



# World Health Organization

## Darfur: One Year On

WHO'S WORK TO SAVE LIVES AND  
REDUCE SUFFERING



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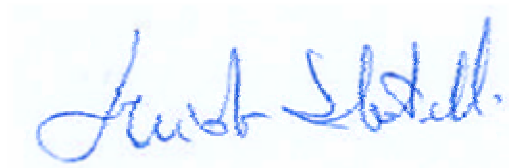
## I. Introduction

This report aims to give a comprehensive description of the activities carried out by the World Health Organization (WHO) in response to the crisis in Darfur from its emergence at the end of 2003 to the end of 2004, when the response was in full implementation.

The report will first provide some background to the Darfur Crisis. Although not exhaustive, it tries to explain some of the extremely complex context in which WHO, together with other United Nations agencies and international Non Governmental Organizations have had to operate. It is important to emphasize that at the beginning of 2004, the full magnitude of the crisis in Darfur was still unknown.

To better understand WHO's activities, it is necessary to see them in the wider context of the entire UN system of which they are a part of. Therefore, the report will also address the overall UN response

Finally, the report provides a detailed description of WHO's activities. It explains the underlying rationale for the Organization's strategy and the division of its work programme into five sectors or "pillars". An overview for each pillar outlines the main achievements in relation to the pre-defined objectives, the major constraints encountered and the way forward for the future.



Dr. Guido Sabatinelli  
WHO Representative in Sudan

## II. The Darfur Crisis

### 1. Background

The Darfur Crisis has been described as one of the worst humanitarian crises in the world today. By the end of 2004, there were an estimated two million people affected by continued armed conflict and violence against civilians.

The Darfur Crisis is rooted in a complex set of socio-political factors that exploded in 2003 in an open armed conflict. Violence towards civilians caused mass displacements, with tens of thousands of people fleeing across the border to Chad or, within Darfur, towards main towns. People have been killed or injured, villages and crops burned, homes looted and women raped. By May 2004 more than one million people had been displaced. The humanitarian response achieved full operational capacity around this time with the peak in August 2004.

Sudan's Greater Darfur Region (comprising the three states of North, West and South Darfur) covers about 510,888 sq km, an area the size of France, and represents one-fifth of Sudan's surface area. The region hosts approximately 6.77 million people of different ethnic groups (20% of the country's population). Darfur is a poor and underdeveloped region, with the highest maternal and infant mortality rates in Sudan.

The conflict in Darfur, which began in February 2003 between the Sudan Liberation Army/Movement (SLM/A), the Justice and Equality Movement (JEM) and the Government of Sudan (GoS) and their supporters, has affected roughly one-third of the entire population of Darfur. Following pervasive violence and insecurity, as of 1 October 2004, there was an estimated 1.6 million Internally Displaced Persons (IDPs), an affected

host community population of 420,000, and an estimated 200,000 Darfur refugees in Chad<sup>1</sup>. The number of conflict-affected does not include pastoralist communities which also are affected by the conflict through lack of access to markets and to the northern winter breeding areas.

In 2004, nearly one million people had fled their villages, and gathered in more than 100 temporary settlements or camps that lacked basic infrastructures and made people dependent on outside sources for food, water, shelter materials and security. As a result of overcrowding and limited access to health care, there was a serious risk of disease outbreaks, specifically diarrhoea, cholera, dysentery, malaria, polio, measles and meningitis. The quality of the health services suffered from lack of water, electricity, basic supplies, hygiene and skilled personnel. All of this provided the rationale for WHO to intervene and support the Federal and State Ministry of Health in their task to improve the health situation among the population affected by the crisis.

The policy of the GoS from the offset has been to create conditions which encourage prompt return of the IDPs to their villages. However, in 2004 the challenge of providing food, water and health items and ensuring the security of the thousands of affected people spread across the Darfur region was formidable.

For a detailed chronology of the Darfur Crisis, with a summary of key events and WHO's response up to the end of 2004, please see Annex 5.

### 2. Humanitarian situation: issues of displacement and violence

The conflict forced people from their villages into fragile and poorly organized settlements and camps and into neighbouring villages, putting pressure on already meagre household and community resources and basic services. With resources stretched to the limit, the situation of both residents and IDPs became extremely

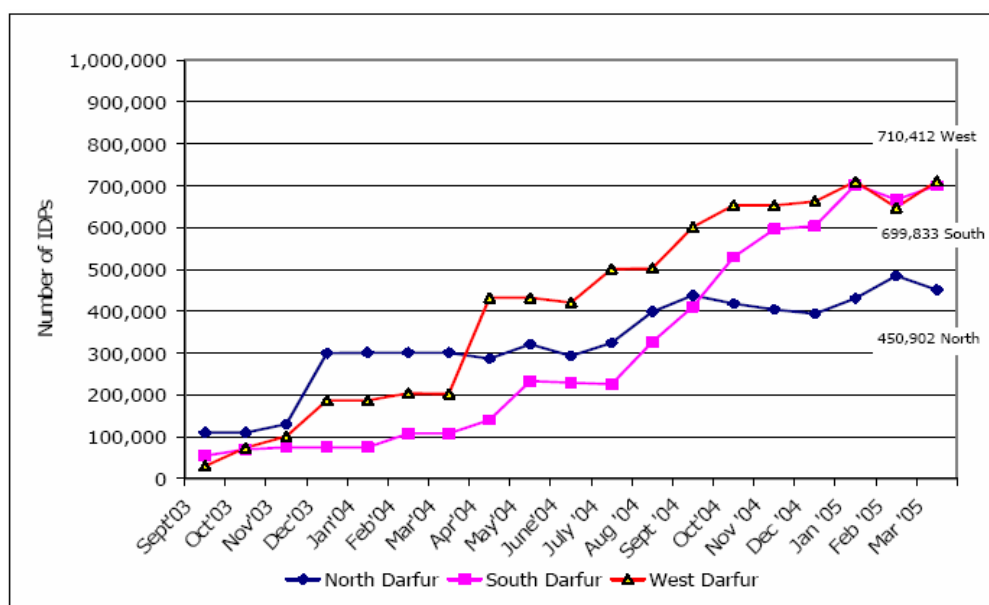
<sup>1</sup> Darfur Humanitarian Profile October 2004

precarious: they had no assets to trade; minimal stocks of food and no animals; they lived in tarpaulin-covered shacks and had access to very limited amounts of drinking water. As indicated by a World Food Programme (WFP) food and nutrition survey carried out in September 2004, the levels of malnutrition were well beyond emergency thresholds. The potential for contamination of water and food was high.

The situation in Darfur received very little international media or political attention until late Spring 2004. In the early months of that year, the international response to Darfur was extremely limited, with few NGOs and International Organizations' programmes in the region. March marked a turning point: international attention increasingly shifted to the disaster in Darfur, considerably easing access restrictions and the work of humanitarian agencies engaged in the relief effort.

WFP indicate that the total affected population reached 2.4 million at the end of December 2004, more than twice that of June 2004. Figure 1 provides an overview of UN estimates of the number of people displaced in Darfur since September 2003.

Figure 1: Estimated Number of IDPs (UN estimates since September 2003)



The violence spread to the overcrowded IDP camps and also began to directly affect humanitarian workers.

Currently, civilians remain exposed to daily threats of violence, sexual and gender-based harassment and involuntary relocations. The level of harassment, detentions and other security incidents involving relief workers has significantly risen since September 2004 with the detention, by the GoS, of international NGO humanitarian workers on separate occasions during December.<sup>2</sup>

### 3. Humanitarian assessments and priorities

The General and Health Assessments carried out in December 2003, February - March 2004 enabled WHO and other agencies to identify requirements and how to best ensure humanitarian needs were met. When access was restricted to international staff, WHO national staff performed the assessments. These, in addition to the interagency assessments subsequently conducted, formed the basis of the health sector strategy for which WHO acted as the focal point for NGOs and other health actors.

<sup>2</sup> Darfur Humanitarian Profile No. 10 – 01 January 2005 and No. 11& 12 February-March 2005 [www.unsudanig.org/](http://www.unsudanig.org/)

In September 2003, an interagency health needs assessment mission covering Nyala, El Geneina and El Fasher had already revealed urgent health and nutrition needs, including violence-related trauma and wounds. Because all NGOs, donors and UN agencies were concerned that the ongoing drought, combined with the war and lack of access, might lead to a famine, an inter agency assessment was carried out that resulted in the UN Greater Darfur Special Initiative (Appeal) on the South Darfur conflict affected population.

The UN Consolidated Appeal for the Sudan Assistance Programme (ASAP) initiated in January 2004, was reviewed in April 2004 with increased requirements for Darfur. Simultaneously WHO began implementing its strategy, the Greater Darfur Protecting the Health of People Affected by Conflict and Displacement Initiative, with funds provided mostly by the UK's Department for International Development (DfID).

#### 4. UN response: the humanitarian profile

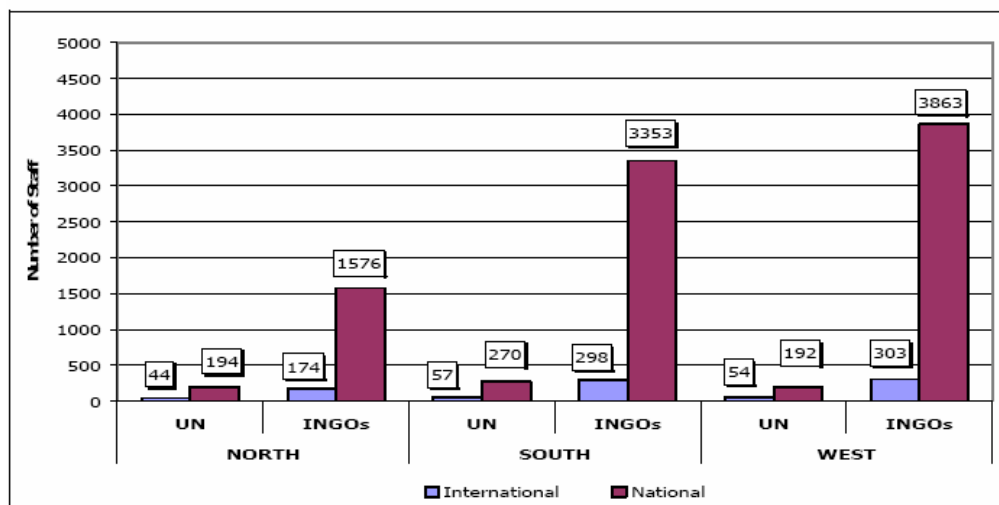
The monthly Darfur Humanitarian Profile is an initiative of the UN Office for Coordination of Humanitarian Affairs (OCHA). However, the GoS, all UN agencies and NGOs working in the field contribute actively with the necessary data. The Humanitarian Profile aims to provide a comprehensive overview and analysis of the number and locations of the conflict-affected population in Darfur, the humanitarian assistance provided, remaining gaps, and humanitarian agency presence in the region. The number of reporting units increased in June and July 2004 and information including the number of IDPs with access to Primary Health Care (PHC), population figures and number of functioning hospitals were reported (using the indicators outlined in the 90-day Plan).

