



Food & Nutrition Security

In Pacific Island Nations and Territories:
A position paper with emphasis on food and nutrition
security of mothers and children

unite for children

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Executive Summary

Rising food prices and other macro-economic shocks, along with a growing trepidation of what global warming means for the Pacific Island Nations and Territories have highlighted a widespread concern about food insecurity in the Pacific Region. This is super-imposed on the growing epidemic of obesity and non communicable diseases. There are also concerns about trade issues, globalization, over-exploitation of resources and shifts in agricultural and horticultural practices, leading to considerable change; one of the less positive being changing diets and activity patterns that are known to be unhealthy and obesogenic. With all this, it is relatively easy to overlook the fact that many of the countries in the Pacific, also have relatively high levels of infant mortality, stunting and underweight and often poor maternal nutrition and health with high maternal mortality and significant concerns of micronutrient malnutrition.

Good nutrition during pregnancy and the first two years of life will impact on future schooling success, growth and development and earning potential in later life, as well as reducing the emergence of some of the noncommunicable diseases. These outcomes all help to contribute to economic development of Pacific countries. At the same time, there is now increasing understanding of the need for food, agriculture and nutrition advocates to be speaking with one voice with common, re-enforcing messages. If not, policy makers and politicians will not listen and understand the magnitude of the problem or appreciate the cost-benefits of addressing these same nutrition problems. As they are affecting the most vulnerable, and especially women and children, there is an ethical and human rights imperative to act, as well as an economic reward for doing so. Recent developments in the medical, scientific and public health nutrition literature have established an evidence-base of proven interventions – Governments now need to scale-up these nutrition-related integrated actions to a national level, as with immunization.

Building on all these factors, and recognizing the need for a multi-year, multi-sectoral approach to improving food security throughout the Pacific, WHO initiated the "Food Secure Pacific" initiative in 2008. Supporting partners are the Food and Agriculture Organization of the United Nations, (FAO), the Pacific Islands Forum Secretariat (PIFS), the Secretariat of the Pacific Community (SPC), Global Health Institute and the United Nations Children's Fund (UNICEF). Given UNICEF's reach and resources, and experience with communications and community programmes, it is important that it plays a larger role in the development of the Strategy. The overall aim is to 'contribute to improved nutrition and health in a changing world and in a Pacific susceptible to climate change'.

This position paper by UNICEF emphasizes the Agency's support in the Pacific region for such an initiative and a stated enthusiasm to be more actively involved, and how this might be done. UNICEF has identified its comparative advantages such as its special bilateral programmatic relationships with Governments, experience in monitoring and evaluation (with WHO and SPC), its flexibility in funding opportunities, and the expertise in programmatic communication. Most of all UNICEF offices must be sure to represent their constituency of vulnerable children and women. UNICEF might be considered to have a comparative advantage when moving forward, in helping address the gap between food security and nutrition security, and the gap between national and regional policy and local communities' needs - thus helping to ensure nutritional security for individuals and households. In this, a lifecycle approach is essential including the health of mothers, antenatal care, early childhood development, and adolescence including early pregnancies.

There is a concomitant need to focus on scaling-up proven, essential antenatal and infant and young child nutrition interventions. These are all areas in which UNICEF has an important role to support and advocate. Special attention should be given to local, household and individual nutrition security by addressing factors contributing to nutrition insecurity such as caring practices, the health environment such as water and sanitation in which UNICEF has considerable experience in the field, as well as other areas of related concern such as social and access issues at the national level. UNICEF can help to position the whole area as a social and economic progress issue in the context of a children's and human rights issue, with a known and quantifiable impact on national development.

Introduction

Compared with many other parts of the world, the countries of the Pacific Island Nations and Territories may well seem to be well-positioned in terms of quality of life and population health and well-being. However, even compared to other middle and low-income countries, things are not as rosy as might first appear. Despite the relative absence of up-to-date data for many of the countries and for the Pacific Island Nations and Territories (PIN) as a whole, from the data available, as well as anecdotally, major issues can be identified, especially with maternal and child health, growth and development, that are currently receiving insufficient attention in many of the Pacific Island Nations. An earlier review of the nutrition situation was done for UNICEF in 2005 and helpfully identified constraints and opportunities and should be revisited (Knowles 2005).

Malnutrition is a complex and multi-dimensional issue, affected by, amongst other factors: poverty and social inequities; inadequate food consumption; inappropriate foods, often imported; food insecurity and dependency; inequitable food distribution; insufficient infant and child feeding and care practices; poor sanitary and environmental conditions; and, limited access for many to quality health, education and social services. This multiplicity of factors, at different levels of intervention, have added to the complexity of scaled-up effective action on nutrition interventions, partly as the complexity makes the arguments for adequate resources often less than compelling. More attention will need to be paid to more distal social and political factors, as the recent global events have demonstrated the nutritional impact macroeconomic shocks can have on countries and vulnerable populations globally (FAO 2008, de Pee et al. 2009, Darnton-Hill & Cogill 2009, IOM in press). Nations with relatively, or absolute, very small populations, as in many of the Pacific populations, often do not get the attention or resources, given to countries with larger populations, either in assessments of the problem, or even priority for interventions (Bryce et al. 2008).



