

Annex 5 - Health and Nutrition

Situation Analysis.

1. The Tsunami has caused 83 deaths in Maldives and most of these are among young children and the elderly. Over 2,000 injuries have been reported, including some fractures and head injuries. The Ministry of Health (MOH) has put in place a disease surveillance system to monitor water quality and report outbreaks of communicable diseases on a daily basis, especially diarrhea, acute respiratory infections and unexplained fevers.

2. Discussions with the MOH team, UN agencies and field visits to islands in Thaa Atoll (Madifushi and Buruni) revealed that the critical emergency needs such as safe drinking water, food, and supply of essential medicines, are mostly in place. Populations who lost their homes have been provided temporary shelters either in their own or in other host islands.. All major injuries reported have been promptly attended to.

3. Vitamin A administration and immunization round had been completed as per schedule during the months of November and December 2004. This will help with disease prevention among children. However, it is likely that vaccination schedules will be interrupted because of breakdown in cold chain and loss of vaccines. Nevertheless, it is important that children under five years of age receive Vitamin A two times per year.

4. The following additional considerations must be addressed:

- Reconstruction of the Expanded Programme on Immunization (EPI), and resumption of routine EPI activities (rather than undertaking mass vaccinations throughout the country);
- Immunization coverage to ensure universal child immunization (UCI);
- Ensuring adequate supply of drugs, medical equipment and supplies;
- Resumption of health promotion and health education programmes;
- Nutrition – monitoring the growth of children under five years of age;
- Epidemiological investigation and management of epidemics and malnutrition;
- Strengthen/improve laboratory diagnostic capacity to respond to the needs of the surveillance system.
- Preventive measures and treatment (outpatient and inpatient);
- Ensuring good quality community, maternal and neonatal health services, as well as family planning services and health services for pre-school children;
- Improvement of environmental health services, including health care waste management;
- Adherence to global commitments (e.g. polio eradication); and
- Prevention and control of HIV/AIDS, dengue fever, diarrhea, Acute Respiratory Infections (ARI), and filariasis.

5. The Maldives had high levels of pre-tsunami coverage for EPI vaccines. The Government of Maldives plans to resume its routine immunization programme (including for measles) by the end of January 2005. If warranted based on the epidemiological situation, including vaccine coverage, WHO is prepared to provide technical assistance in conjunction with a measles campaign for all children under 15 years of age.

6. During the field visits it was observed that the government-built structures such as schools, health centers, and island offices could withstand the Tsunami effect better than the residential homes which are mostly built with coral reefs and lime. However, to make these health facilities functional, essential equipment, supplies (medicines, consumables, etc.) and critical staffing should be in place. Discussions with MOH revealed that few expatriate staff have left the country after the Tsunami. While it would be possible to fill the positions of general duty medical officers and nursing staff early on, filling positions of

specialists may take longer time. In many health facilities it will be necessary to replenish all equipment and medical supplies before they can function again.

7. The importance of addressing reproductive health in crisis situations cannot be underestimated. Maldives had good coverage of reproductive health services prior to the disaster, maternal mortality had declined and skilled attendance at birth was high at 85%. Currently, there are 1,800 pregnant women scattered across the 200 islands who have been affected by the disaster. Within six months 900 of these women will deliver, regardless of the health facilities available. Safe delivery conditions are a major cause of concern as is nutrition for pregnant women. In addition, ensuring contraceptive availability for users is also important.

8. In a crisis the family support so vital to young people is often destroyed. Youth traumatized by catastrophic events tend to engage in higher risk sexual behaviour with known consequences.. Sexual and gender based violence may also increase. The victims are often women and adolescent girls and boys. Reaching out to adolescents and young people with psychosocial support as well as information and education campaigns is vital.

9. The communities are demonstrating phenomenal resilience by organizing local support networks and coordinating relief operations. To provide emotional support, teams consisting of two counselors, one volunteer and a police officer were formed. These teams have so far visited 10 Atolls and four relief camps established in Male and have been providing counseling. To address shortage of trained volunteers, psychological first aid training has been started to train 60 volunteers in groups of 20 each. A toll free telephone has also been established for providing counseling support. Actions also have been started for longer term psychological support through adult educators.

10. This approach is in line with the WHO's policy on psychosocial support to disaster victims which emphasizes on such support being community-based, culturally appropriate taking into account the needs of special groups such as children, women, elderly, severely injured, etc. WHO recommends that the psychosocial support be provided by community-based workers who understand the needs of disaster victims and are trained in psychosocial support strategies. These activities need to be undertaken in collaboration with the Ministry of Health and other concerned Ministries, i.e., MFDG&SS, and the WHO country office.