In March 2004, there were just over 200 aid workers in Darfur. By April, the figure had increased five-fold to over 1,000 and expanded to over 9,100, including 814 international staff by the end of December 2004. Additionally, 77 NGOs had established their presence in Darfur, together with the 11 operational UN agencies and other international organizations such as the ICRC and the Red Cross/Red Crescent Societies.



Figure 2 shows the number of UN staff members and other humanitarian aid workers working in the three Darfur States as of 1 January 2005.<sup>3</sup>

Figure 2: UN and International NGO/Red Cross Staff working in each Darfur State



The overall management structure and position of the UN Coordinating Team (UNCT) in Sudan was also strengthened by the appointment in June of a Special Representative of the Secretary-General (SRSG) and the establishment of the United Nations Advance Mission in Sudan (UNAMIS).

## 5. Appeals and UN Work Plan

The 90-day Humanitarian Action Plan for Darfur, using the Humanitarian Profile as a monthly benchmark, has been the framework for the humanitarian response since its launch at the end of June 2004. Subsequently, a 120-Day Plan covering the remainder of the year was designed. The plan enables agencies to prioritize and focus on critical actions and to establish coordination mechanisms for each sector. In the UN Work Plan 2004, the food sector was the largest recipient of funds, accounting for almost 35% of the total funds followed by health with 7% and water and sanitation with 3%.

A total of USD 1.14 billion has been recorded towards the Darfur crisis since September 2003. The total monthly expenditures of the WHO response to Darfur, until November 2004 are shown by category in Figure 3 on the following page.

This covers contributions to UN agencies, NGOs and the Red Cross and Red Crescent Societies in Chad and Darfur and contributions to the African Union ceasefire-monitoring mission. The top three donors are the United States, ECHO and the United Kingdom respectively contributing 33%, 17% and 14% of the funds, followed by the Netherlands, Germany and Canada. An overview of donors who funded the WHO Darfur activities during 2004 is shown in Figure 4 overleaf.

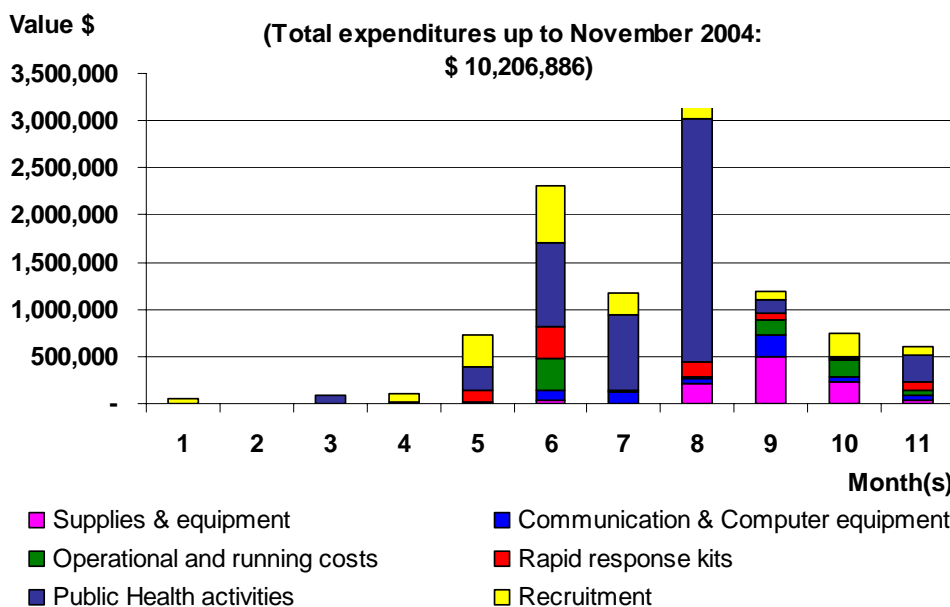
## 6. Partners, roles and responsibilities

In Sudan, WHO provides the Federal Ministry of Health (FMoH) and the Ministries of Health of each State (SMoH) with technical support, partnerships, funding and supplies. WHO technical cooperation with Sudan has a long history, and the Organization enjoys the full trust of national and local authorities.

<sup>3</sup> Darfur Humanitarian Profile No. 10 - 01 January 2005 and No. 11& 12 February-March 2005 [www.unsudanig.org/](http://www.unsudanig.org/)

Besides assisting the SMOH of North, South and West Darfur, WHO also forms an integral part of the UN response to the Greater Darfur Crisis. Coordination and cooperation with all UN and other specialized agencies and with other governmental organizations and NGOs is imperative for appropriate and prompt support. The UN Resident Coordinator is generally responsible for overall coordination of emergency response at the country level. WHO is the focal point of competence for all health matters within the UN system.

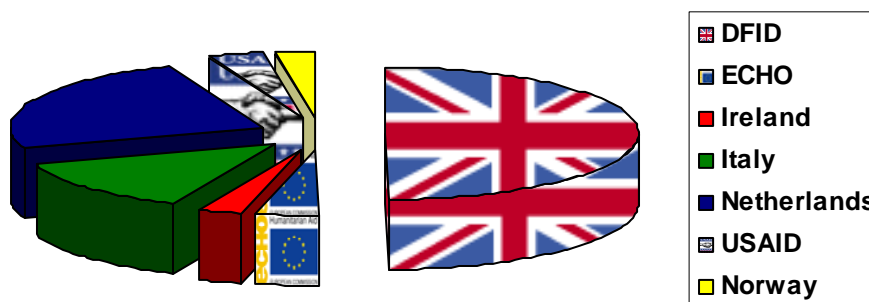
Figure 3: WHO Response to Darfur. Total monthly expenditures by category, as of November 2004



Within the UN system, WHO shares responsibilities for nutrition, environmental health and Primary Health Care (PHC) with other UN agencies. UNICEF has the lead in the water and sanitation, nutrition and PHC sector, while the United National Population Fund (UNFPA) is the lead agency in reproductive health and the WFP in food aid. WHO provides technical knowledge and supports critical actions around IDP settlements to complement ongoing activities.

As WHO is not an implementing agency, but plays a coordinating role, it initiates the necessary health actions in close collaboration with the FMOH and SMOH and health NGOs such as Médecins Sans Frontières (MSF) and Oxfam.

Figure 4: Funding overview WHO Darfur 2004



### III. WHO's Response

In March 2004, WHO was the first among UN Agencies to respond to the crisis with an internal mobilization of health professionals. By the end of June, 35 international staff were deployed in Sudan for the Darfur operation. Since April 2004, an estimated USD 9 million has been spent from WHO and external resources in response to the crisis.

WHO's overall goal in Darfur is to support national authorities, UN partners, International Organizations, and Non Governmental Organizations in mitigating impacts on the health of conflict-affected populations in Darfur<sup>4</sup> through an appropriate, timely, and coordinated response to meeting basic health needs.

Health Action in Crisis (HAC), based in Geneva, cooperates with the Emergency Humanitarian Action (EHA) Regional Adviser for HAC for the Eastern Mediterranean Regional Office (EMRO), based in Cairo. The WHO Representative is responsible for all WHO programmes in-country. EHA has a professional focal point

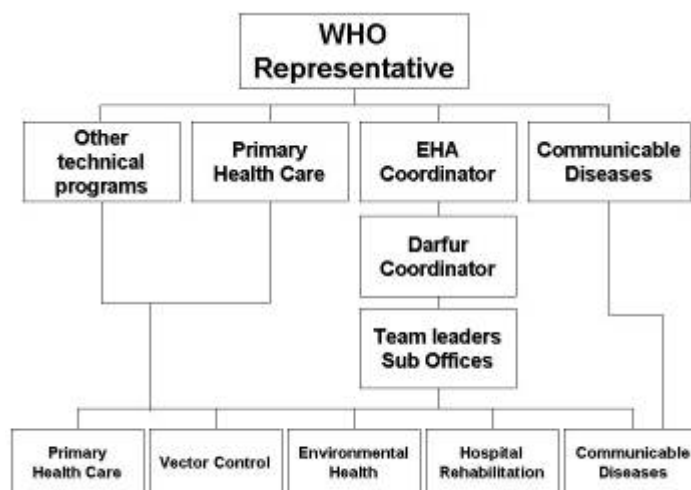
for Sudan, based in Khartoum in the office of the WHO Representative. An organigram of how the WHO Sudan is organized, is shown in Figure 5.

The EHA Coordinator was seconded to UNDAC at the beginning of 2004, thus facilitating the identification of needs and filling of gaps in environmental health and in referral hospitals<sup>5</sup>. The EHA Coordinator was then able to steer interagency health assessments and the health sector response.

EHA national staff members were posted and offices established in Darfur during the beginning of 2004 and staff from EMRO and Headquarters travelled to Khartoum to support the WHO Darfur response in addition to other activities for Sudan. Staffing was accelerated as of March as needs expanded. Internal and external funding was received and Headquarters, EMRO and the WHO Office in Sudan worked together to deploy the first group of international staff to work full-time for the Darfur Crisis.

Three Sub-Offices were opened in each Darfur State Capital (Nyala, El Fasher, and El Geneina) and four international staff members were recruited, supported by two or three national public health officers and additional service support staff. These were further backed-up by a team of six full-time international technical officers, 'roaming' between the different Sub-Offices and Khartoum. Depending on further technical skills required, experts in pharmacy, nutrition, health facility engineering, communicable disease control (from the Centers for Disease Control and Prevention (CDC) in Atlanta), mental health, and vector control were mobilized according to needs. Twelve international and twelve national staff were made readily available in Khartoum to provide support in administration, human resources, finance, telecommunications, external relations, security and logistics. Several donor agencies such as DfID, Cosude, SRSA, and CDC seconded their staff to WHO to facilitate the posting of key experienced staff.

