



• HARRIET V. KUHNLEIN • BILL ERASMUS • DINA SPIGELSKI

# Indigenous Peoples' food systems:

the many  
dimensions  
of culture,  
diversity and  
environment  
for nutrition  
and health







● HARRIET V. KUHNLEIN ● BILL ERASMUS ● DINA SPIGELSKI

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diversity and environment for nutrition and health

Food and Agriculture Organization of the United Nations  
Centre for Indigenous Peoples' Nutrition and Environment

*Rome, 2009*

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ISBN 978-92-5-106071-1

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**For further information, please contact:**

Nutrition and Consumer Protection  
Division,  
Food and Agriculture Organization  
of the United Nations,  
Viale delle Terme di Caracalla,  
00153 Rome, Italy  
Email: [nutrition@fao.org](mailto:nutrition@fao.org)  
Website: [www.fao.org](http://www.fao.org)

Harriet V. Kuhnlein  
Centre for Indigenous Peoples'  
Nutrition and Environment (CINE)  
McGill University  
21,111 Lakeshore Rd.,  
Ste. Anne de Bellevue, Quebec, Canada  
Fax (1) 514 398 1020  
E-mail: [harriet.kuhnlein@mcgill.ca](mailto:harriet.kuhnlein@mcgill.ca)  
Website: [www.mcgill.ca/cine](http://www.mcgill.ca/cine)

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It was 1944 when the first draft of FAO's constitution was prepared. Since then, and to this day, that constitution holds that the Organization shall collect, analyse, interpret and disseminate information relating to nutrition, food and agriculture; shall promote and recommend action with respect to scientific, technological, social and economic research relating to nutrition, food and agriculture; shall promote the spread of public knowledge of nutritional and agricultural science and practice; and encourage the conservation of natural resources.

In the letter and spirit of this responsibility, we are privileged to be involved in the preparation and publication of *Indigenous Peoples' food systems: the many dimensions of culture, diversity and environment for nutrition and health*.

As its title makes clear, the traditional food systems of Indigenous Peoples touch the full spectrum of life in ways that modern food systems do not. Agriculture's technological developments in the six decades of FAO's existence have led to great disconnections between people and their food. Globalization and homogenization have replaced local food cultures; high-yield crops and monoculture agriculture have taken the place of biodiversity; industrial and high-input farming methods have degraded ecosystems and harmed agro-ecological zones; and modern food industries have led to diet-related chronic diseases and other forms of malnutrition. The successes of modern agriculture are many – and these should not be minimized. Food production now meets the food needs of the planet (albeit not always reaching the communities, households and individuals in need). However, there have been some casualties

and unintended consequences along the way, and these cannot be ignored.

There will always be methodological difficulties in evaluating whole intact systems; and sensitivities and sensibilities are vital when dealing with diverse peoples and cultures. In this way, the work is groundbreaking in bringing together the community indigenous leaders and international scientists who managed to converge on the topic – even though from completely divergent entry points. The 12 case studies presented in this book show the wealth of knowledge in indigenous communities, in diverse ecosystems, and the richness of their food resources.

In preparing the food composition data for the traditional foods, the gold standards for data quality were not achieved. Some compromises were made in the areas of sample collection, numbers of samples analysed, and the coverage of nutrients – yet important data are presented. It is clear that people have the potential to solve their problems and the promise of this research will lead to solutions with local food resources.

This book, from project formulation to final publication, and all the heroic efforts in between, is the result of the resolve, vision and hard work of Harriet V. Kuhnlein. She praises and credits the vast network of indigenous leaders and their communities, the chapter authors, and collaborators around the world, who indeed, do deserve credit. But the project as a whole was guided through to its conclusion, with the firm yet gentle leadership of Professor Kuhnlein. Her dedication to the rights of Indigenous Peoples and the importance of their traditional food systems is the

reason for the success of this project and the many projects she has led, including others with FAO, with the same successful outcome.

Forward planning benefits from looking back, and the *Indigenous Peoples' food systems: the many dimensions of culture, diversity and environment for nutrition and health* contributes to the evidence base and body of knowledge for critically evaluating successes and failures in food systems, in valuing and conserving the future – with policy instruments that enable the conservation and sustainable use of food genetic resources.