Background

"Food Secure Pacific" Initiative

Recognizing the need for a multi-year, multi-sectoral approach to improving food security throughout the Pacific, WHO initiated the Food Secure Pacific initiative in 2008. Supporting partners are the Food and Agriculture Organization of the United Nations, (FAO), the Pacific Islands Forum Secretariat (PIFS), the Secretariat of the Pacific Community (SPC), Global Health Institute and the United Nations Children's Fund (UNICEF). Given UNICEF's reach and resources, and experience with communications and community programmes, it is important that it plays a larger role in the development of the Strategy.

Specifically, the stated objectives are to:

- (1) Achieve and maintain health and nutritional well-being of all Pacific people by:
a. ensuring nutritional well-being is at the centre of development strategies, plans and priorities; and
b. ensuring continued food security in safe food for a nutritionally adequate diet;*
- (2) Achieve environmentally sound and socially sustainable agricultural and fisheries development such that it can contribute to improved nutrition and health in a changing world and in a Pacific susceptible to climate change*
- (3) Facilitate trade in and marketing of safe and nutritious food.*

This is a very timely exercise and even more so, given the impact of recent macro-economic shocks such as food price rises, and the likelihood they will recur again (The Economist 2009, Webb 2009, IOM in press). As has been noted in the response to the rising food prices, it is important to keep nutrition security, as well food security, to the forefront (IOM in press).

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Current situation

All aspects of malnutrition - undernutrition, overnutrition and/or inappropriate diets – are increasingly occurring together in the same communities, and are present in all the Pacific Island Nations and Territories to a greater or lesser extent. Because this is an UNICEF position paper, the emphasis is on undernutrition, although increasingly all are inextricably intertwined.

Infants and children

UNICEF has recently published a report on maternal and child undernutrition that includes an update of what data are available (Table 1 in Annex 1). It includes 16 Pacific countries (including Australia and New Zealand), and no Territories (UNICEF 2009). While reflecting the relative paucity of data for the Pacific, it is valuable in updating 'ChildInfo' which can now include the new data from Solomon Islands and Vanuatu, and for expanding the data used in the earlier report (Knowles 2005).

Underweight prevalence ranges, with all the provisos about currency of data, from 10% in the Cook Islands to 13 and 15% in Kiribati and Federated State of Micronesia to 12% in the Solomon Islands. With the most recent information available from the Solomon Islands (DHS-Solomon Islands 2007) and Vanuatu (MICS-Vanuatu 2007), 16 percent of children in Vanuatu were found to be moderately or severely underweight, 20 percent moderately or severely stunted and 7 percent moderately or severely wasted. In the Solomon Islands, 12% had moderate to severe underweight and 2% were severely underweight. PNG had moderate to severe underweight of 18% (WHO standards: 26% from an earlier study using NCHS/WHO standards), with 5% severely underweight. Where there are data for stunting, the figures are very worrying 24% for Nauru, 43% for PNG, and 33%, 10% and 20% for the Solomon Islands, Tuvalu and Vanuatu respectively (Table 1). Of the children under 5y with data for stunting, despite the small total populations in this age group (all countries have <1% of 'developing world total'), PNG ranks 56th in the low and middle-income countries in the number of stunted children, and Solomon Islands 113th, with Vanuatu, Nauru and Tuvalu 129th, 135th and 136th respectively (UNICEF 2009). Only five countries had figures for wasting and these were 1% for Nauru, 5 for PNG, 4% for the Solomons and 3% Tuvalu with 7% for Vanuatu – all levels that clearly need addressing (Table 1).

The prevalence of undernutrition in Vanuatu was higher among boys than girls. Less education of mothers and poorer household wealth status both showed a negative effect on child malnutrition (MICS 2008). In more general terms, the general health situation in Vanuatu is in a period of transition, with communicable diseases still accounting for a large proportion of illness and death but with a rising incidence of non-communicable diseases (NCDs) (Nutrition Survey 2009). An earlier survey (1996) and a 1998 National noncommunicable disease (NCD) survey (Carlot-Tary, Hughes, Hughes 2000) that included assessment of the prevalence of overweight, and an assessment of anaemia among girls aged 15-18, have all resulted in a number of planning and policy documents outlining strategies to improve nutrition and health. Having had a relatively recent survey, Vanuatu could act as a pilot country study of scaling-up proven nutrition interventions, perhaps along with the Solomon Islands. It is important that these sorts of activities are monitored and evaluated properly (as is always called for but rarely done) for the information this will provide on what works in a Pacific environment.

