



Chapter 16

Policy and strategies to improve nutrition and health for Indigenous Peoples

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“Salmon has always been part of our life. It is the essence of our existence.”

Bill Tallio, Nuxalk leader

“If our culture breaks apart, we will blow away in the wind.”

Mailong-ong Sangkhachalatarn, Karen leader

“We need our land because it’s sacred for our life.”

Antonia Mutumbajoy, Inga leader

“We need to be able to control our own resources.”

Bill Erasmus, Dene National Chief¹

Abstract

Understanding how to achieve food and nutrition security for the world’s populations is especially important for Indigenous Peoples, who often experience the most severe financial poverty and health disparities, and who often live and depend on ecosystems that are under increasing stress. There is need for targeted strategies and policies that facilitate and foster Indigenous Peoples’ use, processing and management of their natural resources for food security and health, through self-determination and autonomy. These policies should be effective at the local, state, national, international and regional levels. This chapter reviews the international policy documents now in place that identify and protect Indigenous Peoples, their food systems and their human rights to adequate food and to the enjoyment of traditional food and food traditions. Basic principles of engagement in research and development activities that have been successful with Indigenous Peoples are explored and described through nine case studies from Indigenous Peoples’ rural communities where interventions have taken place to improve local food use and health. Policies are most successful when they stress the importance of using cultural knowledge to advance health promotion activities and improve health and well-being – mental, emotional and spiritual health, as well as physical health – for individuals and communities. Academic and community partners in the case studies met annually for ten years to discuss strategies for documenting local indigenous food systems and ways of promoting them within local cultures and ecosystems. This chapter elaborates on the diversity of strategies and policies operating in unique rural ecosystems with varying degrees

of success. Several of the case studies have successfully shared their methods and results for implementation in other communities in their regions. Community and academic partners have communicated widely about their visions and goals, the strategies used and the policies developed for improving food and nutrition security in all of its dimensions for Indigenous Peoples throughout the world.

Background and introduction

The world’s attention has been drawn to the plight of Indigenous Peoples as they strive to retain their cultures and protect their ecosystems and food traditions in the face of globalization. The decade of work described in this chapter has documented vast knowledge about food biodiversity in Indigenous Peoples’ areas, and the many cultural meanings and spiritual values reflected in these resources. The chapters in this book show how Indigenous Peoples’ food systems are critical for health in all its forms. It is therefore logical to complete this research effort with an overview of existing policies surrounding these food systems

¹ These quotes can be heard in their original languages in a short film at www.indigenousnutrition.org

and with suggestions for enhancing policies that will promote and protect these resources.

This chapter pulls together experiences and perspectives from 12 case studies that have contributed methodologies and findings to the project on Indigenous Peoples' Food Systems for Health, published by the Centre for Indigenous Peoples' Nutrition and Environment (CINE) and the Food and Agriculture Organization of the United Nations (FAO) in two earlier publications (Kuhnlein *et al.*, 2006; FAO, 2009a) and the current volume. It draws on discussions with indigenous leaders and their academic partners, and with resource people met at The Rockefeller Foundation Bellagio Center in 2004, 2007 and 2008. These discussions were sentinel in formulating this chapter. Collaboration is required not only for success in the research process of documenting how these food systems can improve the health and well-being of Indigenous Peoples, but also for understanding and creating successful policies that involve many actors and many dimensions.

The questions addressed here are:

- Why should Indigenous Peoples' food systems be protected and strengthened?
- What policies will stimulate efforts at the local, national and international levels towards the achievement of food and nutrition security for Indigenous Peoples?

In this book, consideration of the benefits of Indigenous Peoples' food systems is based on empirical knowledge of the biodiversity and nutrient content of the rich resources contained in those food systems. The task has been to merge this information with the many other factors at issue: imperatives for environmental conservation; health challenges for Indigenous Peoples, who often live in financial poverty; Indigenous Peoples' recognition of the many physical, mental, social and spiritual aspects of local food resources; and the human right to enjoy these resources, which are intimately connected to food security, culture, and land and aquatic ecosystems.

The world is struggling under the burden of food insecurity, recently exacerbated by the increasing use of agricultural lands to produce biofuel, food price crises in global markets and lack of adequate policies for

improving the nutrition situation of all citizens (UNS/SCN, 2009). Understanding how the human right to food can be realized for the entire world's population is especially important for Indigenous Peoples, who often experience the most severe poverty and health disparities. In addition, the ecosystems on which many Indigenous Peoples depend are under increasing stress.

According to conservative estimates, Indigenous Peoples number more than 370 million people living in 90 countries around the world (UNPFII, 2009); they use and represent more than 5 000 languages and cultures in diverse ecosystem settings. In seeking an appropriate definition of "indigeneity", important principles are those of self-identification; collective attachment to a distinct geographic territory and the resources therein; separate customary cultural, economic, social or political institutions; and an indigenous language that is often different from the official language of the State (UNPFII, 2009). For example, the 645 scheduled tribes of India, which are considered as Indigenous Peoples by the State of India, comprise 84 million people, or approximately 8.2 percent of the country's total population (Appendix 1). Computations of the indices for human development, human poverty and gender equality, literacy rates and key health indicators all demonstrate that these tribal peoples are far more deprived than the rest of India's population (Sarkar *et al.*, 2008).

Indigenous Peoples face disparities resulting from the serious impacts of colonization, which to varying degrees have influenced not only the ways in which people view their local food resources in contrast to imported foods, but also people's social structures and hierarchies. Indigenous Peoples face disparities in income, access to health care and the provision of services that are often taken for granted in the mainstream societies of the countries in which they live.