Figure 5: WHO Sudan organigram



<sup>4</sup> Western Sudan and Eastern Chad

<sup>5</sup> Darfur Review: An internal review of WHO's response to the Darfur Crisis, September 2003 to December 2004

### HAC and EHA

As described in Chapter XV.4 of the WHO Manual, WHO's Department of Health Action in Crisis (HAC), formerly known as Emergency Humanitarian Action (EHA), is responsible for overall coordination, information and communication regarding WHO's preparedness and response to an emergency. At the onset of an emergency, the WHO Representative, the Regional Office or EHA at Headquarters will initiate action, with or without the request of national authorities, the UN Department of Humanitarian Affairs or other UN bodies.

The coordination of the three Sub-Offices from Khartoum was the joint responsibility of the WHO Representative, of the four international staff members in Khartoum (one coordinator, one technical adviser, one proposal writer and one chief of operations), and of the three international staff members acting as team leaders of the Sub-Offices. In Khartoum, two GIS specialists worked on the elaboration of maps, distributed on a quarterly basis, on coverage of, and access to primary health services.

In November 2004, a FMoH staff member working in cooperation with WHO as senior surgeon in Kass Hospital, South Sudan, was killed.

## 1. Phases

### a. Phase 1: assessments and urgent relief (Jan - March)

**January 2004:  
600,000 IDPs**

Towards the end of 2003, an increasing number of IDPs had arrived in the capitals of the three Darfur States. By December, international pressure on the GoS increased as international missions began visiting Sudan. By then, more than 600,000 people were internally displaced and 70,000 people had sought refuge in Chad.

Many NGOs had pulled out of Darfur, and by the beginning of 2004, only MSF-France, Save the Children Fund-UK and MEDAIR remained. The United Nations Country Team made plans for expanded UN presence in the entire Darfur region, while the humanitarian coordinator requested an UNDAC mission to start assessments in accessible areas, building up the nucleus of the UN presence in Darfur. WHO participated in most of the assessments and supported the coordination and implementation of identified urgent health interventions. In January, the UN produced a consolidated revised appeal providing a comprehensive overview of Sudan's requirements for immediate assistance, including humanitarian action and transitional recovery components.

By mid February 2004, humanitarian access improved. The UN Darfur Contingency Plan was activated, and on 16 February the first UN and NGO teams were deployed to Darfur; the first phase of assistance to 250,000 IDPs began. Interagency assessments were carried out highlighting the severity of the crisis.

In March 2004, lack of security severely restricted humanitarian access and operations. In response to the rapidly worsening humanitarian situation, financial and human resources were mobilized for Darfur, and, by the third quarter of 2004, more than 70 NGOs and around 5,000 national and 700 international staff were working in Darfur.

### b. Phase 2: establishing presence and surge (April - June)

**April 2004:  
1.2 million IDPs**

By April 2004, there were approximately 1.2 million IDPs in Darfur. A cease-fire was agreed between the Government and the rebels and the fighting seemed to decrease. Nevertheless, humanitarian access remained precarious and there was concern over the protection of conflict-affected

population as harassments and attacks continued, particularly around IDP camps.

By May 2004, access was once again possible for humanitarian agencies. By this time, there was an estimated two million conflict-affected people in the region. On 24 May, the Government issued entry visas for humanitarian workers and waived travel permits to Darfur. Lack of accommodation and office space and administrative difficulties caused further delay in the humanitarian agencies' response to the crisis. NGOs appeared to be quicker in responding. Typically, it took six to eight weeks for agencies to be operational from the time access was granted.

By June 2004, the humanitarian response to Darfur had achieved full operational capacity.

### **c. Phase 3: addressing priority needs and problems (July - December)**

**December 2004:  
2.4 million IDPs**

As the 90-day plan drew to an end, UN agencies and their partners developed interventions aiming at consolidating activities deemed as priorities. The WHO senior management followed very closely WHO's response in Darfur. In July 2004, the visit of the Director General, the Regional Director and the Deputy Regional Director gave additional support to WHO and other UN partners and NGOs and served as a powerful advocacy tool. During this period, the Darfur programme was refined and the different health response priorities identified were organized into the following main clusters or pillars:

- a) Establishing an epidemiological surveillance system;
- b) Enhancing hospital services including rehabilitating critical hospitals);
- c) Improving health care coverage, including filling gaps in primary health care in camps and hospital care;
- d) Providing the back-bone of a medical supply and logistics system; and,
- e) Ensuring free access of health care by waiving user charges.

The visit furthermore emphasized WHO's commitment to working with the SMOH and other partners to coordinate the health response.

## **2. Programme objectives and approach**

WHO's main objective in Darfur is to reduce the number of avoidable deaths and the suffering among the conflict-affected population through appropriate and targeted interventions.

In order to reach this objective, WHO will be regularly assessing the health situation, identifying the needs, monitoring the progress and ensuring that those needs are properly addressed in a coordinated manner. Most of the mortality and morbidity stems from communicable diseases heightened by the overcrowding, poor sanitation and hygiene following displacement. For this reason, it is imperative to reduce risks related to communicable diseases by monitoring and controlling outbreaks and ensuring that safe water and proper sanitation systems are available. Addressing the determinants of health and disease on their own will not be effective without ensuring proper and equitable access to health services for IDPs and conflict-affected populations. Thus it is essential that primary health care services are available at health centres or at hospital level and that a referral system is in place for life saving interventions, such as reproductive health emergencies or physical and psychological traumas.

More specifically, the objectives are:

1. Identifying, monitoring and addressing health needs by coordinated actions;
2. Establishing a network of verification and response for disease and outbreak control;
3. Reducing environmental health risks;
4. Expanding access to PHC according to population movements;
5. Strengthening referral care systems in support of PHC network.

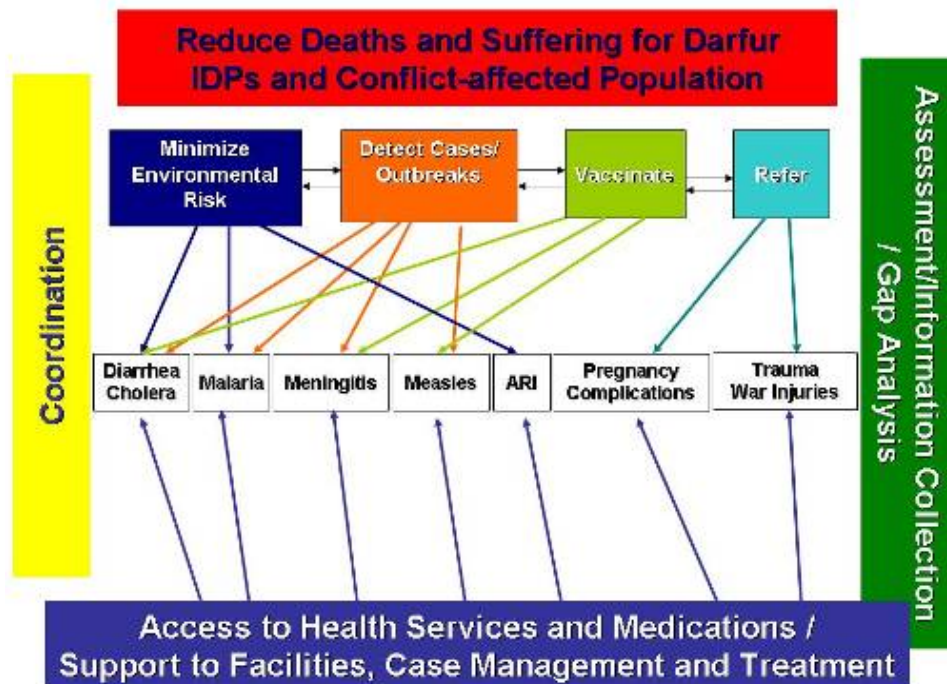
Through its three sub-offices located in the humanitarian coordination hubs established by OCHA in El Fasher, Nyala and Geneina, WHO is working to:

- Ensure that health needs are identified, monitored and properly addressed;
- Reduce risks related to communicable diseases, particularly disease outbreaks;
- Reduce risks due to poor water supply and sanitation;
- Reduce risks related to poor access to and poor quality of primary health care;
- Ensure that a proper referral system is in place for secondary level care, especially for reproductive health emergencies, physical and psychological traumas.

The guiding principles of WHO's strategy are: operational presence, facilitation through dialogue and adding value through synergies and partnerships.

The WHO's strategy is visualized in Figure 6.

Figure 6: WHO Sudan strategy for Darfur response



The cross-cutting themes include monitoring of challenges and opportunities and focused action to improve environmental health and enhanced managerial capacities. Together, they can ensure the best possible outcome to the greatest number of people in Darfur.

This strategy translates into the four programme pillars mentioned above, and for each into the appropriate operational products and related outcome indicators, as reflected in the UN 90-Day Plan.

## IV. Health Information and Coordination Management

### 1. Objectives and targets

The information available was unreliable and one of the main reasons for the establishment of a specific pillar on information and coordination management. With the presence of so many different partners working in health, the F/MoH requested WHO to support and facilitate the coordination of all health activities at state level. Further objectives included:

- Providing technical and administrative support to the F/SMoH weekly health coordination meetings;
- Ensuring the dissemination of relevant and appropriate technical guidelines to all stakeholders;
- Advocating for appropriate 'best practice';
- Supporting national authorities, UNICEF, UNFPA and NGOs in identifying partners, assessing operational capacities, ensuring the assignment of responsibilities and monitoring agreed programmes of work;
- Planning and conducting joint health assessments;
- Creating and maintaining gap analysis by geographical and sub-sectoral division;
- Fostering consensus on the standardization of protocols, definitions, forms and information flows;
- Ensuring availability of information, (e.g. through the Humanitarian Information Centre (HIC) for Darfur at <http://www.humanitarianinfo.org/darfur/> and other websites).

### 2. Indicators

- Number of localities covered by all health partners;
- Coordination mechanisms and systems in place at federal and state level;
- Availability of sub-sectoral information.

### 3. Achievements

Since December 2003, WHO has been supporting the S/MoH of the three Darfur States in leading coordination within the health sector at state level and in Khartoum with the establishment of emergency health committees. To offset the lack of information collection and analysis, a health information system was developed to provide constant mapping of disease outbreaks, health agencies activities and contingency planning and to assist partners in identifying gaps of health service delivery. Protocols on early warning and response were adapted to possible outbreaks, vaccination campaigns, malaria prevention and case management.