Micronutrient deficiencies have been described in the Pacific for decades now, especially iron deficiency anaemia, and are an important focus of the Food Security Strategy document currently in draft (2009). Further micronutrient deficiencies are likely to be a widespread health consequence of the high food prices if these continue or recur (Klotz et al. 2008, Darnton-Hill & Cogill 2009). Again, there are relatively few data on micronutrients although WHO is currently updating its micronutrient databases (WHO 2008) and the earlier report by Knowles listed what was known at the time (Knowles 2005). Besides iron deficiency anaemia, with anaemia prevalence greater, on average, than 20% in both women and children (ChildInfo UNICEF 2009), and higher in some groups e.g. Fijian-Indian women. There are also other causes of anaemia according to the specific environment such as malaria endemicity, especially in the Melanesian countries such as Papua New Guinea, Solomon Islands and Vanuatu, as well as other nutritional causes and haemoglobinopathies in countries such as Vanuatu (Darnton-Hill et al. 1998).

Iodine deficiency disorders are mainly limited to the larger, non-atoll nations, as might be expected, and in the absence of iodized salt may have got worse in some areas with a shift away from diets high in fish and sea foods

and with the import of non-iodized salt. The last may even occur e.g. in Papua New Guinea some years ago, when there is national policy not allowing non-iodized salt into the country. Only four of the 16 countries listed in the most recent report have data, in which PNG is said to have a coverage of 92% of households with iodized salt and only 23% and 31% in Vanuatu and Fiji respectively and 83% in New Zealand (Table 2, UNICEF 2009).

Vitamin A deficiency appears to be limited to areas and groups with poor diets, more usually small low-lying and atoll countries and has been most extensively documented in the Micronesian countries (Lloyd-Puryear et al. 1989) and previously in Fiji. Although a known problem, there was no information on vitamin A capsule coverage given in the recent update on maternal and child nutrition (Table 1, UNICEF 2009). In the Micronesian countries in particular, there appears to be a strong association with a dietary and nutritional transition where high-energy imported foods with poor micronutrient content are widely adopted. One of the most interesting of the Pacific Region interventions to use more of the traditional foods such as bananas with very high beta-carotene content, and other foods, is happening in Federated States of Micronesia with 'Go Local' (Englberger 2010).

Other micronutrients at risk in some settings include folate, zinc, thiamin and some other B vitamins (Cavalli-Sforza et al. 1996, Darnton-Hill et al. 1998). It is likely some other valuable food components are also less available with the shift to more processed foods (Shetty in press).

Related infectious disease burden

Many of the populations have relatively high infectious diseases loads, especially in young children and more so in some populations e.g. Papua New Guinea. Because these diseases are almost always associated with undernutrition (Brown 2008), joint actions to address undernutrition, infectious diseases and unclean water and sanitation, are now endorsed by most Agencies to respond to the vicious cycle of undernutrition and infectious disease (Scrimshaw, Taylor and Gordon 1968). A tenth of the under-five mortality could be addressed through improving access to, and use of, clean water and improved sanitation (Lancet editorial 2008). Using an evidence-based approach to undernutrition interventions, it is important to also look at interventions that are not usually considered as 'nutritional' but have strong nutrition outcomes such as efforts to control diarrhoea (Bhutta et al. 2008, Bryce et al. 2008).

Antenatal care and women's health and nutrition

The antenatal care coverage is better in most Pacific island countries than almost anywhere else among low and middle income countries, largely for historical reasons, and is a fact that is worth taking advantage of in scaling-up nutrition interventions. It may less true where geographical distance and lack of ready access is an issue as e.g. in the Highlands of Papua New Guinea or in distant atolls. It is clear that a nutritional window of opportunity for interventions, and the scaling-up of interventions, lies between the antenatal period and 24 months into a child's life (World Bank 2005, Black et al. 2008, Bhutta et al. 2008), and preferably even before conception, in adolescence, especially when pregnancies happen at earlier ages. There are many reasons for this approach, including cost-effectiveness (Victora et al. 2008, Bryce et al. 2008), but also because after about 2 years of age, it may be too late to intervene to avoid the effects of stunting and because of the increased risk of causing overweight and future risk of chronic disease- the double burden of malnutrition (SCN 2006).

