

Monitoring the early response to a humanitarian crisis: the use of an Omnibus Survey in the Solomon Islands

Reiko Miskelly, Social Policy Officer, Policy Analysis, Planning and Evaluation (PAPE) Programme, UNICEF Pacific ryoshihara@unicef.org

Dr Will Parks, Chief of PAPE, UNICEF Pacific wparks@unicef.org *

Nawshad Ahmed, Former UNICEF Gizo Team Leader and Planning Officer, UNICEF Bangladesh nahmed@unicef.org

Asenaca Vakacegu, Monitoring and Evaluation Officer, PAPE, UNICEF Pacific avakacegu@unicef.org

Katherine Gilbert, Chief of Field Office, Solomon Islands, UNICEF Pacific kgilbert@unicef.org.sb

and

Tim Sutton, Deputy Representative, UNICEF Pacific tsutton@unicef.org

* Author for correspondence.

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Abstract

On April 2nd 2007 an earthquake followed by a tsunami hit islands in Western and Choiseul Provinces of Solomon Islands. Over 36,500 people living in 304 communities were affected. Alongside other United Nations agencies, International and National Non-Government Organizations and Faith-Based Organizations, the United Nations Children's Fund (UNICEF) has played a significant role in the emergency response. UNICEF mobilized staff and resources guided by the agency's Core Commitment for Children in Emergencies (CCCs). Dialogue with government counterparts and partners led to an initial six-month Emergency Management Plan (EMP) enabling coordination of UNICEF's response to the needs of the affected population.

This paper describes the use of a rapid monitoring tool – the Omnibus Survey – designed to measure initial EMP targets for key child survival interventions 10 weeks after April 2nd. The paper begins with an overview of UNICEF's role in declared emergencies. A background to the April 2nd disaster and UNICEF's early work with partners is then provided, followed by an explanation of the Omnibus Survey. Immediate implications of the survey's findings for UNICEF's ongoing assistance are discussed together with broader lessons learned when preparing for and managing humanitarian crises in the Pacific.

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Introduction

Pacific Island Countries are located in one of the most vulnerable regions of the world in relation to the intensity, frequency and consequences of natural disasters. Impacts and losses, however, can be substantially reduced if authorities, individuals and communities are well prepared and equipped with the capacities for effective disaster management. In accordance with the Millennium Declaration, the Yokohama Strategy, the Hyogo Framework for Action, and the Pacific Disaster Risk Reduction and Disaster Management Framework for Action 2006-2015, Governments in the region have committed to strengthening their capacities to predict, prepare for and respond to emergency situations.^{1,2,3,4}

The capacity to collect and use data to plan, monitor and evaluate emergency responses is critical yet often the weakest element of disaster management.^{5,6} This paper describes how the United Nations Children's Fund (UNICEF) is working with government partners and other agencies to monitor the response to the April 2nd 2007 earthquake and tsunami disaster in Solomon Islands. The main subject is the use of a rapid population-based monitoring tool – the Omnibus Survey – designed to measure initial targets set for key child survival interventions 10 weeks into the emergency response.

The paper begins with an overview of UNICEF's role in declared emergencies. This is followed by a background to the April 2nd disaster in Solomon Islands and UNICEF's

early work with partners to assist the affected population. The Omnibus Survey is then described. Immediate implications of the survey for UNICEF's ongoing assistance in the response are discussed together with broader lessons learned when preparing for and managing humanitarian crises in the Pacific.

UNICEF's role in emergency preparedness and response

Humanitarian response activities are an essential part of the overall work and cooperation of UNICEF.⁷ UNICEF's role and mandate to respond to emergencies is well articulated in the agency's Core Commitments for Children in Emergencies (CCCs) and well understood by partners in Government, international organizations and civil society (Tables 1 and 2).⁸

[INSERT TABLES 1 AND 2 about here]

UNICEF builds and retains institutional capacities to meet the CCCs and ensures that its staff and all programmes of cooperation are able to adapt to emergency situations that require humanitarian response. The extensive field experience and presence, neutrality, human rights-based mandate and operational capacities of UNICEF are particularly important assets.