The effects of globalization on nutrition and health disparities are far-reaching and reduce exposure to traditional cultural knowledge and the biodiversity of local food resources. Examples are the wide availability of low-quality industrially produced foods, development paths that bring mining and other ecosystem-destroying activities, and forces that compel migrations to cities to seek jobs.



Despite these factors, which drive Indigenous Peoples from their local foods, there is considerable economic rationale for promoting local foods and lifestyles for their health benefits. Not only is local food less expensive from an economic point of view, while harvesting and supplying families with local foods provides many fitness and cultural benefits, but also the costs of poor health and health care can be exceedingly high when nutrition and lifestyle are compromised. Malnutrition in its various forms, including obesity and its consequences (diabetes, heart disease, cancer, etc.), is very costly for tertiary care institutions and in social terms.

There is need for targeted policies that facilitate and foster the conservation, management and sustainable use of Indigenous Peoples' natural resources for food security while also fostering Indigenous Peoples' self-determination and autonomy. Health promotion can be achieved through policies – at the community, local, state, national, international and regional levels – that improve the livelihoods of Indigenous Peoples. These policies may include facilitating the sustainable marketing of foods and medicines derived from the ecosystems where Indigenous Peoples live.

Existing international policy documents that identify and protect Indigenous Peoples and their food systems

In recent years, Indigenous Peoples have become increasingly active in international policy settings to counteract discrimination and other injustices. Although there have been many challenges and conflicting opinions regarding situations and activities, United Nations (UN) agencies and their Member States have developed institutional frameworks to protect Indigenous Peoples' traditional customs, livelihoods and lands. In all regions, development assistance has been offered in recognition of Indigenous Peoples' valuable knowledge and role as custodians of much of the world's food biodiversity. Indigenous Peoples first entered the UN arena in 1982, when the Working Group on the Rights of Minorities of what was then the UN Sub-Commission on the Protection

and Promotion of the Rights of Minorities (now the Advisory Group to the United Nations Human Rights Council) invited Indigenous Peoples' representatives to take part in its meetings as observers and to express their views on their own situations. Since then, the United Nations Permanent Forum on Indigenous Issues (UNPFII) has been established and has declared two International Decades of Indigenous Peoples (1995 to 2015), with the current decade having the objectives of: i) promoting non-discrimination and inclusion in national processes affecting Indigenous Peoples; ii) promoting Indigenous Peoples' effective participation in decisions affecting lifestyles, cultural integrity and collective rights, including through free, prior and informed consent; iii) promoting development policies with full equity; iv) adopting targeted policies that focus on indigenous women, children and youth; and v) developing the monitoring of and accountability for national, regional and international policies that affect Indigenous Peoples' lives.²

The issues have consistently been discussed in the context of Indigenous Peoples' human rights. In September 2007, the Declaration on the Rights of Indigenous Peoples was adopted by the United Nations General Assembly. This was a landmark for the acceptance of Indigenous Peoples' rights, with the majority of nations as signatories. The declaration enforces Indigenous Peoples' rights to maintain and develop political, economic and social systems, secure in the enjoyment of their own means of subsistence, and to engage freely in traditional and economic activities (Appendix 2). Thus, nation States have the obligation not only to ensure non-discrimination but also to safeguard the distinct cultural identities of Indigenous Peoples.

Indigenous Peoples' right to adequate food

The World Conference on Human Rights (UN, 1993) states that all human rights are universal, inalienable, indivisible, interdependent and interrelated, thereby ensuring that the right to adequate food is understood

² <http://social.un.org/index/indigenouspeoples/aboutusmembers.aspx>

in the context of all other human rights, including, when applicable, Indigenous Peoples' rights. The 2002 Declaration of Atitlán from the Indigenous Peoples' Consultation on the Right to Food reflects this understanding (IITC, 2002).

The human right to adequate food can be understood as a right to food security (Damman, Eide and Kuhnlein, 2008). The international legal standards underpinning the right to food for Indigenous Peoples have been described by several authors (Damman, Eide and Kuhnlein, 2008; FAO, 2009b), including in Chapter 15 (Damman, Kuhnlein and Erasmus, 2013) in this volume. The UN Declaration on the Rights of Indigenous Peoples and the International Labour Organization (ILO) Convention on Indigenous and Tribal Peoples' rights (ILO 169 of 1989) underpin Indigenous Peoples' special right to enjoy their specific cultures. This includes their right to enjoy their traditional food, as food traditions are at the core of indigenous identities, cultures and economies (Damman, Eide and Kuhnlein, 2008).

UN agencies have adopted development policies specifically for Indigenous Peoples and issues related to their food systems, nutrition and health. To date, these agencies and organizations include the World Health Organization (WHO, 2010), the Pan-American Health Organization (PAHO),³ the World Bank (2010), the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2010), the Convention on Biological Diversity (CBD, 2010), Bioversity International (2010) and the Human Rights Council (UNPFII, 2009). The International Fund for Agricultural Development (IFAD) has a funding programme specifically for Indigenous Peoples (IFAD, 2010). FAO has several initiatives relevant to Indigenous Peoples and their food systems (Appendix 4) within the Livelihood Support Programme (FAO, 2010a), the Sustainable Agriculture and Rural Development Programme (FAO, 2010b), the FAO Informal Working Group on Indigenous Issues, and the Right to Food Unit, in collaboration with the Focal Point on Indigenous Issues (FAO, 2010d). FAO's Nutrition and Consumer Protection Division has established publication venues

and fora for scholarly and public information on the food diversity and nutrition of Indigenous Peoples, through peer-reviewed processes including the International Network of Food Data Systems (INFOODS) (FAO, 2010c), the International Conference on Dietary and Activity Methods (2009)⁴ (Appendix 3) and the Conference on Health and Biodiversity (COHAB Initiative, 2008); and has integrated Indigenous Peoples' nutrition issues into policy instruments and recommendations such as food-based dietary guidelines (Health Canada, 2007) and the AFROFOOD Call for Action (AFROFOOD, 2009). The International Union of Nutritional Sciences (IUNS) and the United Nations System Standing Committee on Nutrition (UNS/SCN) each have task force activities on Indigenous Peoples' food systems (IUNS, 2010; UNS/SCN Web site).⁵ FAO has published a previous book from the programme discussed in this volume (FAO, 2009a).