11. Malnutrition was a common problem in the Maldives even prior to the disaster. Approximately 25% of the children under five have stunted growth and it is believed that this disaster will intensify the situation. Anaemia affects 51% of women and is considered an indirect cause of maternal mortality. The Maldives is dependent on the import of most food items; home gardens, which are used for fruits and vegetables, have been flooded and cannot be restarted in the near future. Fish has been the major source of protein in the country. Proper nutrition assessments, interventions and monitoring are vital to minimize the long-term effects of childhood malnutrition that may increase due to the disaster. Food supplementation for pregnant and breast-feeding women, as well as for children under the age of five may be necessary.

12. Maldives has a regular school de-worming programme, as baseline data on soil-transmitted helminthiasis indicated high prevalence rates (over 70%). Due to the sanitation breakdown caused by Tsunami, the country's infection rates are expected to increase exponentially. It will be important to de-worm whole communities (except children under one year of age) in the affected islands at 4-6 monthly intervals during 2005, using albendazole or mebendazole.

13. There is a need to ensure adequate risk communications (and communications in general) for the various parts of the health sector of the Maldives. Appropriate experts should be identified to examine the requirements and implement appropriate TA.

14. It is imperative to include logistics related to the health sector as a key element of any emergency response to disasters, including the Tsunami effects on the Maldives. The following must be ensured:

1. Medical supplies and equipment reach the beneficiaries in a timely fashion, and are distributed according to precise guidelines.
 2. The technical requirements are delineated for:
 - water and sanitation
 - Pharmaceuticals (in collaboration with medical officers)
 - Hospitals and health centers equipment
 3. Supplies are properly managed at warehouse levels by setting up a comprehensive information system; also, clear procedures exist for stock handling (FIFO, FEFO, etc.).
 4. Transport and communications are available and used properly in order to optimize the delivery process.
15. At this state of the recovery process, two important questions need to be answered clearly:
- How will an operational level of activity at the damaged health facilities be reached quickly?
 - How will the necessary supply of pharmaceuticals for essential public health programmes and common diseases be restored and maintained on an ongoing basis?
16. It is important that MOH distribute (to donors and others) a national list of essential drugs and medical supplies as appropriate. If such a list is not available, then WHO should distribute its own guidelines for drug donations. A complete inventory of the supply received from donors and supplied to the Government of Maldives, as well as a distribution list to the atolls, should be made available. This will allow for an accurate assessment of the needs, and will ensure proper accountability.
17. To date, one regional hospital, two atoll hospitals, 19 health centers, 21 health posts, and 33 family health sections have been affected to varying degrees.
- After replacement of the initial list of equipment government has provided the donor agencies, it will be necessary to conduct a more comprehensive assessment of the health facilities that have been damaged. Ideally, such assessment should be carried out by a medical officer, assisted by a logistics expert. This will enable the donor agencies to have a better picture of the comprehensive needs for rehabilitating the damaged health facilities in terms of equipment and civil works..
 - Equipment specifications should also be transmitted to the MOH authorities, so they can determine its usefulness and foresee the level of training required (if necessary) to operate and use the new equipment.
18. Some islands have been evacuated and their populations have been relocated to other islands. For planning the rehabilitation of health facilities and resumption of health programs, information on the following aspects would be essential, especially in the light of “safe island” approach being proposed by the GoM:
- The number of persons affected
 - The islands to be and/or already evacuated
 - The islands to receive relocated people
 - The deployment schedule

19. Based on the reports received from the assessment teams visiting disaster-affected islands, the MOH is regularly updating the damage assessments of the health facilities. The initial assessment suggest that about 30 facilities (including one Regional Hospital, two Atoll hospitals; eight health centers and 11 health posts) have been damaged to varying degrees. Infrastructural damage has occurred in some health facilities, and essential medical equipment and supplies have been destroyed in almost all of these facilities. (See Attachment 1 for details). This may increase as more information becomes available.

20. Several challenges remain, including:

- a. How to ensure sustained supply of safe drinking water until damaged water supply systems are fully restored?
- b. How to maintain basic sanitation, especially for the displaced populations, until more permanent arrangements are made?
- c. How to herald in safe food practices among the masses given the above conditions, and in view of the poor cold chain infrastructure across the Maldivian islands (excluding Male')?
- d. How to provide psychosocial support and ensure the mental well being of the affected populations on a sustained basis consistent with WHO policy on psychosocial support to disaster victims¹?
- e. How to improve the early warning and rapid response systems for epidemic born diseases that ensure timely and complete reporting from all islands on a regular basis?
- f. How to ensure good reproductive and safe delivery conditions as well as the supply of essential reproductive health commodities.
- g. How to quickly operationalize the damaged health facilities ?
- h. How to restore supply of pharmaceuticals for essential public health programs and common diseases?
- i. How to improve disaster preparedness and response of the health sector in Male'?
- j. How to reduce the vulnerability of health facilities to future disasters?
- k. How to minimize any environmental damage (e.g. damage to reefs due to leaking of chemicals used in clean-up operations)?