UNICEF procurement services and expertise in international commodity purchasing and supply enhances country programme support. UNICEF offers governments, global funding partners and other UN agencies a quality-controlled facility through which to

make cost-efficient use of resources aimed at ensuring commodities are available to emergency-affected populations.

Communities and national authorities play the central role in enhancing resilience to disasters, through the entire spectrum of risk management: prevention, mitigation, preparedness, response, rehabilitation and recovery. There is no substitute for national ownership and active leadership with strong participation by all stakeholders. Thus, external support should focus on strengthening national preparedness for and response to emergencies.⁹ UNICEF is in a unique position to partner with governments to build the capacities of government counterparts, especially at local level, closest to the community.

The April 2nd 2007 earthquake and tsunami in Solomon Islands

The independent nation-state of Solomon Islands has a sea area of 1.34 million km². The islands extend over a distance of 1,700 kilometers from Papua New Guinea's island of Bougainville in the north-west to Vanuatu in the south-east. The most populated province in Solomon Islands is Malaita Province with 122,620 people (1999 census) followed by Western Province with 62,739 people and Guadalcanal with 60,275 people. The least populated province is Rennell-Bellona with only 2,377 people.

On the morning of April 2nd (0740 local time), an earthquake measuring 8.1 on the Richter scale struck the country, triggering a tsunami and sea surge less than 5 minutes later. The earthquake occurred six miles below the sea floor and around 25 miles (45 km)

south-southeast of Ghizo Island in the Western Province – some 220 miles (350 km) northwest of the capital, Honiara.

Once initial assessments were complete, the National Disaster Management Office declared that over 36,500 people living in 304 communities were in some way affected across the islands of Ghizo, Simbo, Ranonga, Shortlands, Munda, Noro, Vella la Vella, Kolombangara and parts of the southern coast of Choiseul. These assessments revealed 52 lives had been lost (23 were children under the age of 10), 40 people injured, 3,251 houses destroyed, and another 3,047 houses damaged. Over 130 camps for internally displaced people (IDP) were spontaneously set up. Some 6,000 people were identified as requiring temporary food supplies. Primary health care services in the affected areas were disrupted and the main referral hospitals in Gizo and Sasamunga significantly damaged. At least 200 schools were destroyed with more than 18,000 students experiencing substantial interruption to schooling including those not living in directly affected communities – over 50% of these students will not have permanent schools until full or partial rehabilitation takes place.

UNICEF's early response

In partnership with the Government, other UN agencies and several International and National Non-Government Organizations and Faith-Based Organization (including Save the Children Fund Australia, World Vision, Caritas Solomon Islands, Oxfam, and the National Red Cross supported by the International Federation of Red Cross/Red Crescent), UNICEF's early response focused on health, nutrition, water and sanitation,

education, child protection and HIV and AIDS. UNICEF's action was and continues to be guided by the CCCs and the immediate and ongoing needs of children and women identified through field assessments.

A Flash Fund Appeal was immediately launched, resulting in an initial US\$500,000 donation from the Government of Japan, Japan Committee for UNICEF and the US Fund for UNICEF. UNICEF Pacific has so far reprogrammed more than US\$200,000 of its Regular Resources to support the emergency response.

With support from the Government of Solomon Islands, NGOs and the military forces of Papua New Guinea, Australia, New Zealand and the United States, UNICEF delivered pre-positioned emergency medical supplies for up to 10,000 people, tarpaulins and School-in-a-Box education kits, within four days of the onset of the emergency.