The effectiveness of policies to ensure that nation State duty-bearers take the right to food and food security into account can be explored through the normative framework to "respect, protect and fulfil" these rights (CESCR, 1999). Specific indicators relevant to Indigenous Peoples, the biodiversity in their food systems and their well-being have been reported (Kuhnlein and Damman, 2008; Stankovitch, 2008). To facilitate the interpretation and use of the concept of the right to adequate food, FAO has recently released operational guidelines on Indigenous Peoples' right to food (FAO, 2009c). These are useful in Indigenous Peoples' settings, for advocacy on the right to food; for ensuring that national data are disaggregated for indigeneity, to develop suitable indicators for assessing food security; and for creating human rights-based strategies and policies for the food security of Indigenous Peoples.

Food and nutrition security to improve the health of Indigenous Peoples

Food security exists "when all people at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and

³ www.new.paho.org

⁴ www.icdam.org/index.cfm
⁵ www.unscn.org



food preferences for an active and healthy life” (FAO, 1996). Food security can be defined for individuals, households/families, communities or larger populations such as nation States. In practical terms, for a household or individual it implies the sustained availability of and access to sufficient, safe and culturally acceptable food from which to prepare nutritious meals that will meet the dietary needs and preferences for maintaining a healthy and active life. Food security is a precondition for nutrition security, which requires simultaneous access to adequate health services, clean water and adequate sanitary conditions, plus adequate care for vulnerable age groups, the sick and the infirm.

For Indigenous Peoples, food security is necessary not only for health, but also for maintaining relationships with the land, resources, values and social organization, and for identification with indigenous culture, including culturally appropriate food (FAO, 2009b). Health is recognized broadly as intertwining with nature and culture for well-being and being articulated through physical, mental, spiritual and social elements, for both individuals and communities. Elders in many cultures recognize that consuming their own indigenous foods is necessary for maintaining health and well-being. Thus, advocacy and promotion of food security and health must include essential aspects of political, economic, social and cultural life, values and world views, to maintain equilibrium and harmony in the community (Cunningham, 2009). This holism requires the integration of local indigenous world views and visions and an interdisciplinary and multisectoral approach from researchers and food security and health promotion agents.

By ensuring that health data are disaggregated by culture and gender to reveal the circumstances faced by Indigenous Peoples in both urban and rural areas, many studies now show that the health circumstances faced by Indigenous Peoples are disturbingly worse than those of their non-indigenous counterparts in the population, in both low- and high-income countries. These disparities are manifest in virtually all health indicators, and predominantly in measures of undernutrition (particularly stunting and wasting) and overweight (obesity and related chronic diseases)

(Damman, 2005; Damman, Eide and Kuhnlein, 2008; UNPFII, 2009; Chapter 2 – Egeland and Harrison, 2013). Data to this effect have been found in many nations and regions, including South, Central and North America (Damman, 2005; PAHO, 2007), India (Sarkar *et al.*, 2008), Venezuela and Guatemala (UNPFII, 2009; International Work Group for Indigenous Affairs, 2004), and Canada (Chapter 2 – Egeland and Harrison, 2013; Gracey and King, 2009; King, Smith and Gracey, 2009).

Such nutrition circumstances and disparities for Indigenous Peoples are rooted in often extreme income poverty. However, perhaps even more important is the poverty that results from poor access to health, social services and education, including a lack of education on indigenous structures and heritage, which seriously hampers access to the ecosystem resources that contribute to food and nutrition security. For example, the Ainu case study in Japan (Chapter 13 – Iwasaki-Goodman, 2013) identifies disparities in both income assistance and education. Among Ainu people in Hokkaido, annual income was lower and fewer students graduated from high school, with many respondents reporting financial hardship as the reason for not attending higher education institutions (Hokkaido University Center for Ainu and Indigenous Studies, 2008). It should be noted that many Indigenous Peoples do not recognize their wealth in terms of financial income.

Indigenous women and children are especially vulnerable to health disparities, with poor health leading to higher morbidity and mortality statistics for indigenous populations. There is need for special attention to indigenous women, who are often targets of discrimination and racism. They are particularly vulnerable during pregnancy and lactation, and are crucial to the healthy growth and development of their young children. Women are the “gatekeepers” of family food provisioning, and have particular need of policies that protect the right to food of both their families and themselves.

A holistic understanding of Indigenous Peoples’ food traditions reveals that they are linked to physical, emotional, social and mental health and well-being. The

capacity to enjoy their own culture is a human right of all peoples. This leads to consideration of the negative effects that lack of access to traditional food resources will have on cultural morale, identity, and mental as well as physical health. Mental health and suicide statistics demonstrate disparities and health gaps. The intolerably higher rates suffered by Indigenous Peoples are linked to the compounding factors of poor diet and fitness and lack of responsive community health care services (King, Smith and Gracey, 2009).

