WN *Commentary*

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DIETARY PATTERNS

Preserving the World
Indigenous Peoples' food systems

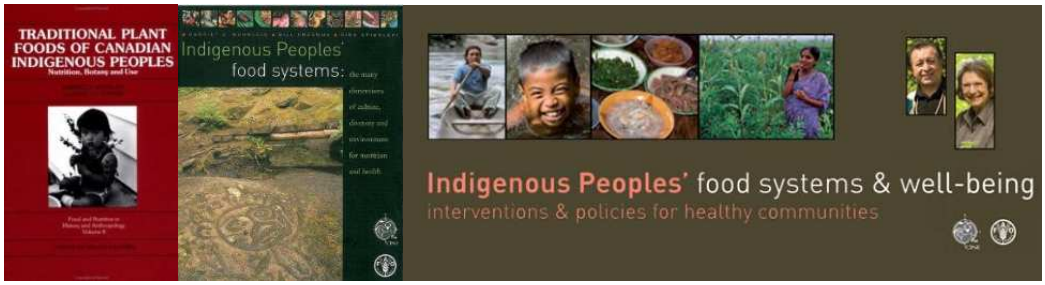


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Access October 2012 Harriet Kuhnlein commentary here
Access June 2013 UN FAO report on world agriculture here
Access the chapter containing all the photographs in the book here



Above are three of Harriet Kuhnlein's books, written as collaborations. The first is *Traditional Plant Foods of Canadian Indigenous Peoples* (1991). The next two are achievements of the Centre for Indigenous Nutrition and the Environment (CINE) in partnership with the UN Food and Agriculture Organization and colleagues from CINE and Indigenous and First Nations and communities all over the world. This commentary here is an edited version of chapter 16 of the latest book, *Indigenous Peoples' Food Systems and Well-Being* (2013). The version here is not referenced. Many of the photographs in the book, some shown here, were taken by KP Studios, and *all the photographs are accessed here.*

Editor's note



Harriet Kuhnlein, pictured here above with Chief Bill Erasmus, also of the Centre for Indigenous Peoples' Nutrition and Environment (CINE), is one of our original contributors, with her commentary published in the second issue of *WN* in June 2010, republished in 2012 for our very many more new readers. CINE is an independent, multi-disciplinary research and education resource for Indigenous Peoples, created by Canada's Aboriginal leaders. CINE is located at McGill University, Canada. CINE was created in response to a need expressed by Aboriginal Peoples for participatory research and education to understand and protect the integrity of their traditional food systems, and the survival of their long established ways of life that depend on the preservation of their food systems.

This commentary is an adapted version of chapter 16 of the new book of which she is co-author. Her work contributes to that of the Food and Agriculture Organization, looking forward to the 2014 FAO year of family farming, and the second International Conference on Nutrition hosted by FAO in November 2014. Harriet Kuhnlein's commentary here, and the new book, is in memory of her colleagues Lois Englberger who died in 2011, and Elizabeth Chinwe Okeke who died in 2012. They made vital contributions to the work of CINE

Introduction

This statement extracted and edited here, introduced the launch of Indigenous Peoples' Food Systems and Well-Being by the UN Food and Agriculture Organization.

'...We need our plants and our jungle in order to have strength and to live better'. The Ingano People know well the value of roots, insects, wild animals, and tree products of the Amazon region, an estimated 160 edible species, that have supported their health and well-being for centuries. Yet despite the Ingano's pride in their traditional foods, knowledge is being lost along with their natural resources, lost to soil erosion caused by agricultural exploitation by new settlers, illicit crop production, stockbreeding and extensive use of agrochemicals.

Many food systems – the sum of all processes and actions that contribute to feed us – are not sustainable. The human species is depleting and exhausting natural resources. On another hand, Indigenous Peoples' food systems are sustainable; or rather they used to be. Indigenous and Tribal Peoples face more and more challenges in using their traditional food systems to ensure food security and health. The loss of Indigenous Peoples' expertise and knowledge of sustainable food systems and local biodiversity is also a loss of human patrimony, at a time when it is most needed.

Under the United Nations Declaration on the Rights of Indigenous Peoples of 13 September 2007, and consistent with its mandate to pursue a world free from hunger and malnutrition, the United Nations Food and Agriculture Organization (FAO) has put in place a *Policy on Indigenous and Tribal Peoples* to ensure that it will make all due efforts to respect, include and promote Indigenous Peoples' issues in its overall work. That includes protecting, preserving and promoting Indigenous Peoples' food systems and knowledge.

