KHARTOUM FLOOD DISASTER

MANAGEMENT

(IARA)
(AN INDIGENOUS NGO EXPERIENCE)

BY
DR. H. EL HUSSEIN
FIELD OPERATIONS MANAGER

KHARTOUM FLOODS DISASTER

BY

DR H. EL HUSSEIN
(Field operation Director - IARA)

ABSTRACT:

Early August 1988 rains of 220mm were registered for the first time in Khartoum. Roads became impassable and were covered in water and mud. The electricity system broke, the central radio was cut off and the water supplies were damaged. Shops, offices, schools and working places were not reachable. 76 died, 200,000 houses were demolished and 760 schools were severely affected. The worst hit people are at the outskirts of the capital who were the illegally settling displaced victims of the draught and the civil war' before the floods, 30% of young females of school age seek employment as house maids . 72% of school age boys are loitering the city centre as street vendors and 11% of children under five are severely malnourished.

In the 8th of August 1988 the government declared the state of emergency and called upon the international community for help. Full account of IARA's 4 weeks operation is given. Food worthy of 1,310,000 Sudanese pounds (U$ 262,000) was distributed. 2900 blankets, 2000 plastic sheets and 200 tents were also given. Continuous supply of potable water was also maintained. 250,000 patients were treated and 3000 children under five were vaccinated against measles - as there was no E.P.I coverge before. The local community was actively involved in the floods management in general and the enviromental sanitation in particular. No epidemic was reported.

BACKGROUND:

In 1984 thousands of displaced prsons from draught stricken areas in western, eastern and southern Sudan have sought refuge mainly in Khartoum Province. Although many of them returned in 1985/86 to their home areas. a good number stayed behind. An additional acceleration of migration into urban areas is created by the ongoing civil war and its resulting effects in Southern Sudan and the increased insecurity in the adjacent Northern regions (Blue Nile, South Kordofan and Darfur). It is estimated that Khartoum population has increased by more that two million since 1984.

This of course has overtaxed the resource availability of the commissioner authorities who try to prevent further settlements in the shanty areas of the displaced forming a wider belt around Greater Khartoum. This is enforced by refusing to supply basic services as water, rubbish disposal, basic medical care, security and even going as far as denying the existence of these squatter areas.

Most of these displaced are illetrate and used to rural or pastoral life, few of them wanted to return home due to lack of security and support in the journey and rehabilitation phases. There was no readily available or applicable government alternative policy to the existing displaced settlements. Different options have been discussed but no plans have materialized yet.

This has resulted in real distress for the hundreds of thousands of migrants, many of whom with no visible means of support. Squatters were willing to accept any menial task as unskilled labourers. In most families, one member manages in this way to earn between 100-250 Sudanese pound per month (20-50 U$).

A 12-16 square meter room built from mud or dried mud bricks within a walled compound, shared by other families, costs between 60-100 Sudanese pound. A barrel of water (44 gal) can cost up to 10 S. pound (2 U$). However the majority of these habitats are of mud blocks, cartoons and empty sacks. But even half of Khartoum planned areas houses were not designed to resist such extreme climatic conditions.

The late survey showed that over 30% of young females of school age seek employment as house maids. Others try to supplement their family income as street vendors. In the same study it was found that only 28% of the school age boys stayed with their families while the rest loitering the city centre. None of the sample size attended school.

Staple diet in the shanty areas is assida (porridge) made from sorghum or a mix of sorghum/wheat/millet, sometimes supplemented with a soup made from dried ockra and onions or sour milk. Other relatively rare staples, salads and fruit are too expensive and meat is reserved for special occasion like marriages. There are no government food distributions to vulnerable groups as this was thought to accelerate further influx of the displaced. IARA's latest survey from the 25 PHC clinics showed 21% of children under five to be malnourished.

Kharoum has had very little, if any, rains since the drought of mid eighties. Hence government and people were reluctant to spend money on renovating buildings, reopening draining channels or spraying pesticides before the rainy season as had been the case before.

WHAT IS IARA ?

IARA is an indigenous African relief organization established in Sudan in 1982 with the object of providing relief and development for the needy communities. It is now working in 15 African countries mainly among the refugees, displaced and the poor societies. Activities are in the fields of P.H.C., rural development, community income generating projects, relief, rehabilitation and training programmes.

IARA has got a separate department serving the destitute around greater Khartoum. 25 PHC centres are distributed among those areas with the fully fletched programme running for the last five years.

DISASTER !

On the night 4th August 88 and the following days an unpresidented fall of torrential rain fell on Khartoum and surrounding areas. 220mm were registered for the first time in the history of Khartoum. Although the meatralogical forecast was anticipating heavy rains but none is expected to this magnitute. Nevertheless, no precautions of any sort were taken. However these heavy rains fell on soil which was not permiable causing very considerable flooding. The roads quickly become impassable as they were covered in water and mud. the electricity system broke, the central radio was cut of and the water supplies were damaged. Shops, offices, schools and working places were not reachable.

