



WORLD FOOD

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ALFRED R. CONKLIN, JR. AND THOMAS C. STILWELL

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PREFACE

The authors intend this book to be a textbook for any world food course or for any person or group that wishes to learn more about world food. Included is a CD that contains all the pictures, tables, and drawings suitable for presentation. The CD also includes recipes for “finger foods” that can be used as part of a class. We encourage educators to use this book as a text, a resource for class discussion, and as a resource for student presentations.

This book is about world food and includes all those components related to food, its production, and use. Humans have been involved in agriculture for thousands of years as indicated in the table below.

In thinking and working on world food and its production, it is essential to first know what the major food sources are and their nutritional values. With this knowledge, along with basic concepts of soil, water, and ways in which agriculture production can be increased, one can begin to make informed decisions about world hunger and its alleviation and agriculture development.

Jared Diamond* has written a provocative opinion piece proposing that agriculture is the greatest mistake humans have made. Basically, he argues that when people turned from hunting and gathering and adopted agriculture, there came increased

Domestication of Plants and Animals

Area of World	Domesticated Plants and Animals	Date BC
Southwest Asia	Wheat, barley, lentil, pea, melon, olive, sheep, goat, cattle	8,500
China	Rice, millet, soybeans, mung bean, pig	7,500
Mesoamerica	Corn, beans, squash, avocado, turkey	3,500
Andes and Amazon	Potato, peanut, sweet potato, squash, llama, guinea pig	3,500
Eastern North America	Sunflower, artichoke, squash	2,500
Sahel	Sorghum, millet, rice, pea, guinea fowl	5,000
West Africa	Yams, watermelon, groundnut	3,000
New Guinea	Sugarcane, banana, yams, taro	7,000

Adapted from Diamond, J. *Guns, Germs and Steel*. New York: W.W. Norton & Co. 1997.

*Jared Diamond, The Worst Mistake in the History of the Human Race, *Discover Magazine*, pp. 64–66, 1987.

work, decreased nutrition, and increased disease. Some important issues are glossed over, but the basics are worth consideration. In particular, we can think about using modern knowledge of nutritional needs and food production to overcome shortfalls in the balance of foods available to any group of people.

There are large and diverse numbers and varieties of foods in the world. In addition, there are larger or equally diverse methods of growing, preparing, and eating any single food. Here the attempt has been to select only the most important food crops for inclusion. In some Mediterranean countries dishes that use grape leaves are common, and in parts of Africa, particularly in the south west, the leaves of cassava are eaten. However, neither of these is commonly eaten the world over, even where the crop from which they come is grown extensively. Guinea pigs are grown and eaten in some South American countries but are limited to these areas. We have concentrated on crops and animals that are raised and eaten on at least two continents.

Even with this restriction the number of plants and animals grown for food is too large to be exhaustively covered in this book. Likewise not all aspects of a food's nutritional characteristics can be given. Therefore, the authors have included what they believe from their experience to be the more common foods. Additional information about other foods is readily available from both the U.S. Department of Agriculture (USDA) and the Food and Agriculture Organization (FAO) of the United Nations. These are referenced frequently in the various chapters.

Different chapters emphasize different aspects of food production and use. For this reason not all topics or concepts are presented in all chapters but rather different aspects are emphasized in different chapters.

Data has been collected from many sources and has been checked; however, much information is subject to updating, and different sources will give varying, sometimes conflicting, data. For this reason it is suggested that the data be used to compare situations rather than provide absolutes. Also, the Internet references have been checked; however, Internet sites are changed and updated. If a problem is encountered, one should go to the parent site and proceed from there.

The authors would like to thank the following persons for helping in the preparation of this book. In Ecuador, Jenny Valencia, David Céron, and Mickey Zambrano for their help, and both Señora Aída Jiménez and Señor Octavio Tipán for allowing us to learn about their farming operation. In the Philippines, Henry Goltiano and his wife Sarah B. Goltiano for the excellent job they did and both Celedonio Derecho (Donio) and his wife Sita Derecho for allowing us to learn about their farming operation. We also wish to mention Nelson L. Cabaña, agricultural extension agent, Florante T. Sabejon of ICRAF, Sergio M. Abit, Jr., faculty, Jade Mesias, student, Ed Allan L. Alcober, faculty, Dr. Eduardo G. Apilar, ATI at LSU administrative officer and the Agricultural Training Institute all at Leyte State University (LSU), and also Alan B. Loreto of PhilRootcrops of LSU for help in gathering information about the farm and facilitating this part of the work. In the United States, Steve Murphy and Patti M. Murphy, their sons Nick and William, and Milton Murphy were all very helpful and open in providing all the information and some of the pictures we needed. All photographs, charts, and figures not otherwise noted were taken or

prepared by the authors. Maps were prepared using MapLand™ software by Software Limited.

In preparing this book the following were most helpful in providing comments and suggestions as to how various chapters might be improved: Drs. Donald Troike, Esmail Hejazifar, Stephen Potthoff, Robert Beck, Roger Cortbaoui, Kenton Brubaker, Monte Anderson, Malcolm Manners, Laura Tiu, Wayne Haag, Guillermo Scaglia, Brad Miller, Harold Thirey, Dr. James W. Tallman, Weiji Wang, and Carolyn Stilwell. Their help is greatly appreciated.