To provide solid ground for dialogue and action, in-depth studies have been conducted by a team of representatives from 12 Indigenous Peoples and researchers from the Centre for Indigenous Peoples' Nutrition and Environment (CINE), among which are Professor Harriet V. Kuhnlein and Chief Bill Erasmus. The findings obtained so far have been released in three books. The first two books define the process to document local food resources *http://www.mcgill.ca/cine/sites/mcgill.ca.cine/files/manual.pdf* and describe the food systems in 12 diverse rural areas of different parts of the world *http://www.fao.org/docrep/012/i0370e/i0370e00.htm.* .

This book, *Indigenous Peoples' food systems & well-being* *http://www.fao.org/docrep/018/i3144e/i3144e00.htm* is the third of the series. Resulting from collaboration between Indigenous Peoples' representatives, CINE and McGill University, with the support of FAO, this book presents the results of 10 years' research on community health promotion interventions based on local and traditional food systems. It provides an comprehensive analysis of the contexts, as well as nine case examples from Canada, Japan, Peru, India, Colombia, Thailand and the Federated States of Micronesia (summarised in this commentary).

Finding ways to preserve the sustainable food systems of Indigenous Peoples, together with the wisdom, knowledge, expertise and biodiversity linked to them, is of crucial importance to finding solutions to feed humanity today and in the future.



DIETARY PATTERNS

Access July 2012 WN Enrique Jacoby on Andean cuisine here
Access August 2012 WN Patricia Murillo on Andean cuisine here

Editor's note

While this commentary concerns food systems as a whole, it is also the first in a new series of *WN* commentaries and other contributions with the general title of *Dietary Patterns*. The news series has been inspired by the two commentaries published in WN last year by Enrique Jacoby and Patricia Murillo on traditional Andean cuisine. Our new series will always integrate dietary patterns with their social, cultural, economic, environmental and other underlying and basic shaping factors. The visual symbol for *Dietary Patterns* will change with every contribution, because of their variety. The reef fish above is a traditional favourite in Pohnpei in the Federated States of Micronesia, one of the CINE centres (see below).

Status



The meeting of the 12 CINE centres come together at the Rockefeller Center, Bellagio, Lake Como. Harriet Kuhnlein and Bill Erasmus are front, centre

The world's attention is captured by the plight of Indigenous Peoples as they strive to retain their cultures and to protect their ecosystems and the food provided by these in the face of economic globalization. Our work over the last decade has uncovered a vast knowledge about biodiversity in Indigenous Peoples' areas and many cultural meanings and spiritual values addressed by these resources. These food systems are critical for Indigenous Peoples' health in all its dimensions. Here we give an overview

of existing policies surrounding Indigenous Peoples' food systems, and make suggestions for enhancing policies that will promote and protect these resources.

Collaboration is required for success in the research process to document how these food systems can improve health and well-being of Indigenous Peoples. It is also needed to understand and create successful policies that have many actors and many dimensions, as does the wholef ield of nutrition and food security.

Benefits of indigenous food systems

The questions addressed here are: Why should Indigenous Peoples' food systems be fostered and protected? What policies at local, national and international levels will move these policies forward to improve food security and health for Indigenous Peoples?

Foundations for the benefits of Indigenous Peoples' food systems rest in empirical knowledge of their quality and biodiversity. These include imperatives for environmental conservation; health challenges for Indigenous Peoples who often live in financial poverty; recognition of the many physical, mental, social and spiritual aspects of local food resources by Indigenous Peoples; and the human right to enjoy these resources that are intimately connected to food security, to culture, and to land and aquatic ecosystems.

The world in its entirety is struggling under the burdens of food insecurity, recently exacerbated by agriculture using food for fuel; the food price crises in the midst of global market mechanisms; and lack of adequate policies to improve the nutrition situation for all citizens. Understanding how the human right to food can be realised for the entire world's population is especially poignant for Indigenous Peoples, who often experience the most severe poverty and health disparities. In addition, the ecosystems upon which many Indigenous Peoples depend are under increasing stress.

Indigenous Peoples face disparities resulting from colonisation. This to varying degrees has influenced the ways in which people view their local food resources in contrast to 'imported' foods to their areas, and also the whole structure of social settings and hierarchies. Disparities are in financial income, and in access to health care and to the services experienced and often taken for granted in the mainstream cultures in their nations. The forces of globalisation affecting disparities in nutrition and health are far-reaching in their impacts: the wide availability of low quality foods that lead to obesity, in mining and other activities that destroy ecosystems to their areas; in migrations to cities to seek jobs, and so forth. All these reduce traditional cultural knowledge and biodiverse local food resources.

Protecting health, earning income

Despite these factors that drive Indigenous Peoples away from their local foods, there are good reasons to promote local foods and ways of life. The food is less expensive. Harvesting and provisioning to families provide many fitness and cultural benefits. When nutrition and ways of life are unhealthy, costs of health care can be exceedingly high. Obesity and its consequences (diabetes, heart disease, some cancers, and so on) are very costly to treat. Local foods and healing practices offer health and other benefits.