While Indigenous Peoples in all countries tend to be poorer than their non-indigenous counterparts, and while many suffer from undernutrition, they are also showing increasing obesity and related chronic diseases. Resulting from processes of the nutrition transition, through which poor people consume increasing amounts of poor-quality cheap food, and the reduction of physical activity as living conditions become more sedentary, obesity leads to alarming increases in diabetes and its sequelae among Indigenous Peoples, who may also be more vulnerable owing to genetic circumstances (Damman, Eide and Kuhnlein, 2008; UNPFII, 2009). In the Canadian Arctic, three cultures of Indigenous Peoples consumed from 5 to 40 percent of their dietary energy as traditional food. Even only one serving of traditional food a day led to improved dietary nutrient profiles compared with diets composed of only purchased foods, which were noted as being of low nutrient density (Kuhnlein *et al.*, 2004; Kuhnlein and Receveur, 2007). As noted in the Gwich'in case study in Chapter 7 (Kuhnlein *et al.*, 2013), access to traditional food meant better food security.

Policies to counteract these immense health challenges should be developed with Indigenous Peoples in communities and governments. Properly implemented policies can ensure access to highly nutritious traditional indigenous local foods and reduce incentives for purchasing poor-quality market foods (especially those with high sugar and saturated and trans-fat contents) and other junk foods. The use of healthy foods can be promoted through government subsidies that make them affordable. Policies can also give impetus to the protection and conservation

of traditional food ecosystems by enforcing joint management of these resources between governments and indigenous leaders, and can promote incentives that encourage the harvesting of foods from the land. There is also need for policies that include Indigenous Peoples in the management of their traditional community food resources and the importation of healthy market foods into communities, and that provide training in how to use these appropriately. All such policies will help communities and nations to move forward in enhancing the food security and nutritional health of Indigenous Peoples, who are often the most vulnerable and face the greatest risks to health.

Engagement with Indigenous Peoples for research and development activities: basic principles

Indigenous Peoples themselves are the major participants in the projects reported in this volume. The research was carried out in the expectation that specific findings would lead to positive benefits to improve local circumstances, and that the results of activities would strengthen and reflect the identity of the community concerned. The principles of free, prior and informed consent for research on food systems and activities to enhance their use have therefore been instrumental to success.

Recognizing that cultural sensitivity towards the community's goals, needs, perspective and vision of prime importance, research and development processes should ideally be created and conducted by indigenous researchers and development officers within the communities concerned. Frequently, however, indigenous communities request the assistance of highly trained and respected academic leaders for research into and promotion of food security, nutrition and health, as occurred in the case studies described here. These are built on the principle that Indigenous Peoples must be in equal partnership with academic leaders from the home country of the project. Throughout the activities of the many partners in the overall programme, significant efforts have been made to use participatory research and development practices with the communities involved



and their leaders. The programme's academic and indigenous leaders have heralded these principles as guiding the case study process (Kuhnlein, Erasmus and Spigelski, 2009).

In Canada, CINE has been a leader in developing the concept of research agreements with the communities where research is conducted (Sims and Kuhnlein, 2003; Kuhnlein *et al.*, 2006). The Institute of Aboriginal Peoples' Health of the Canadian Institutes of Health Research now has guidelines for health research with Canadian aboriginal communities, which have been developed from this model (Canadian Institutes of Health Research, 2007).

Capacity building is key to successful research and development with Indigenous Peoples. This relates to ensuring the principles of inclusion and self-determination while building essential skills in research, reporting research in peer-reviewed literature and at conferences, and designing and delivering relevant development programmes for the community. Decolonizing methodologies promote culturally sensitive and often unique ways of working with Indigenous Peoples in their communities that support success for better nutrition (Canadian Institutes of Health Research, 2007; Tomaselli, Dyll and Francis, 2008; Tauli-Corpuz and Tapang, 2006).

Identifying partnerships with indigenous communities and including local researchers establishes credibility within the community and contributes to capacity building, inclusion and employment. Throughout the work described in this volume, the leading researchers have been impressed by indigenous women's knowledge of and capacity for research and food promotion activities that emphasize women's knowledge of the foods in their environments and the availability and acceptability of these foods to children and others. Women often oversee the family food supply, and can be encouraged to explore the possibilities for change using their knowledge of their food systems.

A key principle when designing policy is recognizing the need for Indigenous Peoples to have access to their own foods. This recognition can be demonstrated by considering subsistence harvesting permissions, ensuring land access for the agriculture of traditional crops,

promoting unique conservation efforts for Indigenous Peoples' harvest of medicines and food, and other factors. Additional examples are given in Chapter 15 (Damman, Kuhnlein and Erasmus, 2013).

National and international policies and networks discussed in the case studies

Throughout the annual discussions held with case study partners, it became clear that the wealth of knowledge on ecosystem resources that could be used for food security, livelihoods and health in various dimensions is a major part of indigenous identity and that the use of these resources is important for self-determination and cultural morale. There is an obvious need to harness these resources for the betterment of the people directly involved, which underscores the necessity for developing and applying effective policies at all levels to ensure the conservation and sustainability of local food systems.

Over ten years of communications and meetings, the programme created methods for documenting the resources used in food systems (Kuhnlein *et al.*, 2006) and presented documentation of 12 case studies of food system resources (FAO, 2009a). Discussions focused on how these resources could be used to better advantage in health promotion, and on what kinds of local, national and international policies currently existed in the case study environments. Each case study reflected on the existing and hoped-for policies for community, regional (state), national and international collaboration. This section attempts to capture some of these policies and visions on how they would provide greater insurance for food security, nutrition and health in the study areas.