Distribution of these items to affected areas commenced within two weeks of delivery in Honiara. UNICEF continues to assist the Government and NGOs in the procurement and distribution of non-food items including family and school tents, Oral Rehydration Solution (ORS) packets, Vitalita (a nutritional supplement), water containers, hardware supplies for water and sanitation systems, water bladders, clinical equipment, boats, School-in-Box kits, Recreation kits, toys, sports equipment and musical instruments for young people, and wind-up radios.

Staff members were rapidly mobilized to the affected areas from UNICEF's Regional Office in Bangkok, UNICEF's Sub-Regional Office in Suva and National Field Office in

Honiara. Additional human resources have been recruited from other UNICEF Offices (e.g., Bangladesh, East Timor, and Pakistan) and from UNICEF's international consultant roster. By the end of the second week, a small UNICEF office was established in Gizo Town on Ghizo Island to monitor the situation on the ground and to coordinate UNICEF's contribution to the relief and rehabilitation phases. UNICEF remains the only UN organization with a response and recovery programme in the affected area, enabling facilitation of inputs from other UN entities including UNDP, UNFPA, WHO, UNAIDS and FAO.

By the end of third week, an Emergency Management Plan (EMP) detailing key results for children to be achieved after 10 weeks and at the six month mark was developed through consultation with relevant government ministries and partners. The EMP remains a working document and is revised in line with field monitoring. EMP results and associated CCCs relevant to this paper are listed in Table 3.

[INSERT TABLE 3 about here]

Selected highlights of UNICEF's work 10 weeks post-disaster include:

- Support to the Ministry of Health and Medical Services (MHMS) in re-establishing primary health care services in Western and Choiseul Provinces with an emphasis on immunization, health promotion, nutrition, medical service outreach, disease surveillance and basic infrastructure. UNICEF has assisted and continues to assist the planning and implementation of health promotion tours in IDP camps and affected

villages by a specially trained MHMS team. Local radio announcements and materials on key child survival and protection messages (Survive and Protect) support the team's face-to-face communication. This team also helps to distribute non-food items such as health promotion pamphlets and posters, ORS, Vitalita, and soap. UNICEF assisted the MHMS to conduct a measles vaccination and Vitamin A supplementation campaign launched within the first month of the response. The campaign achieved over 95% coverage for immunization. After the World Health Organization assessed the asbestos problem in affected areas – many damaged houses and public building unfortunately contained asbestos – UNICEF supported the MHMS in an intensive effort to remind the public that only trained personnel should remove broken asbestos. UNICEF encouraged young people from several IDP camps to manufacture and erect local signposts emphasizing the dangers of asbestos (Figure 1). At the time of writing, the government-organized asbestos disposal campaign continues.

[INSERT FIGURE 1 – Rino's picture of young people making signpost – about here]

- Support to the Rural Water Supply and Sanitation Services (RWSS) and NGO partners in assessing and re-establishing water and sanitation services to the affected populations. By the end of 10 weeks, all camps were at >50% of SPHERE standards for water supply and essential water supply rehabilitation and water quality testing had commenced in several villages and at selected health facilities.^{10,11,12} Achieving >50% SPHERE standards for sanitation within 10 weeks proved more difficult.^{13,14} Before the disaster, many communities were using the sea and not latrines. At the time of

writing, even though many latrines have now been constructed and their use promoted, actual use remains minimal. UNICEF worked and continues to work with NGOs to strengthen personal hygiene promotion interventions and to distribute soap to camp populations. By 10 weeks, 80% of camps on Ghizo Island had reached SPHERE standards for soap.¹⁵

- Support to the Ministry of Education and Human Resource Development (MEHRD) in establishing safe play and learning areas. Within 10 weeks, through partnerships with Save the Children Fund, World Vision, and MEHRD, a total of 94 Play safe areas had been set up reaching well over 6,500 affected children on Ghizo, Simbo, Ranonga, Vella La Vella, Rendova, VonaVona, Kolombangara and Choiseul.
- Together with New Zealand Aid and the European Union, support to the MEHRD in coordinating and analyzing the Emergency Education Assessment and drafting the Education Recovery Action Plan.
- Together with World Vision and Save the Children Fund, support the Social Welfare Division (SWD) of the MHMS in establishing a new pilot model of Community Welfare Volunteers (CWVs) for child protection. By 10 weeks, over 105 CWVs had been trained from 77 communities across all affected islands in Western and Choiseul Provinces. Each volunteer learned how to develop a participatory community child protection plan and to help families and communities report cases of child abuse to the SWD for their follow-up. At the time of writing, many of these protection plans continue to be implemented and child abuse cases continue to be reported and responded to by the SWD.