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

Human rights

Indigenous People have become increasingly active in counteracting discrimination and social injustice. The United Nations and its Permanent Forum on Indigenous Issues declared two decades (1995-2015) as International Decades on Indigenous Peoples. The still-current decade has objectives as follows.

The first is to promote non-discrimination, and inclusion in national processes affecting Indigenous Peoples. The second is to promote effective Indigenous Peoples' participation in decisions affecting ways of life, cultural integrity and collective rights, including free, prior and informed consent. The third is to promote development policies with full equity. The fourth is to adopt targeted policies with focus on indigenous women, children and youth. The fifth is to develop monitoring and accountability for national, regional and international policies that affect Indigenous Peoples' lives.

In September 2007, the Declaration on the Rights of Indigenous Peoples was adopted by the United Nations General Assembly. The large majority of the world's countries voted for it. The declaration is for enforcement of the rights of Indigenous Peoples to maintain and develop political, economic and social systems, secure in enjoyment of their own means of subsistence and engaging freely in traditional and economic activities. Thus, nation states are under obligation to ensure non-discrimination and to safeguard the distinct cultural identities of Indigenous Peoples. The World Conference on Human Rights states that all human rights are universal, inalienable, indivisible, interdependent and interrelated. This should ensure that the right to adequate food is

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

There have been many challenges and conflicting opinions, but institutional frameworks within the United Nations agencies and their member states have developed in recent years to protect Indigenous Peoples' traditional customs, livelihoods and lands. As such, development assistance in all global regions has been offered in recognition that Indigenous Peoples have valuable knowledge and that they are custodians of much of the world's biodiversity, particularly of food species.

Close to 400 million people

According to conservative estimates, Indigenous Peoples around the world number more than 370 million and live in 90 countries. They 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 often different from the official language of the nation or region.

As an example, the 645 Scheduled Tribes of India are considered as Indigenous Peoples by the State of India. They comprise 84 million people, or approximately 8.2 percent of the total population of India. Computations of the Human Development Index, the Human Poverty Index, the Gender Equality Index, literacy rates and key health indicators, show vast deprivation of tribal peoples in contrast to all-India rates.

The right to adequate food

The human right to adequate food can be understood as a right to food security. The UN declaration on the rights of Indigenous Peoples, and the UN International Labour Office 1989 Convention on Indigenous and Tribal Peoples' rights, underpin thwe special right of Indigenous Peoples' to enjoy their traditional food, as a central aspect of their identities, cultures and economies.

United Nations agencies have created development policies specifically for Indigenous Peoples and their issues related to food systems, nutrition and health. To date, these agencies and organisations include the World Health Organization, the Pan American Health Organization, the World Bank, UNESCO, the Convention on Biological Diversity, Bioversity International, and the Human Rights Council. The UN International Fund for Agricultural Development has had a funding programme specifically for Indigenous Peoples. The UN Food and Agriculture Organization has several initiatives relevant to Indigenous Peoples and their food systems.

The effectiveness of policies to ensure the right to food and food security for right-holders by nation state duty-bearers, depend on success in respecting, protecting and fulfilling these rights. To make these principles really work in practice, FAO has published guidelines on the right to food and Indigenous Peoples. These are useful for advocacy, and to ensure data disaggregation for indigeneity, to develop suitable indicators for assessing food security, and to create human rights-based strategies and policies for food security.

What food security means

Food security is an essential component of health and well-being. It is defined to exist 'When all people at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life'. Food security can be defined for individuals or families, and for a community or larger populations such as nation states. In all situations it mean food that is sufficient, safe and nutritious to maintain a healthy and active life; and that is available, accessible and used to meet dietary needs and preferences.

Food security and nutrition security

Food security is a pre-condition for nutrition security and for health. For Indigenous Peoples, it means more than health. It also means relationship with the land, resources, culture and culturally appropriate food, values and social organisation, and as well as these, identity. Health here is recognised broadly, to be intertwined with nature and culture for well-being, and articulated with physical, mental, emotional and spiritual and elements for people and communities. Thus, advocacy and promotion of food security and health need to include necessary aspects of political, economic, social and cultural life, values and world-view to maintain equilibrium and harmony in the community. This necessarily requires the integration of local indigenous world-views and visions, and an interdisciplinary approach from researchers and food security and health promotion agents.

When health data are disaggregated by culture and gender in order to reveal the circumstances faced by Indigenous Peoples in both urban and rural areas, they now often show that the circumstances Indigenous Peoples face are disturbingly behind their non-indigenous counterparts of populations, in both low-income and high-income countries. These disparities are manifest in virtually all health indicators, and ost of all in measures of undernutrition (particularly stunting and wasting) and of overnutrition (obesity and chronic disease). This has been found in the Americas (South, Central, the US, Canada), and for example also in India, Venezuela and Guatemala.

