Post Flood Health Assessment

The WR Mozambique with the Minister of Health visit a temporary health facility at Chiequalane accommodation centre

Report Gaza Province-Mozambique

30th Jan 2013
Preamble;
Mozambique like many other countries in the world is prone to disaster. The common disasters experienced in the past 10 years include drought, floods, tropical cyclone, epidemics and earthquake. On 23\textsuperscript{rd} January 2013, government of Mozambique declared an “institutional Red Alert” due to flooding along the Zambezi and Limpopo river basin. In response, the WHO Country Representative Mozambique sent a formal request to the IST AFRO for technical assistance to the WHO Country Office (WCO), the Ministry of Health (MOH) and health cluster partners to manage the public health consequences of the floods. This is a report of the rapid health assessment conducted in Gaza province.

Introduction
The Republic of Mozambique is located in Southeast Africa. It is bordered by the Indian Ocean to the east, Tanzania to the north, Malawi and Zambia to the northwest, Zimbabwe to the west and Swaziland and South Africa to the southwest. It has a population of 23,929,700. The UNDP human development index ranked the country 184 out of 187 countries. 60% of the population in this country lives below poverty line and only 18% of the population have access to improved sanitation. The above makes the country vulnerable to the effects of disaster.

According to the Mozambique Demographic and Health survey report 2011, the life expectancy in Mozambique at birth is 52.8 years. The infant mortality rate, theunder
5 mortality and the maternal mortality are 76.8%, 142/1,000 and 550/100,000 respectively and the HIV prevalence (UNAIDS 2009) is 11.5%.

**The effect of the flood on the population**

The heavy rain which began in early January 2013 in the Easter part of South Africa and Zimbabwe lead to flooding in 8 districts in Gaza province, displacement of over 140,597 people to 23 registered accommodation centres. Over 50 people were reported dead, infrastructures were destroyed (roads, houses, electricity and water supply) and crops damaged. The most affected districts are Chokwe and Guija. The cost of the damage is yet to be established.

The living condition in some of the accommodation centres is appalling. The camps are overcrowded with many people living under the trees. Access to safe water is poor for example in Aerodromo accommodation centre there is only one water point serving 1,000 people (1:1,000). In Chiaquelane accommodation centre they are 8 water point serving 53,641 people (1:6,705). This ratio is more than the WHO recommended ration emergency of 1 water point to 200 people. Access to sanitation is also poor in all camps for instance in Chiaquelane accommodation centre in Chokwe district they are only 104 latrines serving 53,641 people (1:516). In Aerodromo accommodation centre in Chibuto district they are 15 latrines serving a population of 1,000 people (1:67). These figures are above the recommended WHO figure of 1.
latrine per family of 1 latrine per 20 people. Some of the accommodation centres are not recognized by the government which implies that they are not receiving any assistance. 13 of the 23 gazetted accommodation centres are not accessible by road and do not have access to medical care.

The UN response to the humanitarian situation
The UN response included among others the reactivation of the humanitarian coordination mechanism (the cluster) with 8 coordination cluster (Food security, WASH, Shelter, Education, Protection, Health, Nutrition and logistics). The clusters were active at both national (Maputo) and provincial level (Gaza province). Cluster coordination mechanism was also established at Chiaquelane (the largest transitional accommodation centre). The UN developed a CERF appeal. The total budget for the health component of the appeal is 1,074,578 US and the objectives are

1. To support MoH efforts to restore access to the basic curative and preventive health services and to provide emergency Primary Health Care services to populations affected by floods in all affected provinces
2. To strengthen capacity to detect and respond quickly and effectively to any epidemic threat, especially diarrheal diseases (cholera) and malaria
3. To strengthen effective coordination, supervision, monitoring and evaluation of the health emergency response to the floods in affected areas.