- Together with Save the Children Fund, support the training of Youth Volunteers from IDP camps in Life Skills (including HIV). Within 10 weeks, 28 volunteers from 15 camps had been trained and as a first activity, had assessed and communicated with over 200 young people living in camps about Self Awareness, Coping with Emotions and Stress, and the prevention of HIV and Sexually Transmitted Infections.

Monitoring the Emergency Management Plan

The 2007 EMP identified results to be achieved by 10 weeks and at the six month point post-disaster. Most results and targets in the EMP are monitored through: partner agency reports; staff field reports; reports from community agents (e.g., community protection plans); IDP camp inspections (e.g., SPHERE indicators); training reports; Meeting Minutes from various Tasks Forces; Clinic reports; and weekly Situation Analysis Reports.

A cluster of 10 week results and targets, however, could only be measured using population-based data. In consultation with the Provincial Disaster Committees in Western and Choiseul Provinces, respectively, an Omnibus Survey tool (covering several CCCs at once) was developed in early July 2007. The survey's objectives were to determine if:

- 100% of children aged 6 months to five years in affected communities were taking their daily recommended nutritional intake (RNI) using a proxy indicator of reach and use of Vitalita.

- 100% of diarrhoea episodes among children aged 6 months to five years in affected communities were being treated by ORS at home using a proxy indicator of reach and use of ORS for diarrhoea episodes experienced two weeks prior to the survey.
- 75% of young people, mothers and married women in affected communities had high levels of recall and understanding on “Survive and Protect” messages (including hygiene).
- 75% of the affected population had high levels of recall and understanding on what to do with asbestos.
- 75% of young people in affected communities had high levels of awareness on HIV and AIDS.

The survey also included general questions on Child Protection and Education to obtain family opinions on how well Child Friendly Spaces had been used and if IDP camps and affected villages were safe environments free from abuse and exploitation. These results are not reported here.

The Omnibus Survey Methodology

The methodology of choice was a cross-sectional questionnaire among the intervention group (a sample of the affected population) with a limited number of questions allowing simple quantitative measurement of the above objectives. It was not feasible or ethical to establish a baseline for these specific questions at the onset of the disaster. An intervention-control design – in which questions are applied to a sample of the affected population and a sample of a matched non-affected population – was only warranted had

the purpose of this survey been to determine the level of UNICEF contribution. Instead, the survey simply set out to measure whether or not 10 week targets had been reached. If targets were not reached, or if there were major variations in survey data between, for example, samples from Choiseul and Western Provinces, the survey would provide valuable information to guide further intervention. These were the main concerns of government counterparts and UNICEF.

If the survey measured that planned targets were indeed reached, the question would remain whether they were already at targeted levels prior to April 2nd. To compensate for the lack of baseline and control, six survey design features were employed: (i) correlating targets specific to the EMP – the reach of Vitalita supplies (not available prior to April 2nd) and asbestos messages (not intensively communicated prior to April 2nd) – with other survey measures; (ii) posing questions on the reach of “Survive and Protect” and “Asbestos” messages in such a way as to be specific to the emergency response (verbal cues to ensure message recall was post April 2nd); (iii) correlating message recall with exposure to communication materials (pamphlets and posters) distributed as part of the EMP; (iv) including questions on messages not communicated as part of the EMP; (v) including direct observation to determine if ORS packets were available in houses at the time of the survey; and (vi) considering plausible alternatives to emergency response activities that may have also contributed to the survey’s results (e.g., intensive health promotion activities prior to April 2nd) during analysis.¹⁶

Two groups of respondents were identified: (a) mothers with at least one child aged 6 months to 5 years; and (b) young people aged 13-18 years old. HIV questions were only asked among young people, and ORS and Vitalita questions were only posed to mothers. All other questions were given to both mothers and young people (Table 4). Basic demographic data were collected from all respondents.