The disaster resulted in 76 dead. 200,000 houses and 760 schools were severely hit if not demolished. 500,000 were left homeless. The great majority of the worst affected people were to be found in the outer belt f Khartoum. They are the illegally settling displaced victims of the drought and the civil war.

However on the 10th of August the Sudanese government announced a state of emergency and appealed for international aid. 24 hours later the first planes were landing at Khartoum airport.

THE PLAN OF ACTION

Pre - disaster phase:

there was no disaster preparedness contingency planning. The official authorities were almost in a state of shock during the first week.

Disaster and post disaster phase:

From the forthgoing it was apparent that we had to respond without the help of the government at least initially. However from day one we got involved in the following activities:

1. We have formed a disaster committee which included members from the doctor's union, medical students, Nurses union, the youth for construction union and the young women for progress union. A 24 hours emergency room service at IARA H.Q was set.

2. Although information about the magnitude of the disaster are spreading all over, we have set a system for verification. This is via field visits daily programme and information collected from the local community. This information was channelled to define the vulnerable areas and groups and to asses the needs and priorities.

3. Assesment of IARA inventory resources revealed :-

   * A director.
   * Clerical and administrative staff at the H.Q.
   * A field medical director.
   * 50 community Health workers} All work at IARA 25 PHC
   * 25 part time doctors } centres.
   * 20 community midwifes }
   * 2 4-WD vehicles and two drivers.
   * 2 tons of essential drugs.
   * 4 tons of dura "millet".
   * 1000 tins of edible oil.
   * 200 tens.

* 900 blankets.

4. Logistics:

- 10 thousand Sudanese Pounds were allocated intially for the budget. Cash public donations to IARA in the first week exceeded 100,000 Sudanese Pounds.

- Initially the two 4WD cars were not enough, but later a car seconded from MSF(France) and 4 vehicles from the army eased the constraints.

5. Coordination with other bodies:

We have addressed the government, the national voluntary organizations and the international organizations to participate and support our emergency plan. We received the following contribution:

* Voluntary local organizations in the form of manpower (200 doctors, 254 paramedical personnel).
* From the M.O.H we received consignments of essential drugs and vaccines which were repeated after we supplied them with report and data.
* From the army we have been seconded 4 vehicles and two larger water tankers.
* From ACTION AID (U.K) #s100,000 (20,000 U$) for support of P.H.C and #s500,000 for supplying millet.
* From Radda Barnen 40 tins of milk powder and 2000 plastic sheetings.
* From the E.C #s150,000 for support of P.H.C. and #s500,000 for supplying millet.
* From USAID #s500,000 for buying food.
* From HELPAGE(U.K) 4 tons of essential drugs and 1000 blankets.
* From MSF(France) 2 donkey carts.

The daily activities comprises vehicles in the morning loaded with staff, essentail drugs, food items, etc.. leaving the H.Q to the centres. By the end of the day convoys return to the H.Q with reports for analysis. Needs are looked into on the basis of this information.

6. Provision of Safe Water:

Due to damage of water supply, lack of safe water was a problem. Large water tankers seconded to us by army distribute water from central intact sources to water tanks in the field. Community take this water only for drinking and cooking purposes.

7. Food:

   Bread was distributed in the early days. Later food rations in the form of millet, milk powder and edible oil were given.

8. Shelter and clothing:

   200 tents, 2000 plastic sheets and 1900 blankets were distributed.

9. Sanitation:

   The local community has taken excellently the task of garbage collection and draining of stagnant water as they have in the distribution of food and other items.

10. Support of the P.H.C

    3000 children under five have been vaccinated against measles and 250000 patients were treated from endemic diseases and infections. For the first time we have utilized all channels of media for health education (national Radio, T.V, Paper, etc..) for 4 weeks.

11 For fear of epidemics' Aeroplanes spray of pesticides and house to house spraying was carried out'

THE HEALTH IMPACT

The permanent 25 P.H.C and the extra temporary 8 have been used as centres for management. There was no shortage of staff or essential drugs. 250000 patients were seen in the 4 weeks period from the onset of the disaster. This is in addition to the 3000 children under five who have been vaccinated against measles.

1. Analysis of the cases is as follows:
   (Please see graph 1)

   23.4% have had malaria
   21.1% watery diarrhoea.
   2.7% Dysentry.
   10.3% ARI
   13.7% Purulent conjuctivitis.
   11.3% Infected wounds.