Health status of the flood affected population
No disease outbreak has been reported in the region however, the common causes of morbidity seen in the health facilities are respiratory tract infection, diarrhoea and malaria. Analysis of the current OPD attendance in Chiaquelane, Marcia, Cidade de Xai-Xai OMM, Cidade de Xai-Xai EPC MN, Aerodromo and Hokwe accommodation centres when extrapolated to one month shows that the proportion of under five years attending OPD clinic in the various health facilities within the accommodation centres with malaria, diarrhoea and acute respiratory tract infection are within the acceptable norms for Macia, Chiaquelane and Aerodromo however, the attack rate for ARTI for Cidade de Xai-Xai EPC MN and Cidade de Xai-Xai OMM where higher than normal. The attack rate for all the three ailments for Hokwe are above the expected in an emergency setting (WHO standard). See details in Table I below for attack rates for Malaria, diarrhoea and acute respiratory tract infection for the above health facilities.
## Table 1: Attack rates for Malaria, Diarrhoea and Acute respiratory tract infection in health facilities in Gaza province where displaced population seek treatment

<table>
<thead>
<tr>
<th>Location</th>
<th>Malaria</th>
<th>Diarrhoea</th>
<th>ART</th>
<th>Confirmed Malaria</th>
<th>Diarrhoea</th>
<th>ART</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 2 0 0 1 5 3 2 0 2 1 0</td>
<td>0 2 0 0 1 5 3 2 0 2 1 0</td>
<td>6 1 2 9 0 1 15 7 2 14 11 5</td>
<td>1 0 0 3 0 1 2 0 1 0 2 2 12</td>
<td>1 0 0 5 0 1 0 2 3 1 1 2</td>
<td>266 172 72</td>
</tr>
</tbody>
</table>
The overcrowding in the camps, poor access to safe water and sanitation, poor access to health care and the high prevalence of HIV may predispose the population to disease outbreak of malaria, diarrhoea and cholera.

**Impact of the flood on the health system**

**Health workforce:** No health worker was killed however, 338 health workers from Chokwe, Guija and Chibus were directly affected by the floods. They lost properties and are displaced. A number of them deserted the health facilities. Some are just beginning to return. This has reduced the number of available health. For instance immediately after the flood they were only five health workers in Chiaquelane health centre and the health facility within the accommodation centre. Now the two health facilities have a total of more than 10 health workers.

Many partners contributed to the response by sending in health workers. However, there is no inventory of the available human resource at national, provincial and district level. There is no inventory of the organizations that are supporting the response with human resource besides; there is no adequate information on the duration of support. Most of the health workforce has little or no formal training in emergency health intervention

**Service delivery:** 15 out of the 18 health facilities in Chokwe district are flooded and close. Chokwe rural hospital is among the health facilities closed in Chokwe district. Carmelo hospital which was initially closed has now been partially opened and operational. The government has agreed to start providing social services in areas where people were evacuated. Four other health facilities located in Chibuto, Guija, Massangana and Cidade Xai-Xai are closed. The theatre in Chokwe and Guija is closed. Patients from Chokwe, Chiaquelane and Guija are currently referred to Xai-Xai for surgery

The current environment of stagnant water, rotting debris, contaminated water and sewage spillage put the population at risk of increased incidence of communicable diseases and other diseases. The risk of epidemics of diseases like malaria, cholera, dysentery etc. is high.

Destruction of clean water supply, electricity and sewage system in health facilities affects functionality of the facility. 15 of the 23 accommodation centres are not accessible by road. The traumatic experience the affected population went through makes the population including health staff susceptible to mental illness.
Information collection and interpretation: Currently transmission of health information from the health facility to the district and regional level is done through goodwill from partners working in the field and limited to accessible health facilities. Health information are collected direct from the health facilities and taken to the provincial level for compilation without utilization by the facility. In most cases these collected information are incomplete because they depend on the number of facilities visited by partners that day. The collected health information is not analysed based on the catchment population and the various administrative levels (district, sub-district etc.) this is because of lack of information on the catchment population as nobody knows the exact number of the displaced population is not known.

All soft and hard copies of pre-disaster HMIS and IDRS reports were destroyed at the facility. Many health facilities lack patients register books. Community based disease surveillance has been affected by the massive displacement of people.