These nutrition circumstances and disparities for Indigenous Peoples are rooted in income poverty, often extreme poverty. More importantly, perhaps, is the poverty that results from poor access to health and social services, to poor education including that of indigenous structures, and to serious lack of access to ecosystem resources that provide food and nutrition security.

Health and other disadvantages

Indigenous women and children are especially vulnerable to health disparities with poor health leading to higher morbidity and mortality statistics for indigenous populations. Special attention is needed for indigenous women, who are often targeted by discrimination and racism. Women are particularly vulnerable during pregnancy and lactation, and their good health and well-being is crucial for the healthy growth and development of their young children. It is these women who are the 'gatekeepers' of family food provisioning and who especially need the benefit of policies protecting their own right to food.

An example from the Ainu case study in Japan (see below), also points out disparities in income assistance and education. A survey of Ainu in Hokkaidō reported more Ainu (5.2 percent) received government financial assistance than the national average (2.1 percent). Ainu had lower annual income, fewer finished high school, and many reported financial hardship as the reason for not attending higher education institutions.

Food traditions are holistic. They are linked with physical, emotional, social and mental health and well-being. The capacity to enjoy one's culture is a human right. Lack of access to traditional food resources has negative effects on cultural morale, sense of identity and mental health, as well as on physical health. Mental health and suicide statistics again 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.

Indigenous Peoples tend to be poorer in all countries in comparison to their non-indigenous counterparts. They also have high rates of obesity and chronic disease. Resulting from the 'nutrition transition' where cheap food products of poor quality are increasingly consumed by the poor, obesity leads to alarming increases in diabetes and its consequences among Indigenous Peoples, who may be more vulnerable due to genetic circumstances and reduced physical activity. In the Canadian Arctic, three cultures of Indigenous Peoples consumed from 5 to 40 percent of dietary energy as traditional food. Even with only one serving of traditional food, nutrient profiles were better than those of diets composed of only purchased foods and products, noted as being of low nutrient density. Further, access to traditional food as noted in the Gwich'in case study (see below) meant better food security.

Policies created within communities and governments should counteract these immense challenges. Properly implemented policies can ensure access to highly nutritious traditional indigenous local food, and reduce incentives to purchase poor quality market food products (among others, those with high sugar, saturated and *trans* fats) and other ultra-processed products. Government subsidies can be used to make health foods cheaper.

Policies can give impetus to protection and conservation of traditional food ecosystems by enforcing joint management of these resources between governments and indigenous leaders. Policies may also provide incentives that encourage the harvesting of foods from the land. Indigenous Peoples need to be able to manage their traditional community food resources, and also be also to import healthy market foods and to provide training to use them appropriately.

Working with Indigenous Peoples

We have worked hard to use participatory research and development practices with the involved communities and their indigenous leaders. The Centre for Indigenous Peoples' Nutrition and Environment (CINE) has been a leader in Canada in developing the concept of research agreements with communities where research is conducted.

Sensitivity to the vision, goals and needs of the community and the community perspective is essential. The processes are ideally conducted by indigenous researchers and development officers within the communities. Frequently, indigenous communities request the assistance of academic leaders for research and promotion of food security, nutrition and health promotion, but we have built our case studies on the principles that Indigenous Peoples must be in equal partnership with academic leaders from the home country of the projects.

Indigenous Peoples are the major stakeholders in the projects. The research conducted has carried the expectation that positive benefits to improve their local circumstances will come from the scientific findings, and that the results of activities will carry the identity of the community. Thus, principles of free, prior and informed consent for the research on food systems and the activities to enhance their use have been essential.

Building capacity

Capacity-building is also a key to successful research and development. This relates to the principles of inclusion and self-determination, reporting research in peer-reviewed literature and conferences, and in designing and delivering relevant development programs for the community. Concepts of 'decolonising methodologies' promote

culturally sensitive and often unique ways for working with Indigenous Peoples in their communities that support success for better nutrition.

Identifying partnerships with indigenous leaders, and including local researchers, establishes credibility with the community, and contributes to capacity-building, inclusion and employment. We have been impressed with the knowledge and capacity of indigenous women for research and food promotion activities, emphasising the knowledge of women for the foods in their environment, its availability and acceptability to children and to others. Knowing how to impress the community of possibilities for change with knowledge of their food system is also relevant, with women as the gatekeepers to family food supplies.

Broader networks

In annual discussions held with case study partners, it was 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. The use of these resources is important for self-determination and cultural morale. The need to harness these resources for the betterment of the people directly involved with them, underscores the need to apply effective policies at all levels.