Table 2 (Annex 2) shows data relevant to this window of opportunity and the WHO report on Women and Health (2009) gives more on the women's other health and nutrition issues. Because low birthweight is often a function of a mother's poor nutrition and health, low birth weight is included in this table, along with other aspects of early child feeding. Women's health and nutrition impact on breastfeeding in several ways (WHO/UNICEF 2003), and early initiation is critical, and while about three quarters of mothers do (for those countries with data – Table 2), in Fiji it is only 57%. Government policy and support is critical in breastfeeding promotion. IBFAN regularly monitors the state of Code implementation by Governments: at 2006, no Oceanic country had a suitable law, although five (Australia, Cook Islands, New Zealand, Papua New Guinea and Tonga) had many provisions of the law or a policy or voluntary measure. The rest, Fiji, Kiribati, Marshall Islands, Federated States of Micronesia, Palau, Vanuatu and Samoa have few provisions in law, some voluntary provisions or guidelines, or a measure drafted but waiting (sometimes for a long time) for final approval. Solomon Islands had 'no action' (IBFAN 2006), but a reported coverage of 74% exclusive breastfeeding rates. Even more of a concern are countries where under half of mothers are doing so: Cook Islands (19%), Marshall Islands (31%), Tuvalu (35%), and Vanuatu (40%) (Table 2, UNICEF 2009).

In the Solomon Islands' report it was noted that a child's birth weight or size at birth is an important indicator of the child's vulnerability to the risk of childhood illnesses and the chances of survival. This is important, because although high prevalences of low birth weight newborns are less of a problem in the Pacific than in some Regions, low birth weight newborns are 13% of births in the Solomon Islands and over 15% in the Marshall Islands, the Federated States of Micronesia and Vanuatu (Table 2). Children with low birth weight also have other longer-term negative outcomes (Victora et al 2008).

Overnutrition, inappropriate diets and noncommunicable diseases

Consumption of increased quantities of high fat, energy dense, low fibre and salty foods are contributing to an epidemic of obesity and noncommunicable diseases that is well recognized. Such diets are also increasingly poor in fruit and vegetable intake, especially in urban areas, and are contributing to the increased incidence and prevalence of noncommunicable diseases (Darnton-Hill, Colagiuri, Caterson in press) and micronutrients. Countries such as Nauru have among the highest levels of type II diabetes in the world. Prevalences of obesity range from: 12 to 20% (Kiribati, PNG, Tuvalu & Vanuatu), through 40-50% in Cook Islands, French Polynesia, New Caledonia, Samoa and Wallis and Futuna, to 80% in Nauru. These sorts of figures result in very high levels of morbidity and mortality from cardiovascular and cerebrovascular diseases and endocrinological diseases such as diabetes and other diet-related noncommunicable diseases (NCDs). It is also now well established, that it is also the less well-off economically and socially who are the ones increasingly at risk of developing obesity and consequent noncommunicable diseases (WHO 2008). They also represent a growing drain on already over-extended national health budgets.



Vulnerable groups and countries

Women and children are always at particular risk due to: (i) increased needs during growth or during pregnancy and lactation; (ii) young children have increased nutritional needs during infectious disease episodes; (iii) social issues of women's status and intra-household food distribution; and, (iv) the vicious cycle whereby undernutrition and infection re-enforce one another. Nutritional status is a combination of food availability and accessibility, health care, social inequities and environmental circumstances. The impact of maternal nutritional status through birth weight will have life-long, and even inter-generational impact, including increased susceptibility to noncommunicable diseases. As was clear from the responses to the food prices increase, food security does not necessarily ensure nutrition security and good health (IOM in press). This is largely because nutrition security is broader than food security as it incorporates the additional aspects of biological utilization, an adequate biological and social environment and proper nutrition and healthcare; and so nutrition security is a function of food security, health status and environmental and social factors (Shetty in press).



Pacific Island Nations have increased vulnerability because they are small, have predominantly young populations and there is a lack of resources, often aggravated by small economies of scale and heavy dependence on external development aid. This includes excessive dependence on international trade and increased vulnerability to global economic developments, and these same countries usually have little influence or voice enough to ameliorate the impact of things taking place far from their oceanic borders – the impact of global warming being perhaps the most visible. Along with these factors are those of geographic remoteness with resulting high transportation and communication costs. It has been calculated e.g. that in PNG one additional hour of transport corresponds to a 10% decrease in food consumption. Costly public administration and infrastructure costs in small populations lead to

relative high costs of national Governance. An important external influence, relatively unregulated in a free trade environment, is the impact of some of the unhealthy foods and soft drinks coming into the countries and resulting in changing, or already changed dietary patterns, usually for the worse but with these imported foods having the advantages of lower costs and increased convenience. While a bigger factor in the Micronesian Islands and American Samoa, from earlier inclusion in the US economy, this is now an established regional problem that the food and nutrition security strategy – a "Food Secure Pacific" aims to address.

To identify some of the possible interventions, a series of indicators impacting on nutrition and health status - health, nutrition, water, sanitation and environmental measures have been used to group Pacific Island Nations and Territories (UNICEF/EAPRO 2005). Using these groupings, a strategy to improve child survival, growth and development for the most at-risk children in the Pacific Region was developed by looking at commonalities in the situation in countries, and risks, and hopefully the potential economic advantages, while utilizing lessons learned across previous experiences. The groupings are still current enough to be relevant and useful for policy and programme development.