Health Financing: The implementation of government policy of user fee at government health centre may affect access of the population to health care given that over 60% of the population live below poverty line and that most of these populations lost their livelihood and are displaced.

Leadership: Health leadership at the national and provincial level is fairly strong however; leadership capacity at district level is weak. The district health office in Chokwe is closed and relocated to Chiaquelane. All activities at the provincial level and district level are targeting emergency response. A number of piecemeal assessments have been conducted in the post disaster period. There is a district contingency plan for epidemics. Implementation of these plans during emergency may pose a challenge.
Medical products: The ministry of health re-supplied Gaza province with drugs immediately after the floods using drugs from the central level. The apparent stock out of drugs at health facilities are a result of breakdown of the supply chain within the province. For instance there is no access by road to 15 health facilities in Chokwe, 8 in Guija, 3 in Chibuto and 1 in Masingiri.

In response many partners have donated drugs and other medical products at national, provincial, district or facility level. There is no inventory of all available donations to support MoH response.

Proposed interventions by government and partners

1. Human resources for health
   a. As an immediate intervention all displaced health workers must be redeployed; however, there must be a plan on the duration of the deployment and the time when they are to go back to their original post. Partners should support government that this process is done smoothly.
   b. Coordinate and centralize human resource recruitment and deployment. Develop and inventory of available and incoming human resource including the period of availability of that staff. Immediate intervention.
   c. Develop capacity (train) of a pool of healthworker on health emergency intervention. Create a roster of the trained health workers. Medium to long term intervention.

2. Services delivery
   a. Temporary structures (tents) were established at some accommodation centres e.g. Chiaquelane, Aerodromo, and OMM at Xai-Xai city, Bilene, Macia club, Chokwe, Hokwe, Guija, Chibuto and Maniquiniqui to act as health services delivery points to the displaced population. 13 accommodation canters remain inaccessible and without services. Partners should support government to provide services to these displaced communities (all partners). This is an immediate intervention.
   b. The government has changed its stand not to resume provision of services in the flood affected region after the lifting of the red alert. They are currently over 10,000 people in Chokwe. Partners should immediately support the government to lead the return process by restoring social services early enough before the population return.
   c. Some of the displaced population are settled in accommodation centres which are not recognized by the government, these centres do not have access to health care. Partners should immediately support government to ensure that these people are catered for.
d. Strengthen referral services for instance to Macia hospital. Macia health centre is the referral point for Guija and Chokwe at this moment of emergency. The facility is a 45 bed capacity health centre. It has no theatre; it has a blood bank with no blood. Macia has two ambulances which operate 24/7. Partners should immediately support this health facility to make it operational to its recommended capacity.

e. Re-establish treatment for patients with TB and HIV. For instance, all patients who are on anti TB and those on ARV were asked to register. However, there is insufficient supply of anti-TB drugs and HIV drugs at most of the temporary health facilities.

f. The cost of rebuilding the health system is going to be enormous and will involve conducting a comprehensive post disaster assessment using the PDNA tool which was developed by the UN, World Bank and the EU. It is time for partners to now think of conducting PDNA with the possibility of calling a donor conference to disseminate the finding. This will be a good avenue for resource mobilization.

g. Loss of lives, property and the traumatic effect of the flood can cause a live long psychological impact on the population. Re-establish mental health services and other services in the flood affected regions will be the beginning of the healing process.

3. Information management
   a. Partners should support the districts to collect health information from the health facility and to analyse it based on the facility catchment population and the various administrative levels (sub-district and other lower levels including accommodation centres). In addition, partners should support the various district to relay these health information to the provincial level. The provincial level should be supported to analyse and use this information to inform planning and response.

4. Health Financing
   a. Advocate for free health services and access to essential medicine in public and private not for profit facilities for at least six month in all the floods affected district. This will allow time for the population in the flood affected district to rebuild their lives.