Intersectoral collaboration within governments is a major imperative when dealing with the many influences that affect nutrition within a country, and the many disparities in food access across cultures, economic strata and geopolitical locations. However, the unique issues that Indigenous Peoples experience also need to be discussed and acted on in many other settings – locally and nationally as well as internationally. In the case studies, it was perceived that planning and practical activities should be undertaken by state

and federal ministries working in agriculture, health (especially maternal and child health), education, culture (including national history and museums), environment and natural resources, as well as by universities and research institutes, the church(es), local and national media, commerce/trade and economic interests. Thus, a broad spectrum of interests in local and national governments and in the non-governmental organizations (NGOs) and funding agencies working in developed and developing countries must be addressed, to conduct meaningful research and solve problems. The goals established by indigenous leaders and national government authorities must be met, so that effective policies can be established and pursued.

While there is need to recognize and maximize the use of local rural indigenous food resources for Indigenous Peoples, it is also important to understand that an increasing proportion of Indigenous Peoples live in large urban environments. Here, as well as in most rural settings, there is heavy reliance on foods derived from national agricultural production and the globalized food industry. There is therefore need for careful consideration of policies that bring healthy affordable foods into both the rural and the urban areas where Indigenous Peoples live. Efforts to do this have been under way in Australia, with the Remote Indigenous Stores and Takeaways Project,⁶ and Canada, with the Healthy Foods North Program⁷ and the Food Mail Program,⁸ sponsored by the Canadian Government to provide subsidies for transporting healthy foods to indigenous communities in northern Canadian. In Africa, the Rural Outreach Program has worked extensively to encourage small farmers to provide leafy green vegetables to urban areas (Shiundu and Oniang'o, 2007). Thus, there is a broad diversity of possible responses to ensuring food and nutrition security through adequate food supplies in communities.

Various sectors of government need to reflect carefully to understand the origins of malnutrition problems (both undernutrition and the overweight/obesity complex) in indigenous communities, and the

best ways of addressing these. For example, the provision of subsidized refined white rice to communities in the Zaheerabad district of Andhra Pradesh in India had the effect of undermining agricultural production of local biodiverse crops, and contributed to lower micronutrient contents in diets. As people gave up the production of local crops and had to find financial means of subsistence, the cost of rice increased, and poverty became worse. Activities for promoting the production and sale of local millets and uncultivated green vegetables required substantial planning and action in several government sectors in the local area (Chapter 6 – Salomeyesudas *et al.*, 2013).

National governments need to reflect on colonization's far-reaching impacts at the local level, and on how to reverse unhealthy food purchasing behaviours and restore access to healthy local foods. This often requires substantial cultural education that gives credence to the traditional knowledge of elders, particularly for the benefit of youth. At the same time, knowledge of health qualities and the preparation of foods available in commercial markets is also needed. One activity that promotes this comes from the case study with Inuit people in Pangnirtung, Baffin Island, Canada (Chapter 9 – Egeland *et al.*, 2013), where recorded stories about traditional food harvests and use were presented on DVDs in classrooms and the media.

In Canada, the Food Security Reference Group of the First Nations and Inuit Health Branch made strides in identifying how to conduct community-level research into the needs for food and nutrition development activities, and on how to stimulate and implement these. Regular meetings were held with indigenous health leaders and government sectors dealing with health, agriculture and Indian affairs, and research activities that reflect local community values and local food resources to improve health were developed (Power, 2008).

School curricula in indigenous areas are successful when policies are in place to incorporate traditional language instruction and cultural knowledge, particularly about traditional food resources. Several of the case studies documented their food systems, including with photographs and text describing different

⁶ www.healthinonet.edu.au/health-risks/nutrition/resources/rist

⁷ www.phac-aspc.gc.ca/publicat/2009/be-eb/nunavut-eng.php

⁸ www.ainc-inac.gc.ca/nth/foi/fr/index-eng.asp



food species suitable for use in schools so that children and youth can enjoy the benefit of research results. Resource books, posters and videos were prepared in Nuxalk, Gwich'in, Inuit, Awajún, Inga, Pohnpei, Dalit, Ainu and Karen areas. The resource books documenting the food resources of the Awajún (Chapter 5 – Creed-Kanashiro *et al.*, 2013) are deposited in Peru's National Library in Lima.

A national policy for stimulating ecotourism in partnership with indigenous communities can give focus and voice to indigenous cultures. Such policies have the benefit of showcasing indigenous values and can promote appreciation of local foods and their preparation while providing income to local communities. In some areas, demonstrations of food harvesting activities that draw on ecotourism revenues have also been useful. Success in such endeavours has been shown with the Ainu of Hokkaido Island in Japan, the Dene Nation in Canada, the Karen in western Thailand and indigenous people on the island of Pohnpei in the Federated States of Micronesia.

It is useful to consider issues of human rights and the right to food for Indigenous Peoples in the context of food security, with a focus on the right to decide over the use of resources in indigenous territories. Several examples of human rights issues in food systems and their application are given in Chapter 15 (Damman, Kuhnlein and Erasmus, 2013). An example from the Awajún case study shows how media attention to government efforts to sell Awajún land to forest and mine developers stimulated a media backlash that resulted in a reversal of government policy. It is now possible to monitor government policies for the use of land in the Amazon area of Peru, although the threat of negative government policies remains (Asociación Interétnica de Desarrollo de la Selva Peruana Web site).⁹

Academic and community leaders in the Karen case study in Thailand (Chapter 10 – Sirisai *et al.*, 2013) reflected on policies at different levels that have been identified as affecting the Karen and that could be promoted in different parts of government. At the local community level, policy dialogue has

considered cultural practices for the health and care of children, income generation and cultural preservation. At the provincial level, successful topics for policy-makers include developing a participatory approach to health care in school curricula, including support to health care workers and measures for preventing and curing undernutrition in Karen communities. At the national level, policy topics directly related to Karen interests include forestry and biodiversity conservation, investments to support children, food safety, equitable sustainability and social movement campaigns. International-level topics that have resonance with Karen priorities are global health, global warming and world biodiversity protection for future generations.