Choloroquine resistant malaria was reported for the first time in Sudan, but the clinical respose to medical treatment of dysentry was satisfactory. (The lancet, October 88 P 912)

2. Analysis of M.O.H data 2 weeks post disaster was showing DD pattern to be dropping while malaria incidence was increasing (please see graph 2)

3. Little increase in incidence of malnutrition as compared to pre disaster (21.8%) (please see graph 3)

EVALUATION

Of course nothing could have been done to stop heavy rains falling' but a lot could have been done to mitigate the disaster. The meatrological forecast was somehow right; but no steps were taken at all levels for response. In essence an early warning system was lacking. Again what is the use of an early system if it stimulates no intervention. The question is somehow political.

Floods disaster showed us that disaster preparedness contingency plans were not existing. The government, the NGO's and the community were all to blame. However no epidemics were reported.

Lack of government policies towards the displaced, those who were severly hit, has had a negative impact in their conditions and even hindered the rehabilitation and development programmes after the floods.

The floods experience has demonstrated the vital role of the NGO's, The voluntary capacity and the local community in combating the disaster effects. In any plan they should beinvolved.

The health impact has shown the importance of the P.H.C as a key element for development. But; heath development cannot be separated from the general socioeconomic development. Poverty (the appalling living conditions, the poor health and sanitory conditions, malnutrition, under nutrition etc..) in the periphery of Khartoum has aggravated the effects of the floods disaster.

LESSONS (A B C D E)

A Single hand cannot clap ! coordinate all inventories - official and voluntary.

Be Prepared

* Early warning system.
* Disaster preparedness contingency plans.

Community participation should never be underestimated.

Development is the end stage of disaster management.

Epidemics are not associate of acute disasters.

REFERENCES

1. WHO / CDD / SER / 80.4 REV. 1(1986)
GUIDLINES FOR CHOLERA CONTROL.

2. WHO "public health action in emergencies caused by epidemics" prepared by P. Bres GEN 1986

3. WHO / UNICEF MAPUTO. APRIL 88
"Application of Epidymiology and of epidemiological methods in Disasters" Jose ZEBALLOS

4. WHO AA WORKSHOP 7.11.BP 86
"Communicable diseases in relation to Emergency preparedness and disaster relief"
From Regional workshop on Emergency preparedness and Disaster management.

5. WHO Treatment and prevention of acute diarhoea (Guidline for trainers of health workers) WHO Gen 1985.

6. WHO / CDD A manual for the treatment of acute diarhoea. (for use by phgsions and other senior health workers) WHO 1984

7. KHARTOUM. LA BEIRUT SUL NIILO
A press review - from italian Newspapers - on the Sudanese flood occored in August 88.

8. WHO H.Q
Health emergency preparedness and response sumnay report of the internation meeting GEN 13-16 Apr 87.

9. WHO Planning/programming and logistics in emergencies Gullmer Anderson 1988 Geneva.

10. WHO
GUIDE to sanitation in Natural disasters M - ASSAR W.H.O GEN 1971

11. WHO TECHNICAL Support for primary health care (The role of intermediate level in accelerating health for all Africans).

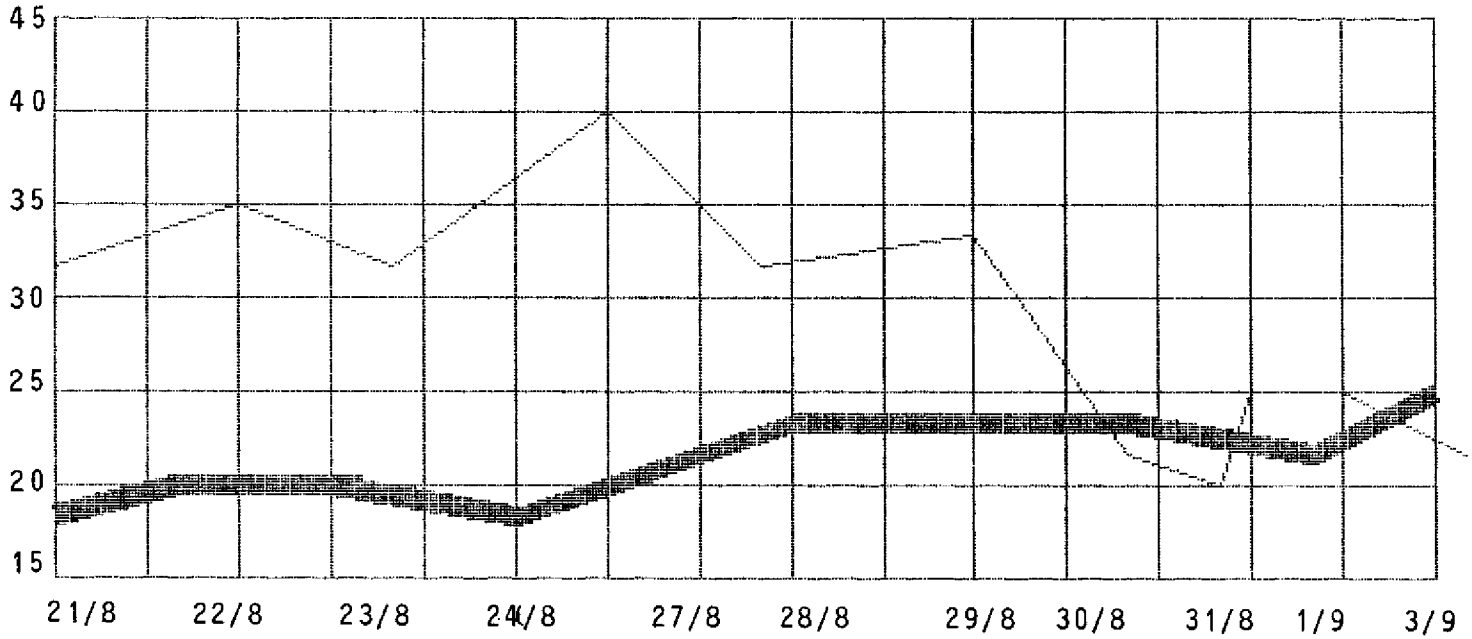
12. W.H.O
On being in darge - A GUIDE for middle level management in primary health care.