[INSERT TABLE 4 about here]

A sample size of n=120 for each group was calculated using a standard formula to generate results that reflect the sampled population at 10% level of precision while accounting for non-response.

Z = standard score for corresponding confidence intervals (1.96), **P** = estimated proportion of the variable of interest (reach of interventions), **Q** = 1 – P, **D** = degree of precision desired (.10) (90% confidence level).

$N = \frac{(Z^2) PQ}{D^2}$

A 10% level of precision (instead of 5%) was satisfactory, allowing for a smaller sample size and thus easier logistics and less resources. P was set equal to 0.50. While the EMP’s targets are 100% or 75%, there was no baseline and an informed guess for P had to be made. In such situations, a value of 0.50 for P can be assigned because the variances of indicators measured as proportions are maximized as they approach 0.50. Choosing 0.50 also offered some insurance that the sample size chosen would be sufficient to satisfy the measurement objectives of the survey, even if the “guestimate” of P was erroneous.

$$N = \frac{(1.96^2)(0.5)(1-0.5)}{(.10)^2} = 96.04 \text{ rounded up to 100 respondents per group.}$$

To take account of non-response, another 20 respondents were added for each group.

Due to the lack of accurate data on the number of the care-givers and young people in the area, multi-stage cluster random sampling was used with the sampling frame being the total number of affected communities (IDP camps and villages) in Choiseul and Western Provinces. The number of camps/affected villages selected was proportional to the total numbers in each province. All camps/affected villages, irrespective of size of population, were thus given an equal chance of being included in the survey. Within each camp/affected village selected, six care-givers (mothers) and six young people (3 male, 3 female) were randomly selected from a list constructed on the ground. The next nearest camp/affected village was also sampled if the quota for either group was not reached in the pre-selected site. A total of 241 people participated in the survey, out of which 119 were young people (married or unmarried) and 122 were mothers. Ten villages with a total of 60 respondents (25% of total sample) were interviewed from Choiseul Province, and 23 villages/camps with total of 181 respondents (75% of total sample) were interviewed from Western Province. The ratio of young people to mothers was equal for each Province.

Each interview took no more than 30 minutes and every effort was taken to assure the quality of data. A small team of Solomon Island enumerators (equal mix of both genders) from the area were recruited from partner agencies as well as Youth Volunteer and Community Welfare Volunteer networks. The enumerators were thoroughly trained by the UNICEF Gizo Team Leader to consistently ask each question in local language using

the exact words and in the precise order printed on the questionnaire to help to minimize *interviewer bias* – the interviewer influences respondents either intentionally or unintentionally to give information different to that intended by the question. The questionnaire was pilot-tested and revised before use as part of the training. *Elite bias* – only interviewing those in positions of authority or seniority who may express their personal views rather than those of the community they represent – was minimized through random selection of respondents. Direct observation of presence of Vitalita, ORS and soap was used to check for *courtesy bias* (the respondent gives answers to please the interviewer) and *social desirability bias* (the respondent gives answers s/he thinks are the right things to say). Survey data were entered into and analyzed using Statistical Package for Social Sciences (SPSS) for Windows Version 10.0.