Over a 10-year period, our programme has created methods for documenting the resources used in food systems, and presented 12 case studies. Our discussions then focused on how these resources could be used to better advantage in health promotion and what kinds of policies currently exist in local, national and international environments.

Intersectoral collaboration within governments is crucial, when dealing with the many influences on nutrition in a country, and the many disparities faced in food access across cultures, economic strata and geopolitical locations. Also, the unique issues that Indigenous Peoples experience need to be discussed and acted upon from many sectors locally and nationally, as well as internationally.

Planning and activities should be undertaken by state and federal ministries engaged with agriculture, health (especially maternal and child health), education, culture (including national history and museums), environment and natural resources, universities and research institutes, the church(es), local and national media, commerce and trade, and economic affairs. Thus, a broad spectrum of interests in local and national governments, and also non-government organisations and funding agencies, must be addressed to conduct meaningful research and solve problems.

Careful reflection is needed to understand the origin of malnutrition (both under- and over-nutrition) in indigenous communities, and the best ways to address them. As one

example, in India the circumstance of providing subsidised white rice to Dalit communities in the Zaheerabad district of Andhra Pradesh (see below), undermined agricultural production of local biodiverse crops and simultaneously contributed to diets poor in micronutrients. As people gave up their local production and had to find money for subsistence, the cost of rice increased, and poverty became worse. Activities to promote agriculture and sales of local millets and uncultivated green vegetables required substantial planning and action in several local government sectors.

National governments need to reflect on the far-reaching impacts of colonisation at the local level, and how to reverse unhealthy food purchasing and restore access to healthy local foods. This often requires education that gives credence to the traditional knowledge of Elders, particularly for the benefit of young people. At the same time, knowledge of the nature and quality of foods in commercial markets is needed. One example comes from the case study with Inuit in Pangnirtung, Baffin Island (see below), where stories of traditional food harvests and use were presented in classrooms as well as in the media.

Education curricula in schools in indigenous areas are successful when policies are in place to incorporate traditional language instruction and cultural knowledge, particularly about traditional food resources. Several case studies in our programme prepared documentation on their food systems, including photographs and text describing species, suitable for use in schools. Resource books, posters and videos have been prepared for all the Peoples studied (again, see below): Ainu, Awajun, Dalit, Gwich'in, Inga, Inuit, Karen, Nuxalk, and Pohnpei. The Awajun resource books are deposited in the National Library in Lima.

Stimulation of tourism may give focus and voice to ethnicities and indigenous cultures. This can showcas indigenous values and promote appreciation of local foods and their preparation while providing income to local communities. Demonstrating physical activities in food harvest, has also been useful. Success has been shown with the Ainu of Hokkaidōo in Japan, the Gwich'in in Canada, the Karen in Western Thailand, and on the island of Pohnpei in the Federated States of Micronesia.

Protecting the People

It is useful to raise issues of human rights and the right to food and food security for Indigenous Peoples, with focus on the right to traditional territories. Thus, media attention to government efforts to 'sell' Awajun land to forest and mine developers resulted in a media backlash that resulted in reversal of government policy. Although this threat remains, monitoring government policies for use of land in the Amazon area of Peru is now possible.

Academic and community leaders in Thailand have reflected on different policies affecting the Karen People that could be promoted further at different levels of

government. Dialogue has taken place at the local level on cultural practices on health and care of children, income generation and cultural preservation. At the provincial level, successful topics for policy makers include developing the participatory approach for health care in school curriculum, supporting health care workers, and measures for preventing and curing undernutrition. At the national level, policy topics include forestry and biodiversity conservation, investment for children, food safety, equitable sustainability and social movement campaigns. At the international level, topics that have resonance with Karen priorities are global health, global warming and world biodiversity protection for future generations.

Construction of dams has seriously affected the Ainu. A plan to construct a dam near Biratori has been assessed for impact on Ainu culture, as determined by Ainu People. Dam construction is now on hold.

Many in our meetings reflected on how issues important to Indigenous Peoples that generate government policies will also apply to the general good of populations. These include topics of unique food resources and their conservation, cultural conservation as a national heritage, and environmental protection. Some of the most eloquent voices for mediation of climate change in the world now, are indigenous leaders. Programmes that work for Indigenous Peoples can be shared in other settings.

Policies for health

The suggestion is constantly made that governments should initiate policies to prevent sale of unhealthy food products. This is especially important in communities where there is limited facility for adult education, where financial poverty prevails, and where there is minimum or no competition in local food stores. Such policies follow on the success of prohibition programmes to reduce alcoholism, tobacco use, and drug abuse.