To manage the coordination, weekly health coordination meetings were organized by WHO to discuss health-related issues with all partners involved. The aim of the meeting was to keep partners up-to-date on ongoing activities and to assist them in implementing health care delivery in an emergency situation in the most appropriate way, emphasizing best practices. The underlying rationale for the meetings was to enhance the disease surveillance systems and to perform an inventory of the work sites and areas of the different agencies. This resulted in a matrix being used to analyse geographical gaps. By the second half of 2004, the analyses were able to measure access to and coverage of essential primary and secondary service

provision. The indicators used were derived from the revised Sphere Standards (2003) and were presented in the UN's (OCHA) 90-day<sup>6</sup>, and 120-day<sup>7</sup> plans.

The protocols and procedures for hepatitis E, meningitis and cholera preparedness and outbreak response, and the indicators for quality of primary health care provision were elaborated by consensus.

In the meetings, malaria prevention and control were at the forefront of concerns. Malaria control in the Darfur region became very critical since the country was in a transitional period, shifting from mono-therapy to Artesimin-based Combination Therapy (ACTs). Drug change policy, including implementation, availability, compliance and emergency preparedness, were discussed weekly and in special sessions. Due to malaria's importance, a separate task force was created to address specific issues as necessary.



The first national level meeting of the Health Coordination Group for Darfur chaired by the FMOH and facilitated by WHO, was held in Khartoum in March, thus establishing an important forum for exchanges and joint planning. By the end of March, consensus among all partners had been reached on the strategic priorities for the health sector. They were incorporated into the WHO plan of work and concept of operations of 15 April and subsequently provided the framework for common, inter-agency planning in different phases of the crisis (see 90 and 120-Day Plan).

To ensure the constant availability of updated information from the IDP camps, Camp Health Coordinators were posted in 24 of Darfur's largest camps in October 2004. This project was a FMOH and WHO joint initiative.

WHO worked on raising awareness on health needs through press conferences, press releases, videos to donors and the high profile visit of the Director-General. "Darfur speaking points" were prepared for weekly press briefings at the United Nations and WHO's website was kept up to date with the latest information. From April 2004, weekly progress reports with inputs from the three Darfur States, compiled in Khartoum and sent to Geneva, formed the key component of information dissemination on Darfur and WHO's work.

#### 4. Constraints

The highly politicized context in which WHO had to operate, compounded by the considerable media attention given to Darfur – particularly to health issues – was one of the major constraints and obstacles faced by the Organization in responding to the crisis. The collection and dissemination of critical health information became a sensitive issue.

Some resistance to the newly-implemented culture of using the information for improvement of planning and monitoring was also reported.

Furthermore, the State MoH needed support for in-service training of their staff.

<sup>6</sup> 17<sup>th</sup> May till 17<sup>th</sup> August 2004

<sup>7</sup> 1<sup>st</sup> September – 31<sup>st</sup> December 2004; an extension of the original 90-Day Plan

## 5. Way forward

After some months of work, lessons began emerging for the UN system and its international partners:

- *The need to shift from a quantitative to a qualitative approach:* In 2004, the emphasis on the response to the Darfur emergency was quantitative. With more established funding and operation channels, the approach in 2005 must be more qualitative. This means, for example, the use of clear and common standards for relief and assistance provision and the implementation of appropriate monitoring and evaluation systems.
- *The need for more attention to operational plans:* In conjunction with the shift towards a more qualitative approach, more attention needs to be paid to preparing the operational plans by which strategic objectives in Darfur are to be met. Better operational plans should, for example, reduce delays, waste and other shortcomings in the response.
- *The need to extend Emergency Planning and Response capacities:* Although the UN system in Sudan already has 'virtually' established Emergency Planning and Response (EPR) capacities, these need to be 'implemented' to cover the country more comprehensively and to include the range of possible natural and political emergencies. This should reduce the risk of delay in responding to potential future crises, as happened in Darfur.
- *The need to further improve coordination and information sharing:* This is a recurring lesson, but it is particularly relevant in view of the potential major changes in the political and humanitarian situation in Sudan in 2005 that might result either from an increase in conflict or the conclusion of an overall peace agreement. Such changes will require increased inter-country coordination and new information-sharing on cross-line arrangements, demobilization and return flows, among others.
- *The need to strengthen team work:* WHO, UNICEF and UNFPA must continue to strengthen interaction and collaboration to promote the implementation of a common UN system approach across Sudan and to play an effective leadership and advocacy role.



## V. Improved Access to Hospital Care and Referral Services

### 1. Objectives and targets

Prior to the start of the conflict in the Greater Darfur, the health system operated through self-funded mechanisms and cost-recovery tools. For the last 25 years, traditional healers, midwives and other medical assistants were the main health care providers, while most personnel working in health facilities graduated from local universities (e.g. El Fasher).

Save for a UNDP project on the rehabilitation of Primary Health Care centres, the region received little support since 1993. Of the USD 3 per capita per year average government expenditure on health only a very small part was spent on populations in the Darfur Region.

Most health facilities were incomplete or still under construction, and a large number were damaged or looted during the conflict. Most staff had already departed since salaries had not been paid since February 2003.

A continuous lack of medical supplies, the absence of a patient transportation system and the deteriorating security situation further illustrate the challenges encountered.

The overall infrastructure of the 29 hospitals providing services to the 7 million people living in Darfur was of low quality; access was difficult because of bad roads, water supplies and power sources were deficient and availability of raw materials poor.

Furthermore, the State MoH, under whose responsibility the health facilities fall, did not receive sufficient support from the national or federal level.

As soon as the humanitarian community began actively responding to the crisis in May 2004, WHO carried out a needs assessment and gap analysis for secondary level health care facilities<sup>8</sup>.

The following objectives were identified:

- Rehabilitating essential emergency, obstetrics & gynaecology, paediatric and laboratory services in three general hospitals and eight rural hospitals;
- Replenishing essential equipment;
- Re-installing referral systems, including ambulance services;
- Reinforcing hospital management systems;
- Setting up safe blood transfusion services;
- Implementing public health reference laboratories (one in each state);
- Providing refresher training to health personnel;
- Setting up counselling services for trauma victims and providing appropriate support to mental health services;
- Managing hospital waste;
- Building capacities for mass casualty management including triage;
- Setting up hospital information management systems and building institutional capacity;
- Expanding institutional support to selected hospitals in terms of limited recurrent costs.

### 2. Indicators

Indicators for measuring achievement included:

- Number of functioning hospitals with rehabilitated departments;

<sup>8</sup> According to international standards, a secondary health care facility has to be provided for a population of 50,000 persons within a catchment area of 50 km. The health care facility should be at least 5 km from the main road.

- Number of fully equipped and furnished departments in the rehabilitated hospitals;
- Number of functioning public health reference laboratories;
- Number of personnel trained on laboratory services including blood bank services;
- Number of hospitals reporting regularly according to required standards for information management system;
- Number of IDPs having access to a hospital<sup>9</sup>;
- Proportion of functioning hospitals (staff, supplies, surgery, paediatrics, obstetrics-gynaecology, infrastructure, etc.);
- Number of hospitals waiving user-fees for IDPs.

### 3. Achievements

In March 2004, WHO, the International Committee of the Red Cross (ICRC), MSF, the FMoH and the SMOH developed a plan to ensure access to secondary care for affected populations. According to the plan, nine rural hospitals and three state hospitals were to be strengthened before the start of the rainy season<sup>10</sup>. In support, the FMoH waived user fees for all inhabitants in the region<sup>11</sup>.

WHO, in partnership with the NGO Die Johanniter, began the rehabilitation and refurbishing of the paediatric ward at Kass Hospital, South Darfur, at a cost of USD 45,000. Rehabilitation of other wards is ongoing. The WHO Office in Nyala released USD 5,000 for the completed rehabilitation of the Hospital's outpatient department. While Kass Hospital was rehabilitated, IDPs with conflict-related injuries were referred to Nyala Teaching Hospital.

*Kass hospital before and after rehabilitation*



Parts of Nyala Teaching Hospital were also rehabilitated namely the outpatient department, one surgical ward and the kitchen. By the end of 2004, the operating theatres and male surgical wards in Kass and Edain Hospitals (South Darfur) were in the process of being rehabilitated, as was the laboratory compound in El Fasher Teaching Hospital (North Darfur).

In West Darfur, WHO rehabilitated the laboratory, blood bank, gynaecology, female surgical and medical wards of El Geneina State Hospital and contributed with a generator, electrical goods and furniture. In Habila Hospital, WHO rehabilitated the laboratory and blood bank.

<sup>9</sup> Hospital located within 50kms by secure and accessible road (Sphere)

<sup>10</sup> The aim is to have at least one functioning referral facility in a radius of 50 km from all major (10,000 people) concentrations of population.

<sup>11</sup> The waiver on user-fees is a necessary emergency measure and represents quite a novelty for health action in context of crisis.

Besides rehabilitating the physical infrastructure, WHO focused on providing essential drugs and consumables supplies, equipment and training to upgrade medical staff's surgical skills. Outbreak investigation was improved, with samples sent to the newly rehabilitated public health laboratory in Nyala.

In collaboration with the Global Fund Project and the FMOH, WHO provided the hospitals with blood bank reagents. Nyala Teaching Hospital also received laboratory equipment. The services of local HIV/AIDS and Gender-Based Violence (GBV) counsellors were provided, together with equipment for emergency obstetrics, paediatrics, and trauma surgery in refurbished facilities.

To improve the hospitals health information systems, desktops were purchased. The software system used in the hospitals was adapted to include IDP data. The Government of Italy donated five New Emergency Health Kits (NEHK), five UNFPA kits 6 and three UNFPA kits 8, among other items.

Within the worldwide WHO initiative on Rational Use of Drugs, the national drug list was distributed to all the hospitals in Darfur, while a central medical supplier was nominated and an active quality control system was put in place.

*Kass hospital before and after rehabilitation*



WHO also supported the rural hospitals in Kass, Buram, Kebkabyia, Garseilla, Eldeein, Idalfarsan and Saraf Orma by providing continuous expert technical support to identify and fill gaps in referral and in-patient care and assisting in matters of hospital management, rational use of drugs, access and quality of care. Drugs and trauma kits were provided to the hospitals. In-service training on emergency surgery (especially for obstetrics and trauma) and Integrated Management of Child Illness (IMCI) was provided for medical officers in charge of rural hospitals and periodical refresher workshops held throughout the year.

In Annex 3, several maps display the increased access to secondary health care facilities for IDP's over several months in 2004.

WHO, in collaboration with UNFPA, organized a Training of Trainers (ToT) course for nursing school teachers and a training course for the nursing staff in El Fasher Hospital. The training programme for nursing was also initiated in Nyala Teaching Hospital and El Geneina General Hospital. In addition, a national consultant in surgery was sent to the key hospitals to train the local staff on surgical skills and trauma management. In-service training to local hospital administrators was provided.