The survey team considered confidentiality as an utmost concern in the collection, management and analysis of all data collected. Names of the survey participants were not recorded on any written or electronic material. Nobody outside the Provincial Government and core survey team and those providing technical assistance have access to the data in any format. The enumerators read a statement regarding the purpose, procedures, risks and benefits of the survey to all individuals approached for interview. In addition respondents were assured of the confidentiality of any information they may give, and their right to refuse to participate and to withdraw from the survey. A statement confirming that consent to participate was both informed and voluntary was then signed by the respondent or the interviewer on behalf of the respondent if the latter was unable to sign.

Omnibus Survey Results

This section provides only the top-line results from the survey.

Basic Information on Respondents

Fifty-four per cent of respondents (N=130) were above 23 years, 19% were in their 30s and 9% were 40 years and above. Sixty-two per cent of mothers reported having only one child, 24% had two, 7% three, 3% four and 2% had five children. Females and males were equally represented among the youth. Around 25% of respondents (n=60) were teenagers, out of which 10% (n=6) were mothers. About the half of the total respondents were affiliated with the United Church, followed by Seventh Day Adventists (SDA) (21%) and Catholic (13%). Fifteen per cent had less than 6 years of schooling, 37% had 6 years of schooling, 31% had between 7 and 9 years, and 12% had between 10 and 13 years of schooling.

Proportion of children aged 6 months to five years in affected communities taking their daily recommended nutritional intake (RNI) using a proxy indicator of reach and use of Vitalita – 10 week target 100% of families with young children have Vitalita at home.

Only 35% of mothers with children (n=43/122) had seen a packet of Vitalita. No respondents had Vitalita in their house at the time of the survey. A smaller proportion of mothers reported having seen a packet of Vitalita in Choiseul Province than in Western Province.

Proportion of diarrhoea episodes among children aged 6 months to five years in affected communities treated with ORS at home using a proxy indicator of reach and use of ORS – 10 week target 100% of diarrhoea episodes experienced two weeks prior to the survey treated with ORS.

Thirty-nine per cent of mothers (n=48/122) said their children had diarrhoea last month. The level of reported diarrhoea episodes was the same for Western and Choiseul Provinces. Out of the respondents who reported children had diarrhoea in the last month, 9% of them gave ORS to the children and 12% went to clinic. Ninety-two per cent of mothers (n=112/122) had seen a packet of ORS. Fifty-five per cent had a packet of ORS at home at the time of interview and reported this was not the case before April 2nd. Only 15% of those with ORS packets could correctly explain how to use the ORS packet in accordance with printed instructions.

Proportion of young people, mothers and married women in affected communities with high levels of recall and understanding on Survive and Protect messages (including hygiene) – 10 week target 75%

More than 90% of young people and mothers in affected communities had high levels of recall and understanding that hand washing with soap and clean water is important to prevent diarrhoea. Communication materials and radio broadcasts implemented as part of the EMP, however, may not be the main contributors to this result. Fifty-six per cent of respondents (n=135/241) said that they had not seen the “Survive and Protect” poster or pamphlet disseminated as part of the EMP before the date of interview and 41% (n=99/214) said they did not listen to the radio in their village/camp. The survey could

not determine the contribution made by the health promotion team's face-to-face communication.

Fifty-nine per cent of respondents (n=141/241) had soap in their house/tent. A smaller proportion of respondents in Choiseul Province had soap in their house/tent when compared to Western Province. However, in some areas such as Rendova, Vonavova, Vella Lavella and Ghizo, availability of the sufficient water rather than soap seemed to be the main barrier to hand washing.

Proportion of the affected population with high levels of recall and understanding on what to do with asbestos – 10 week target 75%.

Eighty-eight per cent of respondents (n=212/241) knew that broken "fibro" (asbestos) can cause disease and cancer and that children should not play near broken fibro. A lower proportion of respondents had correct knowledge about asbestos in Choiseul Province than in Western Province. Radio broadcasts might have contributed better than posters given that 44% of respondents had heard about the broken fibro via the radio in the two weeks prior to the survey, whereas only 30% had seen the poster on broken fibro before. Again, how much influence was achieved through face-to-face communication by the health promotion staff who visited affected areas is unknown.