13. "Sudan floods and chloroquine resistant malaria"

HUMAIDA ET AL The Lancet.

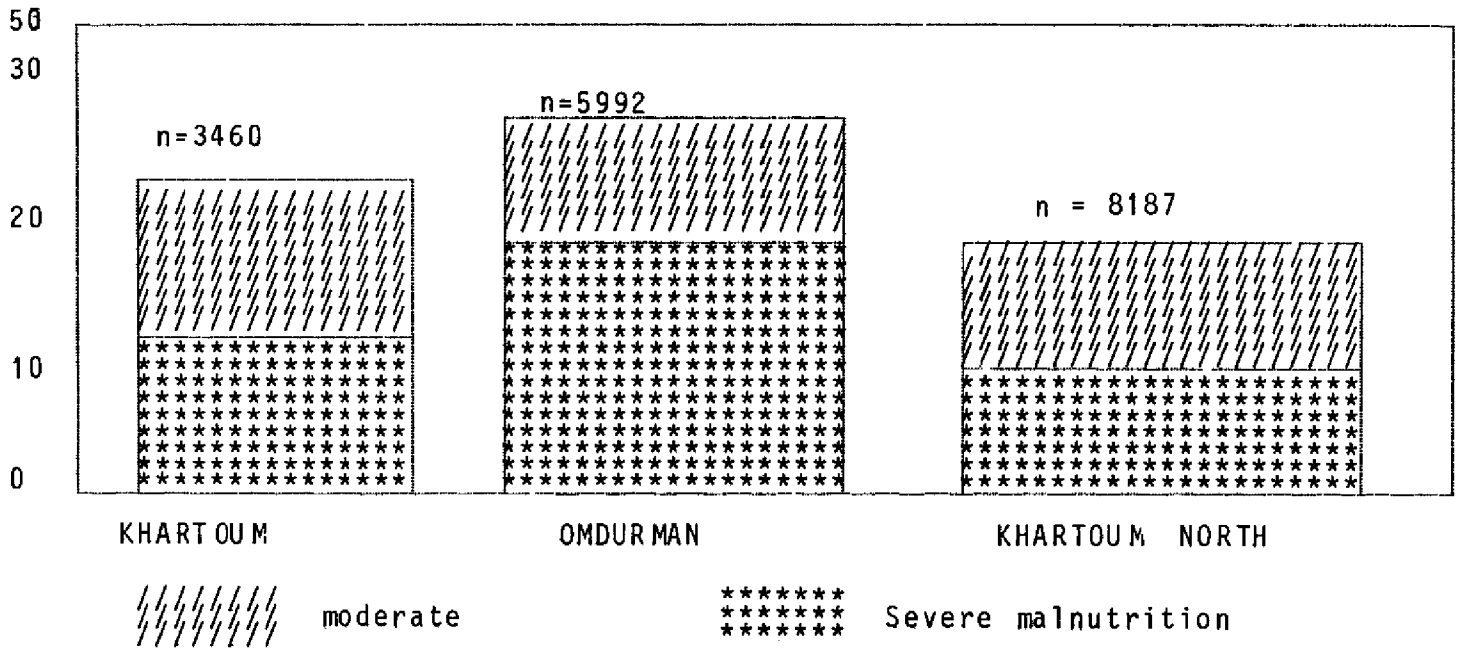
proportion of patients w i t h fever & diarrhoe

sential sites in khartoum



nutritional status
by urban khartoum district
19th - 30th august 1988

children 1 - 2 years
community & clinics based data



dieses problems
in prepherial Khartoum
4th august - 1st september 1988

P.H.C CLINCIS (IARA)