Hospital management boards were set up in Nyala, Kass, Edain, El Geneina Hospitals through 'on the job' training on coordination and auditing skills. A hospital coordination meeting was institutionalized in each state.

To formalize all ongoing activities with the hospitals, Technical Cooperation Agreements (TCAs) were signed with Nyala Teaching Hospital and Kass and Edain Rural Hospitals in

South Darfur; El Fasher Teaching Hospital in North Darfur; and El Geneina General Hospital in West Darfur.

WHO established Medical Emergency Response Teams (MERTs) in each State to provide medical support to the UNAMIS medical evacuation (medevac) system through first aid training, post-incident trauma care and patient stabilization prior to and during medevac. MERT clinics were set up for UN and NGOs staff members.

#### **4. Constraints**

Poor general infrastructure, compounded with security restrictions, rendered access to health facilities difficult.

Additionally, it was the first time that WHO worked on hospitals during an emergency phase.

A number of technical and human issues needed to be addressed:

- The buildings used were not initially intended to function as hospitals;
- Efficient medical staff were lacking;
- A reliable medical record system was absent, meaning that there were hardly any statistical data available and that of very poor quality;
- No reliable budget management system were available in the health facilities;
- No inventory system for drug supplies existed at health facilities or the SMOH;
- Available supplies and equipment needed for the rehabilitation were of poor quality or unavailable in the local market; and,
- Reliable medical suppliers were not available in Sudan.

#### **5. Way forward**

Once the physical rehabilitation of the health facilities, including the establishment of a professional health information management system and of a drug supplies inventory system is completed, the focus will shift on capacity building in hospital management.

## VI. Communicable Disease Control, Surveillance and Outbreak Response

### 1. Objectives and targets

Communicable diseases cause an enormous burden of morbidity and mortality in the Greater Darfur. They range from the common childhood diseases brought on by poverty to a large number of endemic and epidemic “tropical” diseases affecting wide segments of the population.

Diarrhoea, Acute Respiratory Infections (ARI) and vaccine preventable diseases, combined with malnutrition, are among the most important causes of child morbidity and mortality in the Greater Darfur. As in many other developing countries, the overall epidemiological profile of the region is still largely dominated by communicable diseases, most of which are common diseases that can be prevented or treated using simple strategies at relatively low cost.

The following objectives were identified:

- Establishment of a Darfur-wide Early Warning Surveillance System (EWARS) for outbreak alert, investigation, and verification;
- Development of software application for data entry, data analysis and report generator mechanisms;
- Integration of EWARS into national routine and sentinel disease surveillance;
- Regular analysis of the EWARS data to produce a weekly Morbidity and Mortality Bulletin;
- Enhancement of the FMoH and SMoH capacity for data collection and analysis;
- Integration of regular programmes (polio and malaria) into emergency surveillance and response mechanisms;
- Pre-positioning of essential supplies (drugs and consumables) for outbreak control;
- Development of the necessary preparedness plans for outbreak prone-diseases, such as cholera and meningitis;
- Targeted vaccination programmes as appropriate;
- Vector control implementation for the main diseases;
- Availability of transport media and functioning referral chain for outbreak investigation.

### 2. Indicators

- Number and proportion of sites reporting weekly;
- Total population under surveillance;
- Operational case verification system (laboratory and sample transport);
- Outbreak Preparedness and Response system in place;
- Measles immunization coverage.

### 3. Achievements

#### a. Development of the Early Warning and Response System (EWARS)

To ensure early detection and immediate and adequate response to potential outbreaks among the displaced and affected host population, WHO, in coordination with the FMoH and with the collaboration of health implementing agencies, has established an Early Warning and Response Surveillance System (EWARS).

The National Surveillance system, based on specific diseases, needed to be complemented with a system allowing early detection of potential outbreaks prompt response, particularly in areas where no reporting system exists and where the risks of outbreaks are high, such as IDPs camps or sites with a high concentration of people. Such a system would need to be very sensitive to detect all possible cases, simple enough to be acceptable to health personnel and with a short periodicity of reporting to be able to detect a sudden increase of cases (clustering in time).

Early in May 2004, EWARS, was installed, using basic epidemiological data collected from a weekly Surveillance Morbidity and Mortality form. A weekly report has since been produced and disseminated to the FMoH, the SMoH and the WHO Office in Khartoum. Results are further shared through different mechanisms including weekly communicable disease meetings and Health Coordination meetings.



Training on EWARS specifically and surveillance, epidemiology, outbreak investigation and response, early preparedness and mapping were provided to all staff members involved. Once reporting sites were identified, registration and reporting were gradually improved through regular supervision and monitoring. An efficient communication system also enhanced data management, analysis and interpretation.

All possible informal sources of information had to be considered, including media, community leaders, veterinary service, private sector, laboratories and pharmacies, through rumour verification units.

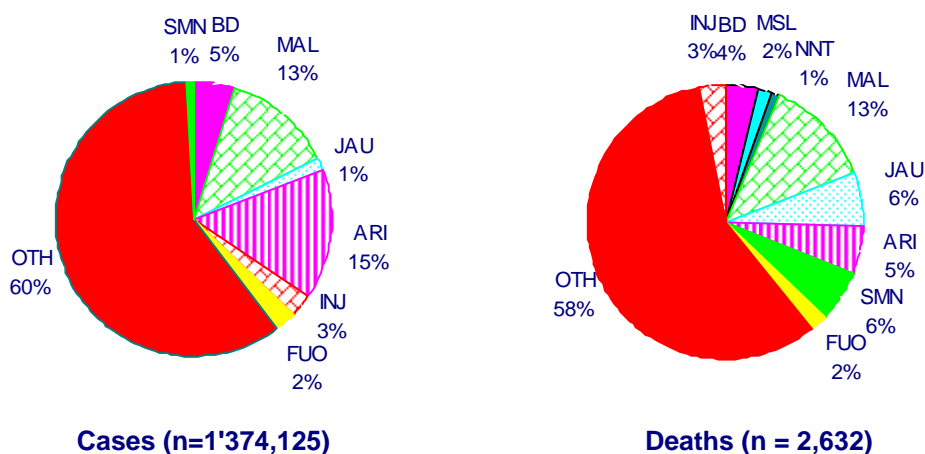
Epidemiological profiles of communicable diseases, guidelines and fact sheets (e.g. on drug resistance) were produced as a technical service for all partners and were disseminated. Good coordination with other agencies promoted consensus among all national and international partners on standard case definitions, case management guidelines and benchmarks for the purposes of monitoring and early warning, as well as for defining alert thresholds for action.

The production and dissemination of the Weekly Morbidity and Mortality Bulletin (WMMB) enhanced data sharing and prompt information between all partners, and specifically between the FMoH and SMoH, including the national surveillance system.

Between 29 January and 11 February 2005 (epidemiological week no. 6, 2005), 54 of the 83 reporting units that have received training on the EWARS provided surveillance data. Currently, the total population under surveillance is 1,165,480.

The proportion of reported cases and deaths is shown in Figure 7.

Figure 7: Proportion of all reported cases and deaths, Greater Darfur, Sudan, 22 May 2004 to 11 February 2005.



From 22 May 2004 to 11 February 2005, 1,376,757 cases and deaths of conditions under surveillance were reported. Since the introduction of the EWARS, there has been a 638% increase in the number of consultations, soaring from 8,081 consultations in Week 21, 2004 to 51,556 in week 6, 2005). Overall, 43% of the consultations were from West Darfur, 32% from North Darfur and 25% from South Darfur.

Acute Respiratory Tract Infection (ARI) and clinically diagnosed malaria represented the greatest proportion of cases, with respectively 15% and 13% of the total reported cases. Bloody diarrhoea also contributed significantly to the overall burden of disease, representing 5% of the cases.

Malaria was the main cause of death (13%), followed by acute jaundice syndrome and severe malnutrition: both 6%. The overall Case Fatality Rate (CFR) was 0.19%.

The rapid response mechanisms put in place included skilled teams as well as transport media and reagents; round-the-clock protocols and procedures for outbreak verification and response able to respond within 48 hours to cholera, measles and CSM (meningitis) outbreaks; contingency stocks of drugs against cholera and CSM outbreaks, covering the needs of 200,000 and 50,000 people respectively.

EWARS proved its usefulness in detecting several outbreaks of shigella, hepatitis E, neonatal tetanus, diphtheria, whooping cough, meningitis and malaria.

#### **b. Upgrading laboratory capabilities at national and state levels**

In a surveillance setting, early diagnosis and treatment of communicable diseases is crucial to prevent the spread of infection and to monitor the administration of drugs.

Hospital laboratories contribute to the high quality of patient care through experience, accuracy, relevance and prompt reporting of findings. This could be achieved by adopting standard methods in sample collection, transportation and processing and by implementing quality control and assurance programmes to monitor and evaluate appropriateness of results.

Identification of pathogenic strains is crucial to prevention through the development of suitable treatment modalities and effective vaccines. Monitoring of drug resistance among frequently isolated pathogens necessary for effective treatment and may be regarded as an important factor for the epidemiological tracking of strains.

The National Public Health Laboratory (NPHL) was provided with reagents, supplies and equipment. Trans-isolate media and rapid diagnostic testing for meningitis was provided for, as well. In the NPHL, a serology department for Hepatitis E ELISA testing was established, as well as a specimen referral system through CASSI Express. Training on sampling technique and specimen referral was conducted in the three Darfur states, as well as Training of Trainers (ToT) for NPHL staff members for advanced ELISA testing technique.

All three laboratories at the Nyala, Al Fasher and El Geneina General Hospitals were upgraded.

#### **c. Strengthening epidemic preparedness and response capacities**

**Cholera** In most refugee or displaced populations, cholera is a significant health risk and particularly high when populations come from, pass through or settle in a cholera-affected area. In such high risk situations, plans for responding to an eventual cholera outbreak should be prepared well before the emergence of the first cases, ideally as soon as refugees or IDPs begin to gather (or prior to their arrival when possible).

The reduction of cholera mortality depends upon health service organization, distribution of supplies, health worker training, and communication with the population to ensure that adequate case management reaches cholera patients. These

components form the elements of a successful diarrhoeal-disease control programme.

In an outbreak, the best control measures are the early detection of cases and treatment of patients coupled with health education. In order to respond quickly to the cholera epidemic and to prevent deaths, health facilities must have access to adequate quantities of essential supplies, particularly oral re-hydration solution (ORS) and intravenous fluids.