Policies have more success when important national figures contribute their positive vision. This has happened in Pohnpei: the President of the Federated States of Micronesia promotes local foods as the foods of choice for serving at all official events. Another example is the positive impact made for the Karen researchers due to Crown Princess Sirindhorn's passion and commitment to improving disadvantaged children's nutrition and their overall quality of life.

In Colombia, the Amazon Conservation Team 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. They have also worked with the Park Service to establish the Orito Ingi-Ande plant sanctuary that creates a new category of reserve, protecting plants of high cultural value.

There are, unfortunately, also many national policies that are counterproductive to Indigenous Peoples' efforts to improve nutrition and health. One example is that of

governments that promote cash-cropping by outsiders in indigenous land areas and fumigation of agricultural lands against illegal crops, as described by the Ingano case study in Caqueta Province in Colombia, and for 'selling' lands for mining and oil harvesting as described by the Awajun. Another example is that of permitting advertising and marketing of poor-quality ultra-processed food foods to children. The rice subsidies that undermine local Dalit food production and lack of controls on the climate change that impacts on local food availability and harvests are other examples.

Much more needs to be done

Food system interventions are showing that success for encouraging improved nutrition and health for Indigenous Peoples is possible, partly by promoting Indigenous Peoples' food systems. Because of funding constraints, the communities with which we engaged for these interventions are small, each often less than 1,000 people. But enthusiasm continues to be good for most. Bigger intervention activities have been requested, and in some cases are under way. We recognise the values and benefits of working intensely with good participatory process and community engagement on a small scale, and then to share and build the good news stories to more communities using the 'bottom up' approach.

The options for broadening the intervention activities are numerous. These include expanding to additional nearby communities, and networking to engage non-government organisations and or government offices across regions where similar worldview, culture and ecosystem food species availability are known.

Spreading the word

With the nine Indigenous communities we have worked with (see below), there are plans for larger intervention strategies to improve food security, nutrition, good health and well-being. Each success story has been guided by local vision and leadership to achieve what is most valid and useful for the people involved.

Often it is through community members themselves that the 'word' is spread to neighbours and friends in nearby villages, who then ask for appealing, helpful and successful community programmes, thereby initiating a demand for similar activities. With community support and engagement, programmes based in access and use of local resources will become sustainable at the local level. The expansion of a locally supported programme to other communities is a proof of programme sustainability.

There are many ways to stimulate such 'scaling-up' activities. The need for the activities must be expressed at the community level. In addition to word-of-mouth exchanges among family and friends, community leaders often call for action in their

meetings. Email networks, publications and presentations of findings in problem assessment, networks established through government agencies at the local, national and international levels through websites, film and other media also call attention to the potential for sharing successful strategies. School curricula can be effective for sharing local food system information, within the classroom but also at home to extended family members. Curricula can be developed for local schools, and also through more central planning in countries.

Also, United Nations agencies also develop networks for advocacy and funding for successful intervention programmes, and can develop databases on Indigenous Peoples' food systems and intervention strategies.

There are many ways

There are many ways to engage with Indigenous communities, and to build the strategies and structures for 'scaling-up' to nearby communities and at regional, state and ational levels. Because of diversity in culture, ecosystems, world-view, language, and ways of knowing and doing, the local leadership and circumstances must be respected and trusted to bring forth the best strategies for the local setting and planning and communications with the people most directly involved. This local knowledge and action must always form a central and crucial part of policies and actions at higher government levels that can protect Indigenous Peoples' land and food systems and therefore improve dietary patterns and good health and well-being within communities and families.

We believe that our work so far shows that Indigenous and non-indigenous partners can successfully work together in communication and planning, to benefit more Indigenous communities in similar cultures and ecosystems. Indigenous culture and knowledge also has lessons for larger (non-indigenous) populations. Often, both local and national languages must be used to raise awareness of the needs and challenges for programmes to promote food systems, nutrition and good health and well-being. In so doing, local communities that develop successful programmes are further empowered and inspired.

The Indigenous People we are working with know that their wisdom, knowledge, culture, and their needs and rights, are being communicated to the whole world, through our work, our books, conference presentations, media coverage – and this extract. They and we need all the help they and we can get.

Nine stories

Ainu



DIETARY PATTERNS



An Ainu child and woman

The Ainu live in the Japanese northernmost island of Hokkaidō (see map at top) and formerly also in Shakhalin, now in Russia. The Ainu intervention was incorporated with other activities of Ainu cultural revitalisation with capacity building in the Ainu language, dance and other aspects of culture. The re-introduction of Ainu traditional food, using regular print media, and Ainu food cooking lessons, has stimulated many requests for demonstrations in schools, community settings and ceremonial settings throughout Hokkaidō. Non-Ainu have also participated in these events and have raised the profile of such cultural activities. This has contributed to building pride in Ainu dietary patterns as a significant part of Ainu culture, and also to reversing social prejudice.