Policy implications

- Group 1 countries (Kiribati, Marshall Islands, Papua New Guinea, Solomon Islands and Vanuatu) are those still dominated by infectious diseases, and with poor maternal and child health issues as well as food insecurity;
- Group 2 countries (Fiji, Micronesia, Nauru, Samoa, Tonga, Tuvalu) are transitional with some of the same maternal and child issues but with increasing concerns about overnutrition and the rise of non communicable diseases with still some food insecurity caused by reliance on imported foods; and
- Group 3 countries (Australia, Cook Islands, New Zealand, Niue, Palau, Tokelau) have largely made the transition with improved health and nutrition statistics but with neonatal causes of death and later noncommunicable diseases the main issues.

The Group 1 countries are those of most concern and are defined as having mortality rates for under five-year-old children (U5MR) exceeding 40 deaths/1000 live births. The child mortality rates, with all the impacts of poor nutrition on both mothers and children, represent a particular profile that is re-enforced by the recent data seen in Table 1 and 2. Other factors are also involved; the rural to urban shift being one of most relevance, for sociological as well as health and nutrition reasons. Rural children are still more disadvantaged and more likely to be underweight, but there is now increasing overweight, especially in urban children.

The recent exacerbations of food and nutrition insecurity have helped to increase awareness of the risks to food and nutrition security and to population health and development and have highlighted the inadequacy of many of the existing policies and other mechanisms. A recent report by the WFP and FAO showed that although food prices have fallen since the mid-2008 highs, the cost remains higher than ever and it is the poor of food-importing countries, such as many countries of the Pacific Region, who suffer the most (Lancet 2009). It is important when developing new policies, or amending previous ones, and scaling-up programmes, that cognizance is taken of existing activities; firstly as a way of building on existing activities and training, and strengthening them; and secondly, to evaluate why they are not having the impact expected and what lessons can be learned from that. Nutritional surveillance systems need to be strengthened and expanded in order to inform policy decisions. Again, this implies a country-by-country approach whereby the existing situation is analyzed by the Government sector responsible, or by an objective third group, in close collaboration with U.N. Agencies and other partners.

The recent Human Development Report "Overcoming barriers: human mobility and development", besides having much that is relevant to mobility and climate change and economic shifts, also ranks the world's countries in terms of its human development index (UNDP 2009). Only Australia and New Zealand were ranked highly with most, Samoa, Tonga, Fiji, Vanuatu, Solomon Islands and Papua New Guinea (in descending order) in the medium human development range (the lower half in world rankings) (UNDP 2009). However, none is in the 'Low Human Development' range, supporting the earlier observations of Pacific Island Countries and Territories as having many facilitating factors and conducive social environments for potential progress. However this is no observation that allows for complacency, as Fiji, Tonga, Vanuatu and PNG are all lower than in previous rankings, Solomon Islands stayed the same, and Samoa improved.

Relationship to the MDGs

Although virtually all the Pacific Island Nations and Territories have signed onto the MDGs, it is difficult to ascertain progress. The Group 1 countries as defined above (i.e. by <5MR) exceeding 40 deaths/1000 live births) are not on track to reach MDG4 (Child Survival) (UNICEF/EAPRO 2005). It is noticeable that in Table 1, there are no data for any of the Pacific Island countries in terms of average annual decrease rates of underweight (as in MDG1) due to lack of data, and certainly no repeat data. Consequently there is no real way to measure actual progress towards that goal, and although EAPRO was able to extrapolate on progress towards MDG4, there is also clearly inadequate progress towards MDG1 target C (the 'hunger target' as measured by underweight and undernourishment) (UNICEF 2006). Consequently there is an urgent need to scale-up proven interventions needed to reduce maternal and child undernutrition (UNICEF 2008, Bryce et al. 2008) as an attempt to accelerate progress, along with efforts to scale-up women's health and nutrition interventions and food security measures.

A review in the Pacific by Agencies of where countries are in the last three years of the 2015 MDGs deadline, might be another way to draw attention to the lack of progress in maternal and child undernutrition.

Existing National Food and Nutrition Plans of Action, policies and other policy tools for addressing malnutrition in the Pacific

In 1992, FAO and WHO convened the International Conference on Nutrition (ICN) in Rome at FAO at which 192 countries and territories agreed to develop National Plans of Action for Nutrition. Many countries in the Pacific did so over the following couple of years although not many were adequately resourced enough to be effectively implemented. Most countries in the Pacific Region therefore already have nutrition policies and all had some sort of nutrition programmes, usually as part of the Health Sector, or the Agricultural Sector. These various Nutrition Plans of Action, Food and Agricultural Plans and Policies, or Food and Nutrition Action Plans and so on were generally done with the help of a consultant from either FAO or WHO, and often enough, ownership was not established at country level, and is a lesson learned for new policy activity. The NPANs (and related National Nutrition Policies) are in the process of being evaluated by WHO HQ which will provide useful information on moving ahead.