A Cholera Outbreak Preparedness plan was developed for 2004. The plan included the strengthening of surveillance systems, early detecting and laboratory confirmation of Vibrio Cholera cases, the secured availability of cholera kits and IV fluids, as well as training of the health staff and health education.

ToT training on cholera detection and case management was conducted.

Cholera kits were pre-positioned in Khartoum and in the three Darfur States.

Several localized cholera vaccination campaigns were conducted:

- In Kalma IDPs camp, South Darfur (40,388 received the two doses of Cholera Dukoral vaccine) in May 2004;
- In Moussi IDPs camp, South Darfur (6,914 received the two doses of Cholera Dukoral vaccine) in August 2004.

WHO also assisted Chadian health authorities in their efforts to contain the cholera outbreak and reinforce cholera preparedness actions in the refugee camps.

**Measles** In IDP populations, measles can result in devastating epidemics with high fatality rates. Outbreaks can be prevented by increasing vaccination coverage; establishing a vaccination delivery system that maintains and improves high vaccination coverage; improving the quality and quantity of vaccination delivery services; increasing community participation and education; and improving surveillance for coverage and disease.

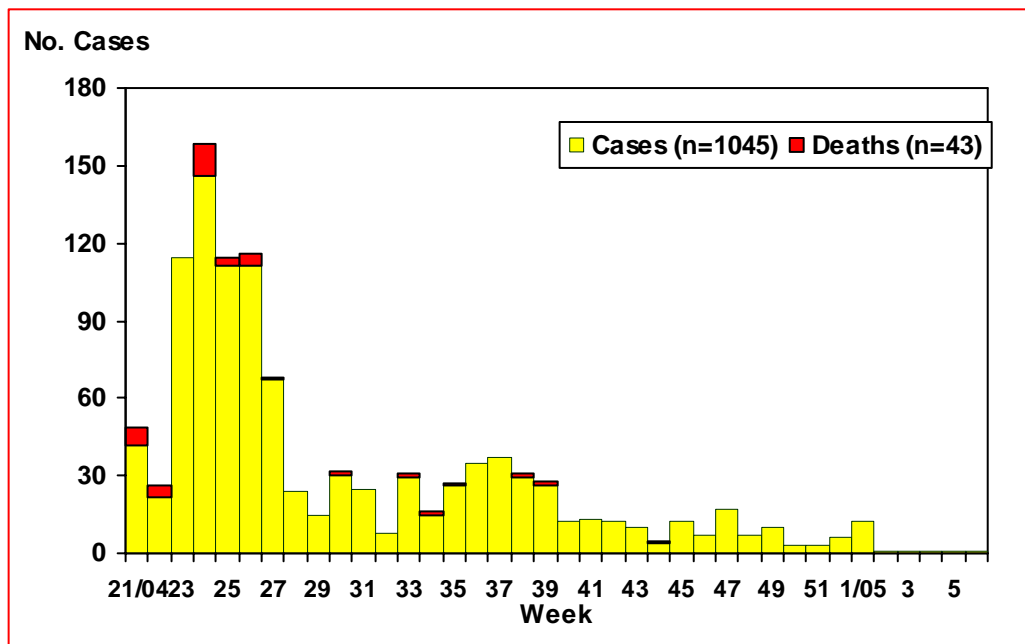
To reduce mortality due to measles virus transmission in the Darfur Region, the FMoH, together with WHO and UNICEF, conducted a mass measles vaccination campaign in June 2004 to vaccinate over 90% of children between 9 months to 15 years old.

During the mass measles vaccination campaign, 2,008,202 children (approximately 77% of total target population and approximately 93% of the “accessible” children living in the whole Greater Darfur Region) were vaccinated.

The pre-campaign surveillance revealed continued transmission of the measles virus in all three states with a peak in the number of cases between epidemiological weeks 15 and 26. Active case finding in the affected IDP camps identified three outbreaks involving 711 cases in West and North Darfur, of which 58% were children under five years of age. The case fatality rate observed in two of these investigations was more than 10%.

As shown in Figure 8, following the mass vaccination campaign, the number of suspected cases reported from the Darfur states decreased, (in some instances, an almost three-fold reduction was observed). No measles-related deaths have been reported since the epidemiological week 44 (2004).

Figure 8: Weekly distribution of reported clinically diagnosed measles cases and deaths, Greater Darfur, Sudan, 22 May 2004 to 11 February 2005.

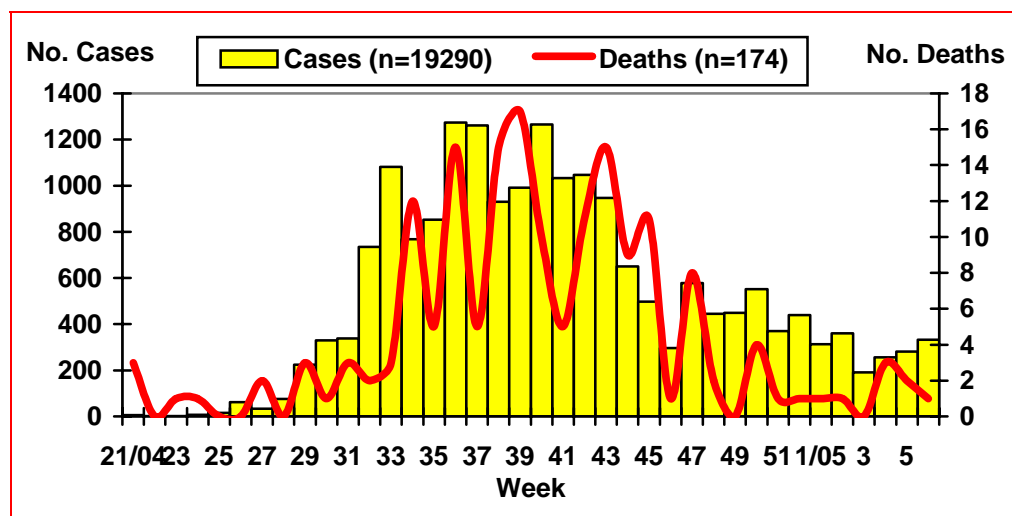


**Hepatitis E** Hepatitis E is an enterically transmitted virus widely spread in many tropical and subtropical countries. It causes an acute, icteric and self-limiting disease that has a high case fatality rate among pregnant women. Most studies suggest that hepatitis E is primarily a disease of young adults. Several studies have shown that there is a high case fatality (10%-20%) among pregnant women and that the disease severity increases with duration of pregnancy.

In the Greater Darfur Region IDP camps, environmental sanitation and personal hygiene are below the required international standards. However, hepatitis E outbreaks can vary in size from a few cases to thousands of cases.

Between 22 May 2004 and 11 February 2005, 19,464 cases including 174 deaths (CFR 0.89%) of suspected Hepatitis E were reported in the Greater Darfur Region through the EWARS system. The weekly distribution of reported clinically diagnosed cases and deaths is shown in the next figure.

Figure 9: Weekly distribution of reported hepatitis E cases and deaths, Greater Darfur, Sudan, 22 May 2004 to 11 February 2005.



Active case finding was organized in IDP camps through daily reporting of cases and deaths. A task force and operation room, composed of the FMoH, SMOH, WHO, WES and NGOs, was activated, involving both the health and water sanitation sector. Emergency coordination meetings were organized. One person was appointed to collect mortality data.

A cross-border (Sudan-Chad) investigation into the Hepatitis E outbreak was conducted.

The environmental health sanitation situation was improved through clean-up campaigns and rodent control campaign, as well as spraying of households. Some 73,000 soap bars were distributed (one bar per person) to strengthen personal hygiene in the IDP population.

Seventy health and hygiene promoters each visited 20 households to disseminate health messages.

Some 200,000 tablets of chlorine (1 tablet/5 L) were also distributed at household level for the chlorination of the water taps, as well as two water bladders (7,500 L each) and one 1,5 L water container per household. All water tanks were chlorinated.

**Meningitis** The highest burden of meningococcal disease occurs in sub-Saharan Africa, known as the “Meningitis Belt”, an area that stretches from Senegal to Ethiopia and covers an estimated population of 300 million people. This hyper-endemic area is characterized by particular climate and social habits. During the dry season, between December and June, dust winds and upper respiratory tract infections due to cold nights diminish the local immunity of the pharynx, increasing the risk of meningitis. At the same time, the transmission of the disease is favoured by overcrowded housing at family level and by large population displacements due to crises, pilgrimages and traditional markets at regional level. This conjunction of factors explains the large epidemics taking place in the dry season in this area.

A Meningitis Outbreak Preparedness plan was developed for 2005, including activation of a Meningitis “Task Force”, strengthening of surveillance systems, early detection and laboratory confirmation of cases, secured availability of vaccines and oily chloramphenicol as well as training for health staff and health education.

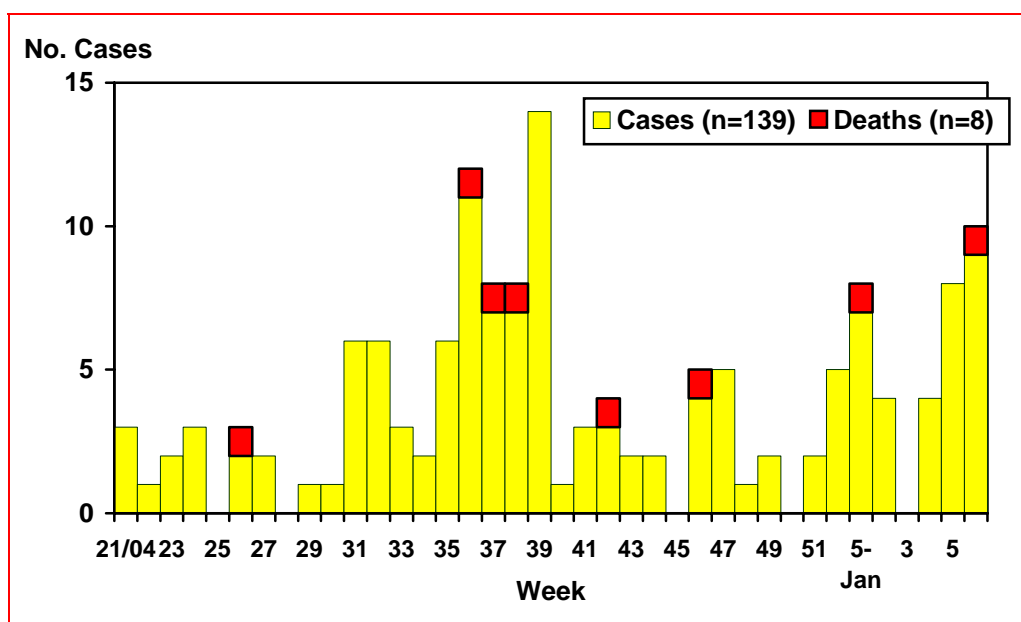
Also, several localized meningitis vaccination campaign were conducted:

- In Kutum camp, North Darfur (80 74,124 IDPs vaccinated) in February 2004;
- In Ardamata, El Thoura, Durti, Mastri, Abu Zer, Fur Baranga, El Tadamoun, and Kerinding camps, West Darfur ( 66,472 IDPs vaccinated) April 2004;
- In Morni camp, West Darfur State (40,696 IDPs vaccinated) September 2004.