Picture top: The fish dish Gurutabi is an Ainu speciality.

Awajun



DIETARY PATTERNS

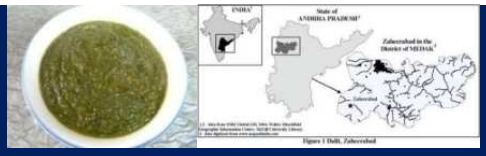


Awajun woman preparing a meal in an open-air kitchen

The Awajun live principally in the tropical rainforest of the Cenepa area of the Department of Amazonas in northern Peru (see map above). The original research on documenting the Awajun food system, and the before- and after-evaluations, were conducted with six communities in the Cenepa River Region. The intervention developed capacity building of 32 health promoters who worked extensively in 16 regional communities to deliver nutrition messages especially focused on high quality foods for feeding infants and young children throughout the region. Many community food gardens as well as more than 400 fish farms throughout the area have been created to date. Community requests for workshops and activities in topics of food, nutrition and culture, and food production continue in the region through the women's groups.

Picture top: The tropical forests of Peru are abundant in many very types of fruit

Dalit



DIETARY PATTERNS



Dalit assistant sorting edible greens. *Picture: HV Kuhnlein*

The intervention was conducted and evaluated in a select number of communities in the Zaheerabad region in Andhra Pradesh, Southern India (see map above). The Deccan Development Society (a non-government organisation) works with sanghams, organizations of Dalit ('untouchables' in the Hindu religion) women farmers in this region. The overall objective is to enhance food security for Dalit families with many outreach activities emphasising organic agriculture that cultivates their local food species. A significant activity is to negotiate funding to cultivate fallow land (2,675 acres to date) for management by the impoverished and illiterate women, and distribution of the resulting traditional grains (for example, sorghum, millets) within their communities, as well as creating job opportunities. The Deccan Development Society continues to develop awareness for using the local foods, using films, local radio, cooking classes, food festivals, provision of local foods in meals for day-care centres, and other activities. Now there are more than 3,600 families in 75 villages in Andhra Pradesh participating in these activities. Media distribution has been extensive;

Picture top: Saag, a thick soup using spinach or other greens, is a common Dalit dish.

Gwich'in



DIETARY PATTERNS



Alice Andre, Gwich'in elder. Cutting fish. *Picture: HV Kuhnlein*

The First Nations community of Tetlit Zheh in the Northwest Territories of Canada have participated in research activities over several years. The intervention was created to increase the use of traditional Gwich'in food and of 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, located in Yellowknife. Throughout Canada, provincial and national nutrition agencies promote the use of 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.

Picture top: Caribou, as well as fish, is important in the Gwich'in diet.

Inga



DIETARY PATTERNS



Anotomoa Mutumbajoy, Inga leader

The Inga People live in the Caquetá region of Southern Colombia. The leaders of the Tandaciridu Inganokuna Association provided the development and approach for the project, and continue to support its activities. The Amazon Conservation Team (ACT) is a non-government organisation that promotes traditional food and medicine. Notable in its successes are educational activities with the Inga Yachaicuri School in the region near Caquetá, primary health care and food security centres staffed with 'health brigades'. Activities now include 638 families on 38 indigenous reserves in Southern Colombia with 797 *chagras* (traditional farms). The Conservation Team, together with the Government of Colombia, have 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.

Picture top: A vast variety of wild and cultivated plants grow in Southern Colombia

Inuit





DIETARY PATTERNS



An Inuit boy enjoying the outdoors. *Picture: KP Studios*

The Inuit Peoples live throughout the Arctic region. The Inuit community of Pangnirtung on Baffin Island is the locus of research and activities in this project to promote traditional Inuit foods. Using radio and film media, education of youth on traditional foods described by Elders has been broadcast. With support from the Baffin Region health promotion office in the Government of Nunavut in Iqaluit, and the Inuit Tapiriit Kanatami based in Ottawa, the programme activities have been broadly communicated, along with the concerns for climate change effects on availability of traditional food species and impact on food security. Community and project leaders have spoken at many international conferences and United Nations sponsored meetings about the impact of climate change on traditional diets in the Arctic.

Picture top: The arctic char and many other fish are important in the Inuit diet.

Karen



DIETARY PATTERNS



Karen children. *Picture: S Chitibooriboon*

The Karen People live in Thailand and in Myanmar (Burma). In Thailand, Karen community leaders and research partners at Mahidol University work closely together to promote traditional food culture and world-views by increasing the agriculture of traditional food species. With focus on women and young children and strengthening capacity of local leaders and youth, change agents have spoken eloquently in the Karen and Thai languages in national and international conferences. Important to their success is the involvement of interdisciplinary and multi-sectoral stakeholders with community priority at the local level, and through sharing among related networks, in local and national media as well as national and international conferences.

