital for effective relief operation and response in disaster situation, was also observed.

Matrix Score

Preparedness matrix score was framed. The essential parameters for effective preparedness plan in relation to pre- disaster phase were identified and each parameter was given due weightage when scoring it. Thus each essential parameters as identified for disaster preparedness had a score of 4. The comparative status of different districts were determined according to their scoring pattern. Total score was 100 and the score over 66% was regarded as good while score above 50% but upto 66% was taken as fair and below this level, it was regarded as poor

Matrix score design:

ACTION PLAN - PREDISASTER PHASE
Preventive measures:

INDICATORS	SCORE
1. Embankment (repair and construction)	4

2. Roads (repair) 4
3. Bridges (repair) and halipad (constructed) 4
4. Stock (districts and blocks) 4
5. Substock station materials 4
6. River bed (treatment) 4
7. Channels for controlled flow of water (sluice gate) 4
8. Idenstification of people at risk 4
9. Hazardmapping 4
10. Manpower support and training 4
11. Flood shelters 4

ACTION PLAN - DURING DISASTER
Mitigatory exercise

12. Coordination cum crisis committee 4
13. Sectoral organisation and line of command and decision maker 4
14. Warning signal and transmission 4
15. Evacuation of people in time 4
16 .Rapid assessment of need (past experience) 4
17. Rapid response with relief materials 4
18. Budgetory support 4
19. Coordination (community demand) 4
20. Community preparedness4

POST DISASTER ACTION PROGRAMME

21. Continuous monitoring the long time effects 4
22. Surveillance programme - epidemiological/ nutritional/entomological/water/ enverionment 4
23. Rehabilitation 4
24. Reconstruction 4
25. Budgetory support 4

Total 100

Results:

A) Each district according to its preparedness status scored through different phases. All the scores were added and thus total score was obtained for each district.

B) **Scoring Pattern:** **Maximum Score = 100**

Table I

a) District A (One of the good district)

Indidators	1	2	3	4	5	6	7	8	9	10	11	12		Total Score	Total
Score	2	2	2	4	0	0	0	4	2	0	4	4		56	56%
Indicators	13	14	15	16	17	18	19	20	21	22	23	24	25		
Score	4	4	4	4	2	2	2	2	0	0	0	2	2		

b) District B (one of the worst districts)

Indicators	1	2	3	4	5	6	7	8	9	10	11	12			
Score	2	2	2	2	0	0	0	0	0	0	2	2			
Indicators	13	14	15	16	17	18	19	20	21	22	23	24	25	26	26%
Score	4	2	2	0	2	2	2	0	0	0	0	1	1		

Table II: Gradation of the districts according to their total score

I	66% and above	Excellent
II	55 - 65%	Good
III	45 - 54%	Fair
IV	Below 45%	Not upto the desired standard

TABLE III

No of districts prone to district	Status score (%)	Remarks
0	66% and above	Excellent
5	55 - 65%	Good
4	45 - 54%	Fair
2	Less than 45%	Not to desired standard

C) Scoring related to different phases:

Gradation of districts	Preventive measures (action in predisaster phase	Mitigatory measures (action in disaster phase)	Long term measures (action in post-disaster phase)
II	45.4%	80%	25%
II	22.4%	35%	12.5%

Comments: Alarming lack of preparedness in pre and post disaster phases in particular. Crisis management is effective and maningful (disaster phase) found even in lower graded dists.

Discussion:

As far as preparedness status is concernce some of the districts, though achieved good status, still there are alarming lacking in preparedness plan both in pre-disaster and post disaster phases. Even the "good" and "poor" districts scored heavily as far as "disaster" phase is concerned. The observation is understandable when it was found that in crisis/emergency situation officials to that matter community used to forget their ego, departmentalisation, selfish interest, if there is any, and a sense of community feeling is generatged. But when it comes to prevention, apathy, execuses, inherent tendency to avoid the action is observed - as in the case of human being not taking preventive services. The same goes when disaster is over, flood water recedes, ans as no chance of mortality is there every body seems to forget the episode and some types of complacency develops and as such reconstruction phase

is not given due care(5).

It is to be noted here, in both predisaster action plans and post disaster reconstruction phase,appropriate monetory support is essential. The budget allotted for this is not sufficient as such roads remain unrepaired, bridges remain in dilapated condition, dams may be leaking, embankments are not concrete made, enough flood shelters are not organised, no provision for extra tubewells, drugs, DDT etc are made and as such when havoc happens, nothing can be done to mitigate it due to lack of support of logistics. Nevertheless, the action related to identification of danger area and risk people and evacuate them into safe area and feed them with nutritive food matching in disaster situation do not depend much on economic support. It is also to be stressed that community has to be prepared also. They must have indegenous methods of signaling the danger as witnessed during survey in some of the districts. They must have country boats to be used in flood situation for bringing life saving essential commodities and to communicate with government officials. The huts and houses should have higher foundation so as to avoid inundation in flood water. Inmates of housing in low lying area must be trained in first aid and rescue operation. Above all, a sense of preparedness must prevail in the minds of officials and community working and living in disaster prone area so that they can act immediately when disaster strikes (near zero time response) thereby meaningful implementation of preparedness programme is assured. The other important finding of the survey was identification of training areas and training needs(6). If the officials engaged in disaster management are regularly trained in the areas like disaster epidemiology, hazard mapping, relief and response measures,computer technology applicable to disaster information, the effectiveness of disaster management will be enhanced. It is also important that there should be dry runs (mock exercise) so as to put the officials on gear and as such they will always remain tuned to face the crisis situation mentally and physically. The resurch study amply supports the truth of avbove facts (7) The study showed that the good districts as well as even the poor districts scored maximum for disaster phase while little to negligible score was observed for perdisaster and post disaster preparedness phases

Neverthesess, it has to be pointed out that equal emphasis has to be paid for the pre-disaster and post disaster phases llike that of preparedness action in disaster phase so that the contingency plan covering three phases of disaster becomes meaningful.

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