This book shows that there are two worlds operating in the same space and time. The future wants and deserves both worlds, and they are not mutually exclusive. This project's goal, and its enduring legacy, will surely be to bring into focus the importance of biodiversity for food and nutrition and traditional food systems for the benefit of all Indigenous Peoples ●

*Barbara Burlingame Ph.D.*  
*Rome, 2009*

Each chapter in this book acknowledges those individuals who have contributed specifically to the chapter's research contributions. In the context of the overall programme, including the six group meetings that we have held, we thank our International Union of Nutritional Sciences (IUNS) committee members, the community leaders of the Indigenous Peoples who have collaborated with the case studies and their academic partners. We also recognize the excellent support that many skilled staff members have provided – both within the Centre for Indigenous Peoples' Nutrition and Environment (CINE) and in the case study teams. In particular, we thank Timothy Johns, Grace Egeland, Nancy Turner, Thelma Harvey, Bill Tallio, Rose Hans, Irma Tuesta, Marion Roche, Adelino Lorens, Kiped Albert, Nkechi Ene-Obong, Igwe P.E. Eze, M. Ozioko, Liliana Madrigal, Mark Plotkin, Camilo Correal, Natividad Mutumbajoy Janasoy, Eva Yela, Hazel Nerysoo, Elizabeth Vittrekwa, Margaret McDonald, Rhonda Francis, Gopa Kothari, Motiram Chaudhary, P.V. Satheesh, Martina Schmid, Joseph Ole Simel, Shadrack Okoth OIye, Jonah Kilabuk, Looee Okalik, Masami Iwasaki-Goodman, Koichi Kaizawsa, Miwako Kaizawa, Sakorn Dhanamitta, Suttalak Smitasiri, Solot Sirisai, Sincee Chotiboriboon, Sopa Tamachotipong, Anon Setaphan, Sompop Sungklachalarn and Benjamas Chumvorratayee.

“A photograph is worth a thousand words”: we would like to especially thank Peter and Lisa Kuhnlein for providing the high-quality photo and video documentation of the case studies. All the case study partners and the CINE team applaud the artists' skill and sensitivity in depicting the images of the research

so beautifully. Full sets of images were returned to case study partners, and DVDs that portray the case studies will assist policy discussions.

For preparation of case-study food lists and food-composition tables in the chapters, we thank Dr Nelofar Sheikh for her knowledgeable assistance, and students John Antony and Sandra Cohen. We are very grateful to Elizabeth Ansell, Donna Leggee and students Kathleen Shaw, Jessica McNeill and Nandita Perumal for editing and reference checking and to Donna-Michele D'Costa for her work on preliminary map preparation. Lauren Goodman, Tanya Nancarrow, Laura Kaufer and Jennifer Jamieson also assisted in preparing the final chapters. We thank Winifred Power (Editor), Chiara Caproni (Designer) and Maddalena di Giorgio (FAO Staff, for species name check).

We are continually appreciative of financial support for segments of the programme from McGill University; the Canadian Institutes of Health Research (Institute of Aboriginal Peoples' Health, Institute of Population and Public Health, and Institute of Nutrition, Metabolism and Diabetes); the International Union of Nutritional Sciences, the International Development Research Centre (Canada); Indian and Northern Affairs Canada; the United Nations World Health Organization, the Convention of Biological Diversity (UNEP), the United States Agency for International Development, the United States Centers for Disease Control, Sight and Life, the Amazon Conservation Team, and several in-country Non-Governmental Organizations, universities, agencies and research institutes.

A “big thank you!” to The Rockefeller Foundation for grants to bring our case study partners together

three times – at the lovely Bellagio Study and Conference Centre, in Bellagio, Italy. Our case study partners’ meetings were made possible because of grants from three Canadian agencies: the Social Sciences and Humanities Research Council, the International Development Research Centre, and the Canadian Institutes of Health Research. We are very grateful for these contributions to our research efforts.

We are especially indebted to Barbara Burlingame, Senior Officer, Nutrition Assessment and Evaluation, of the United Nations Food and Agriculture Organization, Rome, for her encouragement and assistance for this work from 2001 to the present time, and for this publication. Barbara has contributed outstanding leadership and vision as the champion for development of the sciences of food composition and food use throughout the world, and we are honoured that she included our work within her mandate ●

Project leaders: *Harriet V. Kuhnlein*, Ph.D., R.D., F.A.S.N., LL.D. (*hon.*), Founding Director, CINE, and Professor of Human Nutrition, McGill University; *Bill Erasmus*, Chair of the CINE Governing Board and Regional Chief, Assembly of First Nations and National Chief, Dene Nation; and *Dina Spigelski*, R.D., M.Sc., Coordinator.