Picture top: Thai cuisine, one of the world's wonders, owes much to Karen food culture

Nuxalk



DIETARY PATTERNS



Fishing in the Bella Koola river. *Picture: KP Studios*

The Nuxalk Peoples are one of the First Nations living on and near the Canadian Pacific cost. Its Food and Nutrition Programme was conducted more than 20 years ago, as 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. The results of the programme have been shared with many similar programmes developed to improve access to traditional foods by First Nations Peoples, and have been an inspiration for international work. The Food Security reference group meets regularly now to promote traditional food use. The traditional food and recipe books created by the programme have been reprinted many times, and are still in use in the community schools as well as more broadly in universities and among other Indigenous communities. Some traditional foods promoted by the original project – especially the ooligan fish – are now environmentally threatened. The original nutrition and health data have been used to raise awareness for their protection. The Nuxalk community hosted a conference on ooligan conservation in 2007. Many activities stressing the success of the programme now involve First Nations in British Columbia, and nationally and abroad.

Picture top: The ooligan, hooligan or candle fish, a traditional favourite

Pohnpei



DIETARY PATTERNS



Pohnpei schoolchildren learning about bananas

Pohnpei, the red cross on the map above, is one of the myriad inhabited islands in the Federated States of Micronesia, approximately on the equator in the western Pacific Ocean. The case study project in Pohnpei has a broad based intervention. A major focus has been on increasing use of locally grown foods, many of which are quite abundant but have been neglected, along with changes in ways of life and the trend to processed imported food products. The programme of activities included extensive interdisciplinary and intersectoral collaborations.

Case study activities have been broadcast throughout the island and into the whole Pacific region. The programme includes presentations, workshops, videos and films, field trips, drama clubs, school programes, an email network, many media events, and other activities at both the local and state levels. The successes of the *Let's Go Local* campaign to promote the increased production and consumption of local food has stimulated a great deal of interest and requests for similar interventions in the 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 also State Governors have given support and encouragement tothe many *CHEEF* (culture, health, environment, economics and food security) benefits of local foods.

Picture top: The reef fish is traditionally enjoyed in Pohnpei.

Achievements

The intervention projects created by Indigenous Peoples' leaders together with their academic partners have resulted in many successes. The challenges have been substantial, but persistence and vision have given encouragement to continue in the work. The partners in this programme have found many ways to address local issues and to protect and use local resources. Initiatives have resulted in school resources and curricula; scientific publications; posters and local communications; meetings with policy makers; and coverage in local, narional and international media. There is increased international recognition that the foods of high quality and important cultural values that originate in Indigenous Peoples' ecosystems can and do bring great benefit to the entire world.

There is now raised public consciousness that change must be made to government policies and public activities. To this end, our community and academic partners have communicated broadly about the work conducted. Results from the case studies briefly described above and in more detail in the whole book, have reached local, regional, national and international audiences. We hope to stimulate scaling-up of the vision, mission and work, so that local food systems are known everywhere to be vital for improving the health of Indigenous Peoples.

To date, we have trained 18 MSc and PhD students at university level, and have contributed to building the capacity of hundreds of students and trainees in the actual settings of the case studies.

Our community leader and academic partners have reported findings related to the objectives of this project in more than 200 published works, more than 270 presentations to local, national, international conferences and UN events and side events, and more than 120 public media reports and audiovisual documents,

We are all proud of these accomplishments, achieved through very many close collaborations with common vision and goals. We hope that the publicity our projects have received will continue to foster awareness and the development of policies at national and international levels that will improve the health and well-being of Indigenous Peoples throughout the world.

Status

The overall project was conducted under the auspices of the International Union of Nutritional Sciences with contributions of many partners. This was done in two phases. First, documentation of the Indigenous Peoples' food systems; second, using the local food system to stimulate nutrition and health improvements at the community level.

The Food and Agriculture Organization of the United Nations supported the initial studies on methodology development, publications from the case studies on food systems and the impact of interventions. FAO has also supported many case study partners for travel to present at international conferences.

We thank especially the Canadian Institutes of Health Research, Institute of Aboriginal Peoples Health and Institute of Nutrition, Metabolism and Diabetes for their grant programmes supporting the research and annual conferences of community leaders and academic partners. Our academic partners have worked diligently throughout their experience with this project to conduct research and create credible peer-reviewed literature to further the goals we share.

We give the most heart-felt thanks to the community members and community leaders represented here who contributed their time and vision to this work with the full intent to share their knowledge to improve the health of Indigenous Peoples everywhere.

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