The authors particularly wish to thank their wives Norma Durán and Petra Conklin for their help and support in preparing this book.

ALFRED R. CONKLIN
THOMAS STILWELL

Wilmington, Ohio
March 2007

CONTENTS

PREFACE

xi

1 REPRESENTATIVE FARMS FROM AROUND THE WORLD

1

1.1 The Face of Subsistence Farming in the Philippines: Donio	2
1.2 The Face of an Ecuadorian Family Farm: Aída and Octavio	16
1.3 The Face of a Large Commercial Farm in the United States: Steve	28
1.4 Conclusion: A Concise Comparison	38
Questions	41
References	41

2 HUMAN NUTRITION

43

2.1 Meals of Farmers	43
2.2 Introduction	45
2.3 Energy	47
2.4 Protein and Amino Acids	50
2.5 Carbohydrates	55
2.6 Fats, Oils, and Lipids	57
2.7 Fiber	61
2.8 Vitamins	62
2.9 Minerals	67
2.10 How the Body Uses Nutrients	71
2.11 Diets of the Three Farmers	72
2.12 Conclusions	75
Questions	75
Bibliography	76

3 GRAIN CROPS

77

3.1 Food Grains on the Three Farms	77
3.2 Maize and Sorghum Production	80
3.3 Wheat and Barley Production	92

3.4 Rice Production	105
3.5 Soybean Production	115
3.6 Other Grains	121
3.7 Nutrient Content of Crops	124
3.8 Conclusions	125
Questions	125
References	126
Bibliography	127
4 VEGETABLES	129
4.1 Vegetable Production in Each Farming System	129
4.2 Types of Vegetables and their Uses	131
4.3 Importance of Vegetables in World Trade	133
4.4 History	134
4.5 Cultivation	136
4.6 Protection	141
4.7 Leafy Vegetables	142
4.8 Immature Seeds as Vegetables	145
4.9 Melons, Squash, and Cucumber	148
4.10 Petiole and Stem Vegetables	150
4.11 Root Vegetables	153
4.12 Other Vegetables	156
4.13 Transport and Storage of Vegetables	160
4.14 Conclusions	161
Questions	162
References	162
Bibliography	162
5 ROOT CROPS	163
5.1 Root Crops on the Three Farms	163
5.2 Introduction	165
5.3 Root Crops	166
5.4 Botanical Descriptions	167
5.5 Tubers	167
5.6 Cassava: Modified Roots	178
5.7 Taro: Corm	182
5.8 Other Common Root Crops	185
5.9 Genetically Modified Root Crops	187

5.10 Nutritional Values of Carbohydrate-Rich Root Crops	188
5.11 Preparation and Consumption	189
5.12 Conclusions	190
Questions	190
Bibliography	190

6 FRUITS, BERRIES, AND NUTS 193

6.1 Fruit, Berry, and Nut Production on the Three Farms	193
6.2 Introduction	195
6.3 Tree Fruits	196
6.4 Tropical Fruits	203
6.5 Subtropical Fruits	209
6.6 Temperate Fruits	212
6.7 Berries	214
6.8 Nuts	218
6.9 Coconut	225
6.10 Other Uses of Fruit and Nut Trees	227
6.11 Peanuts	227
6.12 Conclusions	230
Questions	230
Bibliography	231
References	231

7 FARM ANIMALS AND FISH 233

7.1 Animals on the Three Farms	233
7.2 Importance in World Agriculture	235
7.3 Animal Production Systems	236
7.4 Chicken, Duck, and Goose Production	237
7.5 Cattle and Buffalo Production	247
7.6 Sheep and Goat Production	259
7.7 Swine Production	269
7.8 Aquaculture	274
7.9 Other Farm Animals	280
7.10 Nutrition	282
7.11 Conclusions	283
Questions	283
References	283
Bibliography	285

8	CLIMATE AND FOOD PRODUCTION	287
8.1	Climate at the Three Farms	287
8.2	Climatic Zones of the Three Farms	292
8.3	Classification of Climatic Zones	294
8.4	Crop Production and Climate	298
8.5	Precipitation Patterns and Crop Production	302
8.6	Day Length	306
8.7	Length of Growing Season	306
8.8	Growing Degree Days	307
8.9	Humidity	308
8.10	Adverse Weather Conditions	308
8.11	Climate Change and Possible Effects on Food Production	310
8.12	Conclusions	312
	Questions	313
	References	313
	Bibliography	313
9	SOILS AND WATER	315
9.1	Soil on the Three Farms	315
9.2	Introduction	317
9.3	Available Land	318
9.4	Soil Types	321
9.5	Soil Complexity	325
9.6	Soil Inorganic Components	327
9.7	Soil Organic Components	329
9.8	Soil Basic Fertility	331
9.9	Soil Erosion	334
9.10	Water on the Three Farms	336
9.11	Water and Soil	339
9.12	Conclusions	344
	Questions	344
	Bibliography	345
10	RAW MATERIALS OF AGRICULTURE	347
10.1	Three Farmers	347
10.2	What Raw Materials do Farmers Use?	349
10.3	Sunlight	350