There is an on-going risk of diversifying effort and resources too widely due to the multiplicity of different policies and programmes, all directed at nutrition outcomes but not coordinated and in fact competing for funds and attention, with separate strategies and policies on particular aspects, such as a specific micronutrient deficiencies or on breastfeeding. This lack of coherence and coordination has likely ultimately contributed to compromised maternal and child nutrition status. It is the intention of the current strategy to capitalize on the new attention food security is getting and use that as a spring-board to ensure nutrition receives a greater degree of attention. There also needs to be resources consonant with the size of the problem and the known impact on future generations, as well as more immediate returns. However, it is important that the nutrition security aspects are not lost, as happened in early reactions to the macro-economic shocks, which were seen as an 'emergency problem' and nutrition input was often somewhat marginalized, at least in most of the UN Agencies. Attention to social determinants and the broader social, political and economic aspects is needed to address the current macro-economic factors (Timmer 2009) although this will often need different partners, as well as leadership by Governments.



Programmatic implications

One of the important aspects of the Lancet Nutrition Series published in 2008, was the identification of evidence-based interventions (Bhutta et al 2008). Another was the identification that even when Governments are doing the right things and putting investments where they will have most impact, often coverage is surprisingly low (Bryce et al. 2008). At the same time Governments were putting scarce resources into interventions that would not be expected to have a major nutrition outcome such as school-feeding which, while a very positive educational intervention should not take resources from the nutrition sector (Bryce et al. 2008). Targetting the period of antenatal care and early childhood upto two years of age can be expected to be a very cost-effective use of limited resources (World Bank 2005), and can be expected to have inter-generational impact (Shrimpton 2008) - however the resources applied do not always reflect this.

The Lancet Nutrition Series identified 45 interventions that might be predicted to have a major impact on the more than one third to a half of all global under 5 deaths, or 11% of the global total burden of disease, if scaled-up (Bhutta et al. 2008, Black et al. 2008). Fourteen of these were identified as needing immediate and national scaling-up in the same way that e.g. immunization has been (Bhutta et al. 2008, Bryce et al. 2008). Among these interventions with enough evidence to implement in all countries were those addressed to maternal and birth outcomes, the newborn and infants and children. Those for maternal and birth outcomes include: iron/folic acid supplementation, maternal supplements of multiple micronutrients (which may have even greater impact in adolescent girls and young women), maternal iodine levels through salt iodization, maternal calcium supplementation, and interventions to reduce maternal tobacco consumption and indoor pollution. That for new-borns is overwhelmingly the promotion of breastfeeding through both individual and group counselling along with sufficient Government legislation and back-up. For infants and children's nutrition, the interventions are: promotion of breastfeeding, behaviour change communication for improved complementary feeding, zinc supplementation including in management of diarrhoea, vitamin A supplementation, or fortification, universal salt iodization, handwashing or other hygiene interventions and the treatment of SAM (severe acute malnutrition).

Then there were another 11 with sufficient evidence to implement depending on specific situational contexts and epidemiological picture e.g. in those Pacific Island Countries with malaria, or where there is an iodine deficiency problem and inadequate salt iodization levels. Those for maternal and birth outcomes include: maternal supplements of protein and energy, maternal iodine supplements, maternal deworming in pregnancy, intermittent preventative treatment of malaria, insecticide-treated bednets. Those for new-borns are delayed cord clamping and perhaps neonatal vitamin A supplementation, although this latter one is not supported by WHO policy. For the infants and children's nutrition interventions the evidence showed: conditional cash transfer programmes (with nutrition education for mothers and the community), deworming, iron fortification and probably supplementation, and insecticide-treated bednets.

Globally, more than 3.6 million mothers and children die each year as a result of undernutrition; in the Pacific, under-five-years mortality rates (U5MR) range from 6 per 1,000 live births in Australia and New Zealand through 36 in the Marshall Islands, Solomon Islands and Tuvalu, 45 in Nauru and upto 69 in PNG (Table 1, UNICEF 2009). There is clearly an urgent need to act. There is also good evidence linking stunting to impaired cognitive development, school performance and educational achievement and future economic earnings because stunting in the first 2 years of a child's life can lead to irreversible damage into adult life. Young children who are undernourished in utero and in the first few years of life and gain weight rapidly later, are at greater risk of nutrition-related chronic diseases so rife in the Pacific Region countries. Encouragingly, in terms of programming, there is no evidence that rapid weight or length gain in first 2 years of life increases the risk of chronic disease. The message that policy-makers need to be hearing and acting upon is that the prevention of maternal and child undernutrition is a long-term investment that will benefit the current generation and their children.