Dam construction has seriously affected the Ainu (Chapter 13 – Iwasaki-Goodman, 2013) through disturbances to local habitat and culture. However, a recent plan to construct a dam near Biratori was assessed for its impact on Ainu culture, as determined by Ainu people themselves. Following their report that there would be a negative effect on Ainu culture, the dam is now on hold.

During programme meetings, many participants reflected on how issues that are important to Indigenous Peoples and that generate favourable government policies also further the goal of general populations in the countries concerned. These issues include unique food resources and their conservation, cultural conservation as part of national heritage, and environmental protection. Indigenous leaders are among the most eloquent voices for mitigating the effects of climate change (Watt-Cloutier, 2009). Programmes that work for Indigenous Peoples can be shared, not only within the indigenous world, but also in other settings, for example, walking/running programmes to prevent diabetes, such as the Zuni Out-Run Diabetes Program, initiated in response to concerns about high-carbohydrate and -sugar foods (United States Department of Health and Human Services, 2010).

It was suggested that governments should take the initiative on policies to prevent the sale of unhealthy foods. This is especially important in communities where there are limited facilities for adult education, where financial poverty prevails, and where there is

⁹ www.aidesep.org.pe/

minimum or no competition in local food stores. Such policies follow on from successful prohibition programmes to reduce alcohol, tobacco and drug abuse. Nevertheless, it is difficult to create and implement food and nutrition policies that cut across many government sectors, and to identify where strategic responsibility lies for investments to fund these policies. The imperative to include representatives of the people most directly involved in policy decisions is obvious – especially when answers and actions can be generated in the community.

Policies will be more successful if important national characters share their positive visions in the media. This happened in the Pohnpei case study, when the President of the Federated States of Micronesia promoted local foods as the foods of choice for all official events (Island Food Community of Pohnpei, 2010). Another example is the positive impact for the Karen researchers from Her Royal Highness Crown Princess Sirindhorn's commitment to improving disadvantaged children's nutrition and overall quality of life.

In Colombia, the Amazon Conservation Team, an NGO, has worked in partnership with the Colombian National Park Service to create the Alto Fragua Indi Wasi National Park, a protected area jointly managed by indigenous communities. The NGO has also worked with the park service to establish the Orito Ingi-Ande Plant Sanctuary, which creates a new category of reserve that protects plants of high cultural value to indigenous communities, including those in the Inga case study (Amazon Conservation Team, 2010).

Unfortunately, however, some other national policies are counterproductive to Indigenous Peoples' efforts to improve nutrition and health. Examples include governments' promotion of cash cropping by outsiders in indigenous land areas, fumigation of agricultural lands against illegal crops, as described in the Inga case study from Caqueta Province in Colombia (Correal *et al.*, 2009), and sales of lands for mining and oil harvesting, as described by the Awajún in Peru. Another example is permitting free enterprise and the marketing of poor-quality foods to children, through shelf-stocking procedures that make pop, candy and snacks easily accessible for small children and youth in local stores

in indigenous communities because these practices are prescribed by vendors' central offices (H.V. Kuhnlein, personal observation, 2008). The rice subsidies that undermine local Dalit food production in Hyderabad district of India, and the overwhelming lack of control of climate change effects that have impacts on local food availability and harvests are other examples. Special attention should be directed to policies for indigenous women as the holders of much knowledge of food system diversity, and also as those often discriminated against, with health consequences for themselves and their children. Within the UN system, policies that protect women's rights to food and gender equality are encouraged (FAO, 2009b).

Scaling up case study findings to broader regions: moving the agenda forward

The food system interventions described in this volume demonstrate that Indigenous Peoples' nutrition and health are more likely to improve when aspects of their food systems are promoted. Because of funding constraints, the programme tended to engage with small communities, often of fewer than 1 000 people; however, enthusiasm has been high in most of these communities, and some have requested the scaling up of intervention activities, which is already under way in some cases. The leading researchers recognize the values and benefits of starting on a small scale with intensive work based on participatory processes and community engagement, and then sharing and building on success stories with more communities, using the bottom-up approach.

There are numerous options for broadening intervention activities: expanding to nearby communities; or networking to engage NGOs or government agencies in similar activities across regions where world-views are similar and culturally linked ecosystem food species are known to be available. Community members themselves often tell their neighbours and friends about appealing, helpful and successful community programmes, thereby stimulating a demand for similar activities in nearby villages. With community support



and engagement, programmes based on access to and use of local resources will become sustainable at the local level. Indeed, the scaling up of a locally supported programme to other communities can be the ultimate proof of programme sustainability. Various forms of scaling up from the grassroots (and the need for scaling down from top management) are presented by Uvin (1999), with examples.

There are many ways of stimulating scaling up activities. First, the need for the activities must be expressed at the community level, and avenues for the input of new ideas for addressing food, nutrition and health issues must be presented. As well as word-of-mouth exchanges among family and friends, meetings of community leaders also often lead to calls for action. Electronic networks – established through government agencies or others at the local, national and international levels, with publications, Web pages, film and other media presenting the findings from problem assessments – also help to share successful strategies. School curricula can be effective for sharing local food system information, not only within the classroom but also at home, with pupils communicating it to their extended families. Curricula can be developed for both local schools and more central educational planning.