21. A summary of these critical issues, initial assessment of resource needs, and information on commitments both in kind and cash are presented in Attachment 2. All UN agencies are focusing on meeting the emergency needs of the affected population by providing crucial inputs to ensure food, shelter, safe water and sanitation. Inputs are also being given to make essential health services functional and restart the schools during January 2005. Details of inputs being provided by UNICEF, WHO and UNFPA are listed in Attachment 3. While WHO will be providing technical assistance and critical supplies and equipment, UNICEF and UNFPA in addition to these inputs are willing to support emergency construction activities. It is now critical for the Government of Maldives to improve its emergency preparedness and develop a comprehensive recovery plan detailing financing needs and sources. The existing norms of MOH may be revised prior to rehabilitating the health facilities, in order to minimize their structural and non-structural vulnerability.

Annex 5, Table 1: Detailed Needs Assessments in thousands at current prices

¹ WHO does not recommend that affected persons be 'labeled' with psychiatric diagnoses, not every victim be evaluated by psychiatrist or treated with medications. Nevertheless, the technical guidelines for psychosocial support remain a health issue and is an important mandate of WHO. WHO's role lies in establishing the psychosocial needs of the community, establishing technical guidelines to be used, training people for implementation of psychosocial support strategies and monitoring of the programme. Actual implementation in the field can be done by persons trained through the WHO guidelines and can be done by NGOs, self-help group, other UN groups, etc.