Training for national medical staff from the Epidemiology Units of the FMoH and SMOH were conducted on meningitis outbreak investigation, response and epidemic control as well as ToT training for FMOH staff on meningitis outbreak investigation and response and cholera detection and case management.

The distribution of reported suspected meningitis cases and deaths in the Greater Darfur is shown in Figure 10 on the following page.

Figure 10: Weekly distribution of reported Clinically Diagnosed meningitis cases and deaths, Greater Darfur, Sudan, 22 May 2004 to 11 February 2005.



#### d. Crude Mortality Survey

The Crude Mortality Survey conducted between June and August 2004 by WHO and the European Programme for Intervention Epidemiology (EPIET) was a valuable exercise. It provided scientific data on the health situation in Darfur, and, by providing information essential for targeting humanitarian assistance interventions to IDPs<sup>12</sup>, it became the cornerstone for WHO's actions.

The study's recommendations highlighted that:

- Existing humanitarian interventions should be intensified to reduce overall mortality;
- Additional efforts are needed to improve the environmental sanitation (access to clean water and latrines);
- The early warning system needs to be enhanced for prospective mortality surveillance. This may be done through a combination of activities such as 24-hour surveillance of cemeteries, active mortality reporting at the community level by health visitors (one per 200 families) and monitoring through free provision of burial shrouds.

#### e. Polio

A series of National Immunization Days against polio were organized in 2004 in the three Darfur States. The figures below represent the total number of children under the age of five that were vaccinated.

<sup>12</sup> Darfur Review: An internal review of WHO's response to the Darfur Crisis, September 2003 to December 2004

Figure 11: Total number of vaccinated under-five children in the Darfur States

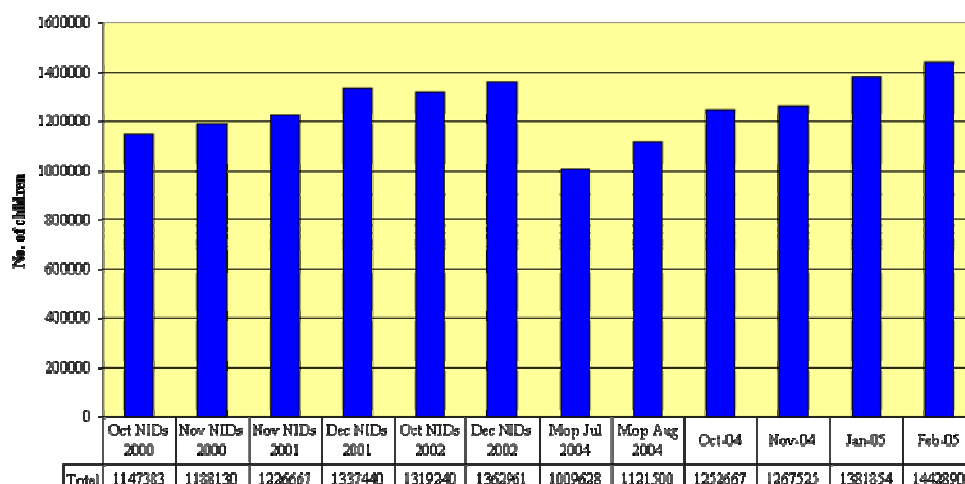
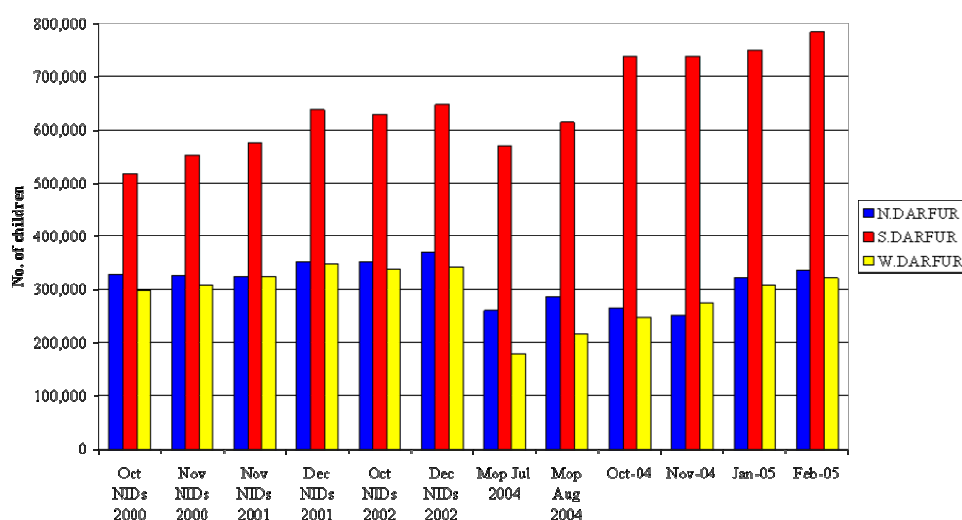


Figure 12: Vaccinated under-five children by state



#### 4. Constraints

The EWARS does not cover the whole population, nor are all diseases included in the surveillance system. Many areas were not accessible during the rainy season or because of the prevailing security situation. Besides, not all the reporting health units were functional on a regular basis, mainly because not all the NGOs working in the field reported on regular basis.

The epidemiological capacity at state level was limited, essentially due to a lack of staff appropriately trained on outbreak investigation and to a rapid turnover of trained staff. A lack of adequate transportation and communication methods further complicated the communication between the reporting units and the state level. A shortage of updated guidelines and standardized procedures for outbreak investigation in the field also had to be overcome.

A delay in receiving laboratory confirmation reports from the NPHL hindered the state authorities' response to the disease outbreaks. Other delays were experienced in shipping the samples from the field to the WHO Sub-Offices and from the state to the NPHL in Khartoum.

Technical laboratory capacity at state level was very low because of material limitations and shortage of trained staff. A shortage of media and specimen collection materials and a lack of sterile technique in collecting samples also led to a high contamination rate.

## 5. Way forward

The focus will be on improving the quality of the EWARS through close monitoring of reporting units and the increase in both number and frequency of existing and newly identified reporting units.

Continuous coordination with other health partners remains a priority, as well as capacity building at FMoH, SMOH and at health facilities level.

The upgrading of the laboratory capabilities at national and state levels after the physical rehabilitation of the state hospital laboratories is an ongoing process.



## **VII. Access to Primary Health Care, and Environmental Health**

### **1. Objectives and targets**

The WHO environmental health (EH) programme in Darfur was established to help improve the environmental health conditions of conflict-affected people, and thus reduce environment-related sickness and death among the population. The programme is primarily aimed at contributing to the improvement of water supply, excreta disposal, solid waste management, and vector control practices in camps and settlements and at building the capacity of local state governments to better lead and partner in environmental health activities.

The overall objectives of the WHO EH programme are to:

1. Ensure that IDP camps/settlements are provided with effective basic environmental health facilities for water, excreta disposal, solid waste, and vector control;
2. Promote and assist in establishing water quality monitoring in the IDP camps/settlements including conducting sanitary inspections and water testing;
3. Improve the environmental conditions in hospitals serving IDP populations through assisting in the upgrade of water supply and excreta disposal facilities and the establishment of sound solid waste management practices; and
4. Strengthen local government environmental health programmes for managing environmental health activities in both emergency and non-emergency situations.

An additional objective of the WHO EH programme is to support and complement UNICEF as the lead agency for water and sanitation by providing technical advice, partnering on activities and by strengthening the link between disease outbreak and environmental health. Fostering good collaboration between local governments, UN agencies, NGOs and the supported communities is seen as critical to meeting the many challenges set before the water supply and sanitation sector in Darfur.

Similarly, Primary Health Care (PHC) is the mandate of UNICEF. WHO recognised at initial stages PHC needs, complementary to UNICEF's work, and filled gaps through working with the FMoH and SMoH. Physicians and mid-level health care providers were recruited, clinics were built and drugs and supplies were provided, despite the somewhat limited staffing and funds available at the time. In the theme of PHC, local health workers and NGOs are the major service providers in the Greater Darfur. WHO shares the responsibility with UNFPA and UNICEF in assisting the FMoH in its responsibility to improve access to PHC for the affected population. UNICEF is responsible for providing the FMoH with drugs, medical supplies and equipment; UNFPA contributes by providing reproductive health kits and is planning to deploy specialist staff at state level; WHO provides the technical knowledge.

## 2. Indicators

- Number of IDPs with access to a PHC facility;<sup>13</sup>
- Number of functioning PHC facilities<sup>14</sup> with health professionals, specially skilled birth attendant and child health care providers;
- Number of IDP camps with capacity of essential drugs/supplies, antenatal care, safe delivery, routine vaccination, and referral system in place;
- Number of camps with functioning Community Health Committee<sup>15</sup>, community health supervisors, volunteers and hygiene promoters.

## 3. Achievements

### Improving environmental health conditions for displaced people

Safe water supplies, adequate sanitation, good hygiene practices and strong vector control activities are all essential to reducing the risk of environmental-related diseases. Through assessments, workshops, training, equipment provision. Technical advice, guidelines and protocols, the WHO EH programme aims at improving the environmental health conditions facing conflict-affected people in Darfur.

Environmental health assessments are one tool for linking health with environmental health. Throughout 2004, environmental health assessments have been conducted in camps and settlements to identify environmental health conditions of concern, specifically those conditions that can contribute to disease. These assessments aim at pinpointing problems and conditions in need of attention and are often spurred by indications of a potential disease outbreak.

Another method of linking health and environmental health in the Darfur States is through tracking disease cases and environmental health indicators by camp. In August of 2004 during an outbreak of acute jaundice syndrome in West Darfur, the WHO EH programme partnered with WHO communicable disease experts to develop a tracking tool which was used in daily outbreak meetings to monitor, on a camp-by-camp basis, the number of cases and the control measures recommended (such as chlorination of water supplies and hygiene promotion).