One of the areas somewhat missed in such an evidence-driven clinical approach, is the need to consider the quality of care, and attention to developmental aspects, although there is in fact plenty of evidence for them as well (Jolly 2008, Grantham-McGregor et al. 2008). Addressing such other aspects, while perhaps could be considered not strictly nutrition interventions but certainly addresses aspects of breastfeeding and responsive

complementary feeding, and stimulation, all of which are known to have an impact on growth and development. The improvement of social situation and opportunities has at last received the attention it deserves in the WHO document 'Social determinants of Health' (WHO 2008) but the recommendations are far from widely applied, or in many cases, very much supported by donors.

Food and nutrition security and next steps

Food security is all about people everywhere, all the time, having physical and economic access to safe, sufficient and nutritious foods that meet their dietary needs, are foods they want to eat and ultimately will allow them to lead an active, healthy life. This must incorporate food availability, accessibility and utilization, all of which are essential for good diets leading to nutrition security and hence good health and well-being. It has frequently been noted that food security does not automatically translate into nutrition security and health, especially for those most at risk, or those most disadvantaged. Consequently there is a need to focus on nutrition interventions, as above, for infants and young children, but also on improved nutrition for women (especially adolescent girls, pregnant women and lactating mothers), focusing on iron and other micronutrients, and appropriate weight, and by addressing women's education, opportunities and status, as well as by actions (by Governments usually) aimed at reducing inequities because of the known impact of all these factors on maternal and young child nutrition (Smith & Haddad 2000).

National Government leadership and Inter-Agency activities will now be critical and should be concentrated on getting nutrition onto the national agenda in a meaningful way, which means adequately resourcing and building-up nutrition personnel capacity. There needs to be greater emphasis on an integrated approach e.g. in the prevention of infectious diseases and improved water and sanitation; building adequate capacity which should be reflected in funding and training for staff, along with others from the health sector where they are responsible for implementing nutrition-related activities; not doing the 'wrong' things so as not to be spending nutrition resources on outcomes that are unlikely to be reflected as nutritional outcomes (the education sector often has greater resources than the nutrition sector); immediate increases in acting to scale with all evidence-based nutrition interventions at a national level; and, reaching those in need- including safety nets for those most affected by rising food prices (the evidence for conditional cash transfers becomes stronger all the time, although so far relatively little experience in the Pacific) (Bryce et al. 2008, Bassett 2008, Alderman 2009). Because of the established market and food choice shifts, leaving aside the effect of advertising especially to young children, it will be a challenge to have sufficient impact on dietary choices, unless Governments are also involved with enabling legislation e.g. no non-iodized salt allowed to be imported, and appropriate tax incentives and disincentives.

The most important next step might therefore be to further operationalize the proposed strategy, both in the short-term responsibilities, but also in the long-term. Responsibilities need to be clearly allocated, as well as ways of measuring how this has been done. While it is understood Governments need to own and lead the process, each Agency, NGO and private sector partner must be clear what is expected of each, and that it will be evaluated for outcomes and later, impact. While WHO has taken the important first steps in the initiative on process, the time is now overdue for the other partners to take larger, clearly designated roles.

UNICEF's role

The many partners in this process, are both an advantage and a possible challenge, but one which needs to be met, if the "Food Secure Pacific" is to successfully promote food - and nutrition - security in a changing Pacific environment. UNICEF, like all the partners, needs to identify its comparative advantages and use them in a constructive and collegial way. These are, amongst others, its special bilateral programmatic relationships with Governments, monitoring and evaluation (with WHO and SPC), its flexibility in funding opportunities, and the expertise in programmatic communication. Most of all UNICEF offices must be sure to represent their constituency (which they share with others) of vulnerable children and women. UNICEF might be considered to have a comparative advantage when moving forward, in helping address the gap between food security and nutrition security, and the gap between national and regional policy and local communities' needs - thus helping to ensure nutritional security for individuals and households. In this, a life cycle approach is essential including the health of mothers, antenatal care, early childhood development, adolescence including early pregnancies, and although less an area for UNICEF, the nutritional and general well-being of the elderly, many of whom have much to contribute to child care and food and diet knowledge and previous practices. UNICEF can help to position the whole area as a social and economic progress issue in the context of a children's and human rights issue, with a known and quantifiable impact on national development.

There is a concomitant need to focus on proven, essential nutrition interventions such as the timely initiation of breastfeeding within one hour of birth, and exclusive breastfeeding during the first 6 months; the timely introduction of age-appropriate complementary foods at six months (adequate in terms of quality, quantity and frequency); and the promotion and adoption of hygienic and safe child feeding practices. These are all areas for which UNICEF has an important role to support and advocate.

Others include support to addressing the issues that will be required to strengthen regional and national food insecurity, with special attention, given UNICEF's mandate on local, household and individual nutrition security. This will require addressing other related factors contributing to nutrition insecurity such as sanitation about which UNICEF is an acknowledged leader in the field, as well as other areas of concern such as addressing social and related issues at the national level; and actively promoting the scaling-up of nutrition and health, water and sanitation interventions known to be effective but which are currently under-implemented. In line with the proposed strategy, UNICEF can complement at the national level, in helping to ensure adequate and safe food availability and accessibility.