As already noted, UN agencies have developed networks for advocacy and the funding of successful intervention programmes, and have the capacity to develop databases on Indigenous Peoples' food systems and intervention strategies.

There is, of course, no single model for engaging with indigenous communities, or for building the strategies and structures for scaling up to nearby communities or to the regional or national level. Because of diversity in cultures, ecosystems, world views, languages and ways of knowing and doing, the local leadership and circumstances must be respected, to ensure the best strategies for the local setting and successful planning and communications with the people most directly involved. Such local action supplements and operationalizes higher-level government policies that protect Indigenous Peoples' land and food systems to improve families' diets and health.

Indigenous and non-indigenous partners can work together in communication and planning, to move the agenda forward to the benefit of more indigenous communities in similar cultures and ecosystems. However, indigenous methodologies must not be applied inappropriately in larger (non-indigenous) populations. Often, both local and national languages must be used in communications to raise awareness of the needs and challenges for programmes to promote food systems, nutrition and health. Through this, local communities that develop successful programmes can be inspired further by sharing their work with broader audiences.

Case study success stories

The programme case studies were based on the expectation that findings would be shared at the international level. Among the nine studies reported here, several plans have been implemented for scaling up successful intervention strategies to improve food security, nutrition and health. Each success story has been guided by local vision and leadership, to achieve what is most useful for the people involved.

Awajún (Chapter 5 – Creed-Kanashiro *et al.*, 2013)

The original research on documenting the Awajún food system and the before-and-after evaluations were conducted with six communities in the Cenepa River region of the Amazonas district of Peru. The intervention developed the capacity of 32 health promoters, who worked extensively in 16 regional communities to deliver nutrition messages focusing on high-quality foods for infants and young children throughout the *Organización de Desarrollo de las Comunidades Fronterizas de Cenepa region*. So far, many community food gardens and more than 400 fish farms have been created. Community requests for workshops and activities in food topics, including food production, nutrition and culture, continue to be made through women's groups in the region.

Dalit

(Chapter 6 – Salomeyesudas *et al.*, 2013)

This intervention was conducted and evaluated in selected communities in the Zaheerabad region of Andhra Pradesh, southern India. The Deccan Development Society (DDS), an Indian NGO, continues to conduct activities with *sanghams*, which are regional organizations of Dalit (“untouchable” in the Hindu religion) women farmers. The overall objective is to enhance the food security of Dalit families, with multiple outreach activities emphasizing organic agriculture with local food species. DDS’s most significant activities include negotiating funding for the management and cultivation of fallow land (2 675 acres [about 1 083 ha] to date) by poor and illiterate women, and distributing the traditional grains (sorghum, millets) produced throughout the communities, as well as creating job opportunities. DDS continues to develop a broad array of awareness-building activities on the use of local foods, such as films, local radio, cooking classes, food festivals and the provision of local foods in meals at day care centres. More than 3 600 families in 75 villages in Andhra Pradesh participate in these activities, and media distribution has been extensive and highly celebrated.¹⁰

Gwich’in

(Chapter 7 – Kuhnlein *et al.*, 2013)

The First Nations community of Tetlit Zheh in the Northwest Territories of Canada participated in research activities over several years. The intervention was created to increase the use of traditional Gwich’in food and higher-quality market food available in the community. The most appreciated intervention product was a locally produced traditional food and health book distributed through the community council and the Dene Nation in Yellowknife. Tetlit Zheh’s local radio station, CBQM, promotes traditional activities, recipes from the food and health book and additional activities on the land. Provincial and national nutrition agencies

throughout Canada promote use of the local cultural food of Canadian First Nations, Inuit and Métis, with participation from national aboriginal organizations, the Assembly of First Nations and the Inuit Tapiriit Kanatami.

Ingano

(Chapter 8 – Caicedo and Chaparro, 2013)

The leaders of the Tandachiridu Inganokuna Association provided the project’s development approach and continue to support its activities. The Amazon Conservation Team (ACT) is an NGO with activities throughout the Amazon region that promote the use of traditional food and medicine. Notable among its successes are educational activities at Inga Yachaicuri School near Caqueta, and primary health care and food security centres staffed by health brigades. ACT Colombia assists five indigenous communities with more than 1 000 traditional crops on 650 acres (245 ha) of land. ACT, together with the Government of Colombia, established the Orito-Ingi Ande Medicinal Flora Sanctuary and the Indi-Wasi National Park for conservation of the biodiversity known to Indigenous Peoples in the region.

Inuit

(Chapter 9 – Egeland *et al.*, 2013)

The Inuit community of Pangnirtung on Baffin Island, Canada is the locus of research and activities to promote traditional Inuit foods in the region. Using radio and film media, educational material on traditional foods described by elders has been broadcast to youth. With support from the Baffin Region Health Promotion Office in the Government of Nunavut at Iqaluit, and the Inuit Tapiriit Kanatami based in Ottawa, programme activities have been widely communicated, along with concerns about climate change effects on the availability of traditional food species, and the impact on food security. Community and project leaders have spoken about the impact of climate change on traditional diets in the Arctic at many international conferences and UN-sponsored meetings.

¹⁰ www.ddsindia.com/www/default.asp



Karen

(Chapter 10 – Sirisai *et al.*, 2013)

After developing a uniquely trusting and sharing relationship, the Karen community leaders and research partners at Mahidol University work together to promote traditional food culture and world views by increasing the cultivation of traditional food species. Focusing on women, young children and strengthening the capacity of local leaders and youth, change agents have spoken eloquently in the Karen and Thai languages at national and international conferences. Important to their success are the involvement of interdisciplinary and multisectoral stakeholders, with community priority at the local level, and the sharing of results among related networks in local and national media, as well as at national and international conferences. With a supportive national socio-economic agenda and the commitment of a passionate national leader, the programme received the attention and participation necessary for development.