Proportion of young people in affected communities with high levels of awareness on HIV and AIDS – 10 week target 75%

Almost all of the young people interviewed had heard of HIV and AIDS and more than 75% of them had correct knowledge on how the HIV virus can be transmitted and how to protect themselves from being infected. Only 19% (n=23/119) knew that taking medication (Anti-Retro Virals) can reduce the risk of transmission of HIV to the unborn child despite 90% knowing that HIV+ pregnant women can transmit the virus to her unborn child and 73% knowing that this can occur through breastfeeding. Fewer respondents had correct knowledge about mother-to-child HIV transmission in Choiseul Province compared to Western Province. Fifty-one per cent of young respondents (n=61/119) said they would not send their child to a school where his/her teacher is living with HIV/AIDS. Thirty-four per cent of young respondents (n=41/119) said they would not buy food from a shopkeeper if they knew she/he had HIV/AIDS.

Discussion

There is always a temptation to add more questions, use larger samples, and deploy more sophisticated sampling designs in such a monitoring exercise. This survey was deliberately delimited to keep data collection and analysis as “light” as possible and to maintain a focus on the measurement of Emergency Management Plan targets requiring population-based data. The survey did not include samples of respondents and questions that were not relevant to the measurement of these targets or to the immediate design of follow-up interventions.

Whether and to what extent the EMP contributed is only pertinent when planned 10 week targets were recorded as having been achieved. The Omnibus Survey reveals that this is

only the case for: (a) levels of recall and understanding that hand washing with soap and clean water is important to prevent diarrhoea; (b) knowing that broken “fibro” (asbestos) can cause disease and cancer and that children should not play near broken fibro; and (c) young people having heard of HIV and AIDS and having correct knowledge on how the HIV virus can be transmitted and how to protect themselves from being infected.

For hygiene targets, analysis suggests that EMP interventions (“Survive and Protect” posters, pamphlets and radio broadcasts) were not the sole contributors. Communal knowledge on hand washing to prevent diarrhoea was likely to be high before April 2nd. If this was the case, the EMP simply reinforced this knowledge-base at a time of heightened risk for diarrhoea – a valuable input nevertheless. The contribution of face-to-face communication by mobile health promoters is unknown though field reports repeatedly stress the appreciation displayed by communities for the health promotion team’s visits.

For asbestos knowledge targets, it is likely that the EMP was a main contributor given little public communication on the dangers of “broken fibro” had been implemented in Western and Choiseul Provinces prior to April 2nd.

The high levels of HIV and AIDS knowledge and attitudes among young people are encouraging but unlikely to have been achieved by the deployment of a small number of trained peer educators and limited radio broadcasts after April 2nd. That between 30-50% of sampled young people display stigma towards HIV+ individuals is a serious concern.

Given that the EMP specific intervention (Vitalita) did not reach the planned target, that communication materials distributed as part of the EMP played a little part in disseminating messages, that soap was not readily available in 40% of sampled families, and that people did not know how to use ORS packets, suggests that re-strategizing in these areas is urgently required. A renewed emphasis on child nutrition is now being implemented including exploring ways to improve local food supplies. The health promotion team is embarking upon a new round of visits to IDP camps and affected villages. Greater emphasis should be given to reaching communities in Choiseul Province as well as to more intensive distribution of communication materials in both Provinces. Tailoring of messages to better suit the affected population may be needed to improve use of ORS. Local methods for rehydration during episodes of diarrhoea such as coconut water should be considered. Ways to address HIV-related stigma need to be considered. As more schools and churches are rehabilitated, these networks should be progressively included in public communication efforts.

During the survey, interviewers also asked communities about issues of concern and ongoing needs. Many of them were concerned about the lack of school and recreational supplies for children and young people. The fact that no emergency supplies reached some communities such as Lale in Ranonga and Toumoa in Shortlands suggests the need to further strengthen the monitoring of supply distribution. Although UNICEF specialists in water and sanitation, health and nutrition, education, child protection and HIV and

AIDS were deployed, it is critical to include expertise in supplies, finances and travel in order to enhance UNICEF's capacity to respond.