Conclusions

The development of a regional food security strategy is timely and important. It is important that it be recognized, up-front, that this will not however guarantee nutritional security, especially for those of UNICEF's mandate- women, infants and children and especially the most vulnerable of these. Getting nutrition and food security policy higher on policy-makers' agenda is a challenge, although the recent price rises and fuel process shocks have certainly increased attention, but there are already indications of more affluent and food-secure economies lessening their attention to this area, and which should not be allowed to happen in the Pacific Region.

Given the recent emphasis on the existing dysfunctional global and regional architecture for effective and coordinated nutrition action, the current Inter-agency collaboration on providing assistance to Pacific Island and Territories Governments on the development of a Regional Strategy on Food and Nutrition Security will be an important positive example to be followed elsewhere. Messaging will need to be simple and consistent but emphasizing aspects of nutrition security in which the health and care of mothers and children are paramount within the broad framework, and social and environmental aspects are recognized as critical to success.

UNICEF has a specific and important role to play in this and can complement the strengths of Governments and other partners while advocating for its specific mandated area of infants, children and their mothers. Because nutrition is a central component for human, social and economic development, intensified nutrition action in the countries in the Region with the highest malnutrition burden, and those more vulnerable populations in all regional countries can lead to the achievement of the Millennium Development Goal of halving hunger by 2015 (MDG 1) and greatly increase the chances of achieving goals for child and maternal mortality (MDGs 4 & 5). Success will lead to healthy and optimally developed populations better able to deal with the economic and environmental challenges that are confronting the Pacific Island Nations and Territories, not least in food and nutrition security.



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ANNEX 1

<i>Undernutrition Tracking progress on maternal and child nutrition</i>							
<i>Pacific Island Nation</i>	<i><5 Mortality Rate</i>	<i>Stunting</i>	<i>Wasting</i>	<i>Under-weight*</i>	<i>Severe Under-weight</i>	<i>Rate of progress reducing u-wt**</i>	<i>Progress towards MDG</i>
<i>Australia</i>	6	-	-	-	-	-	-
<i>Cook Is.</i>	15	-	-	10#	-	-	-
<i>Fiji</i>	18	-	-	-	-	-	-
<i>Kiribati</i>	10	-	-	13#	-	-	-
<i>Marshalls</i>	36	-	-	-	-	-	-
<i>Micronesia</i>	39	-	-	15#	-	-	-
<i>Nauru</i>	45	24	1	5	1	-	-
<i>NZ</i>	6	-	-	-	-	-	-
<i>Niue</i>	-	-	-	-	-	-	-
<i>Palau</i>	15	-	-	-	-	-	-
<i>PNG</i>	69	43#	5#	18	5	-	-
<i>Samoa</i>	26	-	-	-	-	-	-
<i>Solomons</i>	36	33	4	12	2	-	-
<i>Tonga</i>	19	-	-	-	-	-	-
<i>Tuvalu</i>	36	10	3	2	0	-	-
<i>Vanuatu</i>	33	20#	7#	16	2	-	-

Data refer to years or periods other than those specified in the column heading, differ from the standard definition or refer to only part of a country (2008, or averaged over 2003-2008)

TABLE 1: Infant and young child statistics (drawn from UNICEF Tracking Progress on Child and Maternal Nutrition 2009)

ANNEX 2

Tracking progress on maternal and child nutrition							
Pacific Island Nation	Low birth-weight (%)	Early initiation of breast-feeding	Exclusive breast-feeding	Complementary feeding	Still breast-feeding at 20-23m	Vitamin A coverage	HH using iodized salt
Australia	7#	-	-	-	-	-	-
Cook Is.	3#	-	19#	-	-	-	-
Fiji	10	57	40	-	-	-	31#
Kiribati	5#	-	80#	-	-	-	-
Marshalls	18	73	31	77	53	-	-
Micronesia	18#	-	60#	-	-	-	-
Nauru	27	76	67	65	65#	-	-
NZ	6#	-	-	-	-	-	83#
Niue	0#	-	-	-	-	-	-
Palau	9#	-	59#	-	-	-	-
PNG	10	-	56	76	72	-	92
Samoa	4#	-	-	-	-	-	-
Solomons	13	75	74	81	67	-	-
Tonga	3#	-	62#	-	-	-	-
Tuvalu	5#	-	35	40	51#	-	-
Vanuatu	10	72	40	62	32	-	23

Data refer to years or periods other than those specified in the column heading, differ from the standard definition or refer to only part of a country (2008, or averaged over 2003-2008)

TABLE 2: Maternal and young child statistics (drawn from UNICEF Tracking Progress on Child and Maternal Nutrition 2009)



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