5. Leadership and management
   a. Promote notational leadership at all levels and ensure adherence to national guidelines when implementing response by all actors (immediately)
   b. Conduct a comprehensive assessment in the post disaster areas. Use the findings to inform development of a comprehensive early recovery plan (medium plan)
c. Build capacity of the various leaders on topics like coordination of emergency response, development of contingency plan and conducting post disaster assessment (medium to long term)
d. As a medium term solution the MoH should be supported to conduct risk, hazards, vulnerabilities and capacities assessment

6. Medical products
a. Replace damaged equipments in all facilities that experienced flood e.g. Chokwe rural hospital, Carmela hospital, Guija hospital etc.
b. Replenish drug stock in the central medical store using national essential medical list. This replacement should be guided by the request from MoH

Recommended area for WHO

1. **WHO presence in the region;** As cluster leader for health, WHO’s continuous presence in Gaza province and other affected region is imperative. I propose that four technical officers (two technical officers from Disaster Preparedness & Response (DPR), one from Protection of Human environment programme (PHE) and one from Health Systems Strengthening (HSS) should be posted for at least one month to Mozambique to lead the health cluster response and to guide the health response to the effect of the flood on the environment. This is immediate intervention (**WHO AFRO to lead**)  

2. **Epidemic preparedness and response;** WHO should lead in supporting the government and the flood affected region to prepare for and respond to epidemics. This will be achieved through strengthening disease surveillance, support to the development of contingency plan and supporting response in case of epidemics. Immediate and medium term plan. (**WCO & WHO AFRO to lead**)  

3. **Coordination of health emergency;** WHO should support development of MoH capacity to coordinate health emergency (mentoring and sponsoring MoH staff to attend courses in coordination of health emergency) (**WHO AFRO to lead**)  

4. **Disaster Risk Management;** WHO as cluster lead for health should lead the partners to support the government to conduct risk, vulnerability and capacity assessment as a medium term plan. (**WHO AFRO to lead**)  

5. **Health Services Availability and Readiness Assessment;** WHO should support the government to conduct SARA to determine the available services in Gaza province after the flood (immediate action WHO AFRO and WCO). This assessment will aid prioritization of services to be established in each of the district  

6. **Development of health recovery plan:** WHO should lead the partners to support the government to conduct post disaster needs assessment using the PDNA tool developed by WHO. Results from the assessment should form the basis for the development of the health recovery plan. The development of
the health recovery plan should be lead by the Health Systems Strengthening person from AFRO. This is a medium term plan. *(WHO AFRO to lead)*
Annex 1: Districts, names of accommodation and accommodation population

<table>
<thead>
<tr>
<th>Location</th>
<th>Accommodation centres</th>
<th>Temporary Displaced People</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilene</td>
<td>Macia</td>
<td>7,723</td>
</tr>
<tr>
<td></td>
<td>Mazivila</td>
<td>568</td>
</tr>
<tr>
<td>Chibuto</td>
<td>Chaimite</td>
<td>5,000</td>
</tr>
<tr>
<td></td>
<td>Chibuto city (Aerodromo)</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>Village Millenium</td>
<td>1,050</td>
</tr>
<tr>
<td>Chicualacuara</td>
<td>Pafuri</td>
<td>5,335</td>
</tr>
<tr>
<td>Chokwe</td>
<td>Chiaquelane</td>
<td>53,641</td>
</tr>
<tr>
<td></td>
<td>Xilembene</td>
<td>1,824</td>
</tr>
<tr>
<td></td>
<td>Hokwe</td>
<td>9,000</td>
</tr>
<tr>
<td></td>
<td>Macaretane/Majange</td>
<td>24,000</td>
</tr>
<tr>
<td></td>
<td>Mapapa</td>
<td>16,000</td>
</tr>
<tr>
<td>Guija</td>
<td>Chibabel</td>
<td>9,250</td>
</tr>
<tr>
<td></td>
<td>Chinhacanine</td>
<td>700</td>
</tr>
<tr>
<td></td>
<td>Djavanhane</td>
<td>1,500</td>
</tr>
<tr>
<td>Xai-Xai</td>
<td>EPC MarienNguabi</td>
<td>4,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td><strong>140,591</strong></td>
</tr>
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</table>
Annex 2: Picture of Carmelo hospital as staff and volunteers begin the cleaning process