2009

I am a member of the Yellowknives Dene and live in the community of Ndilo adjacent to Yellowknife, the capital of the Northwest Territories, Canada. I grew up with a great respect for my parents' and our community Elders' knowledge about our Dene food. We learned that our foods are essential to keep our good health, and that the land, water and air in which we live – together with the animals and plants – must be respected and protected. I went on to a university education in Political Science and Anthropology and am now the National Chief of the Dene Nation and Assembly of First Nations Regional Chief of the Northwest Territories, Canada's largest organization dealing with the issues of Indigenous Peoples. It is in this context that I became involved with the Centre for Indigenous Peoples' Nutrition and Environment (CINE) and the project that forms this book.

I have learned that “Food is a human right” and that Indigenous Peoples everywhere want to protect their heritage and the health of their culturally determined foods. They are concerned about the potential loss of both food species and the knowledge about how to use them. They worry that the loss of Elders in the natural cycle of life may mean that knowledge about indigenous foods will not be passed on to the generations that follow. This raises anxieties about the demise of cultural and traditional knowledge associated with their foods and lifestyles. Indigenous Peoples want to preserve their ecosystems that for so long have provided a healthy environment for animals, plants and people.

This book will help indigenous communities realize that they can understand their own food resources by

using tools created by this project. These 12 case studies from different parts of the world are just that – examples that demonstrate the wealth of indigenous knowledge around ecosystems providing food. This book demonstrates how to list the foods and how to understand their healthy properties. It also identifies and demonstrates the importance local foods play in indigenous cultures, and why it is important to protect this knowledge for future generations.

This research originates from the Centre for Indigenous Peoples' Nutrition and Environment (CINE, see [www.mcgill.ca/cine](http://www.mcgill.ca/cine)), the multidisciplinary research and education resource established in 1992 by Canada's indigenous leaders and McGill University, Montreal. CINE maintains research programmes that address food-system concerns. Its objectives include understanding the benefits for and the risks to Indigenous People in using traditional foods. CINE is unique – it is recognized nationally and internationally for both its research and its method of participatory working with Indigenous Peoples. Indeed, CINE's governing board is made up mainly of indigenous organization representatives, and I am pleased to have chaired the Governing Board of CINE for several years, and to have participated in building the project described here.

Each research area described in the 12 chapters in this book has been fortunate to have had excellent collaboration with academic partners and community leaders. In addition to documenting the food species and varieties/cultivars in the food system, the research looks too at the percentage of energy and nutrients obtained from local food in comparison to that obtained from commercial food items. Using qualitative methods,

it documents the many changes in food sources (local versus commercial), environmental quality, physical activity and food security. The chapters present the communities' and their academic partners' perspectives on interventions that could improve nutrition and food security.

We found many common themes across all of the communities – for instance, the twin aims of both increasing the availability of traditional food to communities and of improving the quality of imported industrialized purchased food. The themes of “connection to the land” and “access to resources” prevailed throughout all 12 case studies, underlining the common struggle to protect indigenous cultures and emphasizing the need to conserve those ecosystems that contain the food resources necessary for community health. At the same time, information on nutrient density of what people eat and how to improve the quality of food imported to communities was highly appreciated.

Twelve fascinating and unique stories of descriptions of Indigenous Peoples' food and health circumstances

await the reader. The unique styles of conceptualizing food systems and writing about them were preserved as much as possible. The photographs that accompany each chapter help convey the meaning and beauty of local foods.

Our entire team is convinced of the necessity of efforts to protect Indigenous Peoples' food systems because of the many benefits they offer to physical health and the continuity of indigenous cultures. This can be seen in many ways – in terms of self-sufficiency, cultural morale, as resources around social activities, for educating children in terms of cultural principles and environmental connectedness. These food systems also provide many economic and nutritional benefits and are an important foundation of food security for Indigenous Peoples in their home regions. Without doubt, for Indigenous Peoples collectively, these resources are of global significance. They need to be protected environmentally and fostered for sustainable use – not only among the women, men and children who hold the traditional knowledge of these cultural treasures, but for our collective human knowledge ●

*Dene National Chief Bill Erasmus*

Yellowknife, NWT, Canada

2009