Throughout 2004 and into 2005, the WHO EH programme has served as a link between the water and sanitation sector and the health sector. This link has been formed through the sharing of information at sector meetings including sharing information on workshops, field observations, assessments of potential outbreaks, technical guidelines, protocols and procedures.

During 2004, the WHO EH programme focused attention and awareness on water quality in the camps. Particular areas of focus include measures for controlling and preventing drinking water contamination and on testing drinking water quality.

<sup>13</sup> 10 km by foot (Sphere Standards)

<sup>14</sup> according to Sphere standards for PHC

<sup>15</sup> According to Sphere standards for Environmental Health (Health & Hygiene promoters for PHC at community level)

WHO EH activities conducted in 2004 included:

- An in-depth assessment of drinking water quality which was conducted in West Darfur by a consultant from the U.S. Centers for Disease Control and Prevention (CDC). Recommendations from this assessment included: improve the monitoring of chlorination; focus hygiene education on safe drinking water; accentuate the need for sanitary inspections in IDP camps and settlements; chlorinate all bladders and tanks; and improve water surveillance and monitoring;
- Sponsoring of a SMOH/Water and Environmental Sanitation department (WES) representative and a WHO environmental engineer to attend training on the use of water quality testing equipment. The training was provided by the WHO Centre for Environmental Health Activities (CEHA) and was conducted in Amman, Jordan.
- Organizing and conducting a series of workshops on water quality surveillance and monitoring which focused on basic concepts related to improving water quality including reducing faecal-oral disease transmission through improving water quality (i.e., conducting sanitary surveys, chlorination procedures, testing water quality); and
- Distributing guidelines, protocols, and procedures, including cholera preparedness and information on HEV and its relation to drinking water, to the water and sanitation sector.

WHO EH vector control activities aim at providing technical and financial support for the control of disease-causing insects and rodents in camps and settlements. More specifically, activities include supporting and coordinating intervention efforts (including the spraying of dwellings) for mosquito and housefly control among the conflict-affected population and building capacity within local government to sustain comprehensive and safe vector control programmes. In addition, WHO supplies the UN system with up to date information on the distribution of treated mosquito nets to conflict-affected populations.

Activities during 2004 included:

- Conducting brief assessments of vector control activities, as part of overall environmental health assessments, in camps and settlements as needed within the three Darfur states;
- Providing financial support, including the purchase of insecticides and spraying equipment, for spraying activities conducted by the SMOH in selected camps; and
- Assisting in the development of an action plan in South Darfur, including contributions to be made by partners, for vector control activities in selected camps.



The control of solid waste is part of the overall goal of the WHO EH programme to improve environmental health conditions in the camps and settlements. Improving solid waste management practices in the camps and settlements is important for reducing the risk of disease transmission by insects and rodents. Specific activities envisioned for the future for strengthening solid waste management activities include providing and promoting the use of containers/burner, devising collection schemes, constructing waste disposal pits, and organizing cleanup campaigns for selected towns and camps.

Solid waste activities conducted in 2004 include:

- Conducting assessments of the overall environmental health conditions in selected camps including solid waste management practices; and
- Providing financial support for clean-up campaigns in selected camps.

Hygiene promotion, also known as public health education, is critical for reducing the transmission of environmental-related diseases.

Hygiene promotion activities in 2004 included:

- In November 2004, WHO staff assisted in facilitating a two-day hygiene promotion workshop sponsored by UNICEF and WES in North Darfur. In addition, WHO EH staff assisted UNICEF and WES in conducting a similar hygiene promotion workshop in West Darfur in late 2004. The goals of these workshops were to share guidelines, information, and experiences, and to provide participants with tools for improving activities in public health education; and
- Actively participating in hygiene promotion meetings within the Darfur Region and disseminating technical information related to hygiene promotion.

### **Access to Primary Health Care**

Camp-based health services face a demand that mainly originate from the under-five age group. The Early Warning Diseases Surveillance for Darfur reports that 39 to 45% of the total consultations belong to this group. The main causes are acute respiratory infection, diarrhoeal diseases, malaria, malnutrition and measles. The situation calls for a comprehensive child health care intervention that addresses the sick child as a whole as well as the key family practices that prevent child illness.

Therefore, in 2004, the FMoH decided to introduce the Integrated Management of Childhood Illness (IMCI) approach in Darfur with technical and financial support of WHO in coordination with SMoH, UNICEF and health humanitarian agencies in South Darfur. Twenty-one doctors were trained in classic IMCI and Standard Case Management (SCM), of whom 12 were trained as facilitators in SCM, and 15 health workers were trained as facilitators for community health volunteers. The IMCI core group within the SMoH was established with close support from the FMoH and WHO to enable sustainability of the IMCI programme at state level.

Implementation of IMCI strategy consists of three elements:

1. Improving the SCM skills of health workers at PHC level. This component targets medical doctors, medical assistants and nurses managing children. It is not meant for Community Health Workers.
2. Improving the health system by ensuring enough equipment and supplies to enable health workers to address the health of children more appropriately and in a timely fashion. This component also addresses referral pathways and the organization of health facilities to save the 'at-greatest-risk' children.
3. Improving family and community practices with focus on key family practices to help caretakers of under-five children provide the required health care during sickness and health.

In 2004, WHO elaborated technical guidelines to facilitate consensus around minimum standards of care that should cover at least: Acute Respiratory Infections (ARI), diarrhoea, malaria, (with special focus on IMCI<sup>16</sup>) uncomplicated deliveries, STD, HIV and trauma for all affected populations.

Together with SMoH, UNICEF and NGOs, the overseeing of standards of coverage, application of packages of care and appropriate case management/use of drugs was initiated.

Where needed, drug supplies were provided and supply pipelines improved, in close collaboration with SMoH, UNICEF and NGOs.

Solutions and means to provide medical support, counselling and referral for survivors of rape and Gender-Based Violence<sup>17</sup> were discussed as agreed between the SMoH, NGOs, UNICEF and UNFPA.

<sup>16</sup> Integrated Management of Child Illness

<sup>17</sup> Reports of rape are frequent, although understandably difficult to substantiate. In Korma, the local emergency committee was informed of 22 cases of rape, with three of the women requiring transport to El Fasher hospital for further treatment.

Results have been achieved by recruiting six national medical officers to work as trainers and supervisors and by allocating one logistician to assist and build capacity in the SMoH.

#### **4. Constraints**

One of the biggest constraints was the lack of medical professionals and the heavy workload of existing staff. These constraints limited the duration of training programmes conducted.

The capacity of local authorities in implementing activities was also limited.

Lack of a lead agency for managing Primary Health Care and environmental health issues at camp level is another main constraint. Furthermore, the linkages between WES and the FMoH were not optimal.

#### **5. Way forward**

Capacity building of local competencies through formal and on the job refresher training will remain an essential aspect.

In the improvement of comprehensive PHC services, the focus will remain on child and maternal health care.

By ensuring the functional rehabilitation of local health infrastructure, it is hoped displaced persons will be encouraged to return to their homes.

One of the main issues to be strengthened is management at IDP camp level.



## **VIII. Programme Management**

A large share of the financial requirements represents staff time that has been dedicated to activities (assessments, meetings, planning) that carry little or no additional costs, but for office and travel expenditures; while per diem rates in Darfur are low, they are quite high in Khartoum and they carry some weight to the costs of international staff.

Another important share of the budget has gone to the purchase of drugs and medical supplies. Security concerns impose a strong investment in MOSS-compliant vehicles and need for security officers. Overhead costs for monitoring, reporting and evaluation took up 10% of the budget. Of these, 5% will cover costs incurred at regional level and 5% at Headquarters level, as a fair reflection of the difficulty of providing strategic and technical backstopping to a humanitarian programme in a context as complex as today's Sudan.

The cost of satellite communications, that were set up in an early stage by WHO, were shared with other UN agencies and NGOs.

## IX. Conclusion

WHO was well perceived by partner agencies. WHO's increased presence on the ground was noticeable and showed commitment, value and technical expertise.

One of the success stories of 2004 was the development of the Early Warning and Response Surveillance (EWARS) system, through which WHO played a large role in averting disease outbreaks. Disease control and surveillance activities were timely and WHO's involvement in vaccination campaigns allowed a good coverage.

WHO was effective in getting people on the ground. One participant described WHO as one of the more effective UN agencies because "they geared up, got stuff cleared and moved and got more people out there". In general, WHO has developed good working relationships with NGOs, other UN organizations and national authorities and continues to maintain them.

The majority of health partners have observed that WHO's contribution to the emergency health action in Darfur was significant. WHO is recognised for its leadership role and its comparative advantage in health sector coordination and technical expertise. Setting up early the warning and surveillance systems and the application systems for the waiving of user fees for affected population in secondary health facilities are only two examples. WHO is used as a reference point for early detection and rapid response to emerging health threats and epidemics. The joint evaluation has validated and confirmed that WHO is on the right track.<sup>18</sup>

### Way forward

The prospect for 2005 is cautiously hopeful: the peace agreement between the Government of Sudan and the Sudan People's Liberation Movement/Army was signed on 9 January 2005. The country's immediate future now depends on the commitment of its leaders to maintain peace. The response of WHO and the United Nations in 2005 will be focused on reinforcing the peace process and on responding to the needs of some four million people<sup>19</sup>.

The peace agreement gives much reason to be optimistic for the resolution of the crisis in the Greater Darfur. Still, attacks are continuing, and as long as people are unable to go back to their villages, the humanitarian response will remain necessary. The return of internally displaced populations to their villages needs to be well-planned, especially to destroyed villages where health facilities are absent.

International community attention is still high on Darfur, with health being one of the main topics. WHO will amend and reorient activities as the context evolves towards a more stable phase and a transition to peace. For WHO, the challenge now will be to keep up the effort and improve on the quality, the timely delivery and the coverage of different services and tasks provided. The moral and financial support from donors and partners and cooperation with the health authorities will be essential to consolidate these results.<sup>20</sup>

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<sup>18</sup> ECHO/WHO Joint evaluation on the WHO Darfur operations in the context of the Health Action in Crises Three Years Programme (TYP), held from 22 February to 2 March 2005

<sup>19</sup> 2005 United Nations and Partners: Work Plan for the Sudan

<sup>20</sup> ECHO/WHO Joint evaluation on the WHO Darfur operations in the context of the Health Action in Crises Three Years Programme (TYP), held from 22 February to 2 March 2005