Nuxalk

(Chapter 11 – Turner *et al.*, 2013)

The Nuxalk Food and Nutrition Program was conducted more than 20 years ago, but is still having a positive impact in the community and more broadly. In the first programme of its kind in Canada, Nuxalk community leaders and academic partners worked together to improve several aspects of traditional food use, nutrition and health. Through the Assembly of First Nations and the First Nations and Inuit Health Board (FNIHB) of Health Canada, the results of the programme have been shared with many similar programmes developed to improve First Nations people's access to traditional foods. The Nuxalk programme was the stimulus for the larger, multifaceted international CINE programme reported in this volume. The FNIHB Food Security Reference Group has met regularly to promote traditional food use, and recommends assessments of traditional food quality and safety. The traditional food and recipe books created by the programme have been reprinted many times, and are still in use in community schools, universities and

indigenous communities. Fitness activities initiated by the programme are still benefiting community members. Some traditional foods promoted by the original project – especially ooligan (a small fish important for food and oil in traditional culture) – are now environmentally threatened, and the original nutrition and health data have been used to raise awareness about the need to protect them. For example, the Nuxalk community hosted a major conference on ooligan conservation in 2007. Many spin-off activities stressing the programme's success continue to involve First Nations in British Columbia, as well as nationally and abroad.

Pohnpei

(Chapter 12 – Englberger *et al.*, 2013)

The case study in Pohnpei describes a broad-based intervention throughout the island of Pohnpei, with before-and-after evaluations conducted in the community of Mand. A major focus is on increasing the use of locally grown foods, many of which are quite abundant but have been neglected, along with collecting information on lifestyle changes and the trend for using more convenient but less healthy processed imported foods. Throughout activities, community and academic partners have developed extensive interdisciplinary and intersectoral collaboration. With frequent communications from the Island Food Community of Pohnpei (IFCP),¹¹ case study activities have been broadcast throughout the island and into the Pacific region. The programme includes presentations, workshops, videos and films, field trips, drama clubs, school programmes, an e-mail network, many media events, and other activities at both the local and state levels. The successes of the Let's Go Local campaign in promoting increased production and consumption of local food have stimulated much interest in Pohnpei and led to requests for similar interventions in other states of the Federated States of Micronesia and in other Pacific nations, with many adopting the slogan in their own areas. The President of the Federated States of Micronesia and state governors have given support

¹¹ www.islandfood.org

and encouragement for continuing the programme because of the many cultural, health, environmental, economic and food security (CHEEF) benefits of local foods. Advocacy work continues through IFCP and its partners, both government and NGOs, with much international attention to the potential for scaling up this successful programme.

Ainu

(Chapter 13 – Iwasaki-Goodman, 2013)

Successful outreach activities for the Ainu have been conducted on the island of Hokkaido in Japan. The intervention was incorporated with other activities for an Ainu cultural revitalization, including capacity building in Ainu language, dance and other cultural aspects. The reintroduction of Ainu traditional food through regular print media and Ainu food cooking lessons has stimulated many requests for demonstrations in schools, communities and ceremonial settings throughout Hokkaido. Non-Ainu have participated in these events, raising the profile of Ainu cultural activities and thereby not only contributing to increased pride in Ainu food as a significant part of Ainu culture, but also reversing social prejudice.

Concluding comments

The intervention projects created by Indigenous Peoples' leaders with academic partners have resulted in many successes. Although there have been substantial challenges for bringing positive change to Indigenous Peoples' lives by promoting their food systems, persistence and vision have encouraged the continuation of efforts. Partners in the programme have found many ways of addressing local issues and moving forward the imperative to protect and use local resources. Initiatives have resulted in the development of curricula and school resources for teaching youth.

There is increased recognition that many foods of high quality and important cultural value originate in Indigenous Peoples' local ecosystems and cultures, and that these bring great benefit to the entire world. Among other factors, this recognition is the result of greater

knowledge of unique foods; increased understanding of the benefits of food biodiversity and the importance of communities in realizing the cultural benefits of food; the imperative to protect the world's fragile ecosystems, many of which are inhabited by Indigenous Peoples; and the realization that the nutrition transition is having a negative impact on people who previously had healthy diets from local food resources.

Policies result from growing public consciousness that changes are needed in government and public activity settings. To this end, the programme's community and academic partners have communicated broadly about their work. Results from the case studies described here have been widely reported to local, regional, national and international audiences. Through this, the programme aims to stimulate further dissemination of the value of local food systems in improving the health of Indigenous Peoples.

Programme partners have produced scientific publications, posters and local communications, held meetings with policy-makers, and responded to local and international media. They have trained 18 M.Sc. and Ph.D. university students, and contributed to the capacity building of hundreds of other students and trainees in case study settings. Community leaders and academic partners have reported findings related to the programme's objectives in:

- more than 200 published works;
- more than 270 presentations at local, national and international conferences and UN events and side-events;
- more than 120 public media reports and audiovisual documents.

They are all proud of these accomplishments, which have been achieved through multiple collaborations with a common vision and goals. They are confident that their projects will continue to foster awareness and policy development at the national and international levels. This will turn the tide of the nutrition transition and improve the health of Indigenous Peoples throughout the world, while giving recognition to their contribution to the health and well-being of all humankind 🌱



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