Name of The Island	Structural & Building Services Damages	Equipments & machineries	Medical Consumables	Furniture's	Transport	Duty	Handling	Site visits & machinery installation	Total
HA. Filladhoo HP	423.2	148.7	10.9	38.2	25.0	39.9	10.0	36.8	732.6
R. Kandholhudhoo (Dhuvafaru) HC	2143.9	1656.8	957.0	80.1	15.0	646.1	10.0	79.3	5588.1
M. Kolhufushi HC	430.0	1656.8	957.0	95.6	15.0	646.1	15.0	31.7	3847.2
M. Muli RH	5858.4	8386.0	2686.5	2785.5	60.0	2575.5	65.0	126.8	22543.8
M. Madifushi HP	1694.8	148.7	10.9	38.2	15.0	39.9	15.0	95.1	2057.5
Dh. Gemendhoo HP	1694.8	148.7	10.9	38.2	25.0	39.9	15.0	79.3	2051.7
Dh. Rinbudhoo HP	1694.8	148.7	10.9	38.2	25.0	39.9	15.0	79.3	2051.7
TH. Vilufushi HC	2164.0	1656.8	1093.3	95.6	25.0	714.2	15.0	92.0	5855.9
Th. Madifushi HP	1694.8	148.7	10.9	38.2	25.0	39.9	15.0	92.0	2064.4
L. Mundoo HP	1694.8	148.7	10.9	38.2	25.0	39.9	15.0	67.8	2040.2
L. Kalhaidhoo HP	1694.8	148.7	10.9	38.2	25.0	39.9	15.0	67.8	2040.2
L. Dhabidhoo HP	430.7	148.7	10.9	38.2	25.0	39.9	15.0	67.8	776.1
Sh. Maroshi HP	425.8	148.7	10.9	38.2	25.0	39.9	15.0	26.8	730.2
Sh. Komandoo HC	440.5	1656.8	957.0	128.4	25.0	646.1	16.0	26.8	3896.6
N. Maafaru HP	1694.8	148.7	10.9	38.2	25.0	39.9	15.0	79.3	2051.7
K. Guraidhoo HC*	432.4	1656.8	957.0	95.6	10.0	646.1	15.0	21.7	3834.6
AA. Mathiveri HP	1729.3	148.7	10.9	38.2	10.0	39.9	15.0	79.3	2071.2
V. Keyodhoo HP	367.5	148.7	10.9	23.0	10.0	39.9	15.0	31.7	646.7
V. Rakeedhoo HP	1694.8	148.7	10.9	38.2	10.0	39.9	15.0	79.3	2036.7
V. Thinadhoo HP	1709.2	148.7	10.9	38.2	10.0	39.9	15.0	79.3	2051.1
V. Fulidhoo HP	375.2	164.2	10.9	38.2	10.0	39.9	15.0	31.7	685.1
V. Felidhoo HC	802.9	323.3	1556.0	182.7	10.0	320.7	15.0	31.7	3242.3
M. Veyvah HP	1694.8	164.2	10.9	38.2	10.0	39.9	15.0	79.3	2052.2
Dh. Vaanee HP	1680.4	148.7	10.9	38.2	25.0	39.9	15.0	79.3	2037.3
Dh. Hulhudheli HP	1680.4	148.7	10.9	38.2	25.0	39.9	15.0	79.3	2037.3
Dh. Maaeoodhoo HP	1680.4	148.7	10.9	38.2	25.0	39.9	15.0	79.3	2037.3
L. Isdhoo-Kalaidhoo HC	638.8	1713.2	957.0	80.1	25.0	660.2	45.0	36.8	4156.2
L. Maabaidhoo HC*	417.2	1656.8	957.0	80.1	25.0	653.4	20.0	26.8	3836.4
GA. Villingili AHP	3163.4	8877.7	1345.9	5969.6	75.0	2555.9	68.0	98.8	22154.3
Hdh. Naivaadhoo HP	6.1	0.0	0.0	20.9	10.0	0.0	3.0	36.8	76.8
Hdh. Nellaidhoo HP	13.0	0.0	0.0	0.0	10.0	0.0	3.0	36.8	62.8
B. EYDHAFUSHI AHP	316.3	3235.2	0.0	0.0	10.0	808.8	10.5	31.7	4412.5
B. Dharavandhoo HC	9.8	5.3	0.0	0.0	10.0	0.0	3.0	31.7	59.8
K. Dhiffushi HP	6.1	4.4	10.9	12.6	10.0	2.7	3.5	31.7	82.0
K. Maafushi HC*	2143.9	1656.8	1093.3	80.1	10.0	680.1	15.0	47.6	5726.8
M. Maduvvari HC	405.0	0.0	0.0	5.5	10.0	0.0	3.0	31.7	455.2
Dh. Meedhoo HP*	494.3	166.0	957.0	38.2	25.0	280.8	31.7	31.7	2024.6
B. kendhoo HP	403.6	3.0	0.0	6.7	10.0	0.0	3.0	31.7	458.0
Gdh. Rathafandhoo HP	413.1	1.3	0.0	3.3	4.5	0.0	2.0	31.7	455.8
B. Kihaadhoo HP	1680.4	148.7	10.9	38.2	20.0	39.9	15.0	79.3	2032.3
M. Raiymandhoo HP	1680.4	148.7	10.9	38.2	20.0	39.9	15.0	79.3	2032.3
Th. Kinbidhoo HP	396.7	1.2	0.0	4.8	4.5	0.0	2.0	36.8	446.0

Th. Burunee HC	1250.5	1656.8	957.0	80.1	25.0	646.1	15.0	92.0	4722.5
N. Kudafari HP	59.7	0.0	0.0	4.9	1.0	0.0	1.0	14.5	81.2
TH. Hirilandhoo	6.1	0.4	0.0	0.0	0.5	0.0	0.5	14.5	22.0
DPH Supplies	0.0	964.8	0.0	0.0	0.0	237.3	4.5	0.0	1206.6
Port Health (Hulhule)	0.0	10.5	0.0	4.3	2.5	0.0	2.5	0.0	19.8
Pharmaceutical Post (Hulhule)	0.0	10.5	0.0	7.8	2.5	0.0	2.5	0.0	23.3
Sub total									135606.9
Warehouse rent for 2 month (2 warehouse) @60000.00									240.0
contengency 15%									20341.0
Total MRF millions									156.2
Total US\$ millions									12.2

Focus areas of support by UN agencies

UNICEF	WHO	UNFPA
<ul style="list-style-type: none"> • Improving water and sanitation services • Promoting child-friendly schools environment; rebuilding of schools and health facilities • Education and child protection. • Rehabilitation of cold chain equipment for immunization program • Supply of vaccines 	<ul style="list-style-type: none"> • Supply of essential medicines and medical equipment (including logistics) • TA support to disease surveillance (including laboratory), environmental health, and food safety • TA to support reconstruction and rehabilitation of health systems • Mental health (Psychosocial support) 	<ul style="list-style-type: none"> • Supply of reproductive health and family planning commodities • Inputs for providing care to pregnant women such as safe delivery kits • Rehabilitation of health facilities • Psychosocial support and life skills education to adolescents