One reason that may explain why some of the planned 10 week targets assessed by the Omnibus Survey were not reached is the level of coordinated assessment, planning, and monitoring at the level of National and Provincial Disaster Councils in both Honiara and Gizo. Although some effort was and continues to be made to improve agency collaboration, UNICEF and other UN agencies need to provide stronger support to sectoral coordination in health and nutrition, water and sanitation, child protection and education at Provincial and National levels. It is also important to ensure better management of documentation of both initial assessments and ongoing monitoring of who, where, when, how and how many supplies are being distributed between the Government, UN and NGO partners. This will allow partners to identify gaps as well as prevent potential overlap of effort.

In the coming months, UNICEF, in accordance with the EMP, will be working with Government to establish routine monitoring of IDP camps, schools and clinics. A comprehensive process and outcome evaluation is scheduled at the end of six months (October 2007) to inform longer-term programming and will be the subject of a future paper. A summative evaluation is planned for 2009 to draw further lessons from the response.

Conclusions and lessons learned

The challenges of effectively preparing for and responding to emergencies in the Pacific are considerable. Limited capacity, geographical isolation, limited infrastructure, limited transportation, and sparse populations all pose considerable constraints to effective preparedness and response. Within the last four years the UNICEF Pacific office has responded to a number of emergencies, protecting the rights of the most vulnerable – children and women. Niue and Vanuatu were hit by cyclones in 2004, the Cook Islands and Tokelau were hit by cyclones in 2005. In April 2007, Solomon Islands was affected by a major earthquake and tsunami as described in this paper. In each of these emergencies, UNICEF Pacific has responded with assistance from the initial response through to recovery and rehabilitation. Key lessons have been learned:

1. It is important to build capacity of counterparts at both national and provincial levels and within the UN to prepare for and respond effectively and rapidly, and to manage the ongoing response.
2. Proven tools, procedures, and operating systems must be in place to support government and partner preparedness planning alongside rapid, effective and coordinated assessment and monitoring mechanisms following the onset of a declared emergency. This would include strong baseline information such as vulnerability maps based on demographics and risk analysis, standardized initial assessment tools and data-management systems.
3. UN capacity must be strengthened to respond and coordinate with other major partners. For example, UNICEF Pacific needs to improve the management of its human resources plan to ensure continuity in the response and develop its own roster of consultants with experience in emergency response in the Pacific. The experience

in Solomon Islands also confirmed the importance of dispatching a team leader with strong leadership skills who has experience in emergency response, assessment and coordination within days of the emergency to ensure the effectiveness of the response operation.

4. Emergency supplies for rapid deployment to affected populations must be pre-positioned within the Pacific as well as further streamlining of response logistics, including custom clearance and transport with the partner government to allow rapid delivery of supplies to affected communities.

It is imperative that the Solomon Islands Government, UNICEF and other partners continue to monitor progress against planned results in the response to the April 2nd earthquake/tsunami disaster. For UNICEF, assessing whether Core Commitments for Children have been fulfilled is critical to ensure the rights of children and women have been and are being assured.

Assessing selected Emergency Management Plan targets planned for 10 weeks through an Omnibus Survey provided an important and early insight into how well elements of the response supported by UNICEF were being implemented by the organization, the Government, and NGO partners. The Omnibus Survey also verified distribution plans and cross-checked anecdotal evidence that key interventions had indeed reached intended beneficiaries. The Omnibus Survey was but one element of an integrated monitoring and evaluation framework that includes a range of other data sources. On the basis of such

integrated feedback mechanisms, the Emergency Management Plan continues to be refined and improved, further resources mobilized, and new areas of work established.

[INSERT ACKNOWLEDGEMENTS about here]

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