10.4 Oxygen and CO ₂	350
10.5 Rainfall	350
10.6 Roads	351
10.7 Land	354
10.8 Buildings	357
10.9 Equipment	358
10.10 Labor	359
10.11 Seed	360
10.12 Fertilizers: Chemical or Organic	363
10.13 Weed, Insect, and Disease Control	368
10.14 Electricity	371
10.15 Water: Irrigation	373
10.16 Vaccines and Medicines	376
10.17 Credit	378
10.18 Law of Diminishing Returns	378
10.19 Conclusions	380
Questions	380
References	380
Bibliography	381

11 INCREASING FOOD SUPPLIES 383

11.1 Malthus: Scaremonger or Prophet?	384
11.2 Famines	384
11.3 Effects of Famine Relief	386
11.4 Green Revolution	386
11.5 Factors Affecting Food Production	389
11.6 Agriculture for the Long Term	397
11.7 Dealing with Population Changes	400
11.8 Food Security	403
11.9 Conclusions	404
Questions	405
References	405
Bibliography	406

12 GENETICALLY MODIFIED CROPS AND ANIMALS 407

12.1 Three Farmers and Their Crops	407
12.2 What Does Genetically Modified Mean?	409
12.3 Brief History of Genetic Modification	410
12.4 Transgenic Crops	415

12.5 Future of Transgenic Crops	423
12.6 Transgenic Animals	423
12.7 Future of Transgenic Animals	425
12.8 Conclusions	426
Questions	426
References	426
Bibliography	427
GLOSSARY	429
INDEX	435

REPRESENTATIVE FARMS FROM AROUND THE WORLD

The authors have selected three very different farms from different parts of the world—the Philippines, Ecuador, and the United States—to illustrate the varieties of farming operations. The student should not take from this that these are the only types of farms found in these countries. All types of farms can be found in all countries, that is, subsistence, moderate size family, and large commercial farms occur in all countries including the United States.

All over the world food comes from farms to nonfarm peoples. However, the similarity stops there. The size, crops grown, equipment used, soil, water available, electricity availability, transportation, and sale of crops are all different. In spite of this wide variation, all of these various farm types provide food for themselves and their neighbors.

To begin studying world food three farms from three different places—the Philippines, Ecuador, and the United States—have been chosen to serve as examples of the wide variety of farms in the world. These are not necessarily representative farms in the world or the particular country but rather are used to show the diversity and range of farms. Figures 1.1 and 1.2 show the locations of the farms in the world and relative sizes of the three countries.

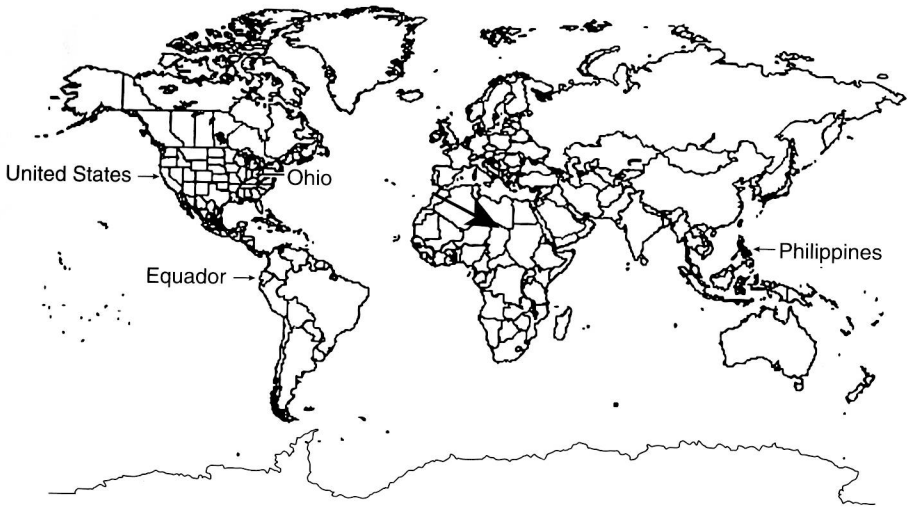


Figure 1.1. Location of the three farms.



Figure 1.2. Relative sizes of the three countries.

1.1 THE FACE OF SUBSISTENCE FARMING IN THE PHILIPPINES: DONIO

Henry Y. Goltiano*

Celedonio Derecho is 57 years old, his wife Sita is 47, and his youngest son Roger is 12, as seen in Figure 1.3. Donio, to all who know him, has been farming in *Baryo* (village) Hibunawan for 35 years. Hibunawan is a farming village about 5 km

*Agricultural Resource Management Section Chief, Agricultural Training Institute, Leyte State University, Visca, Baybay, Leyte, Philippines.



Figure 1.3. Donio, right, with Roger and Sita, left.

(1.6093 km = 1 mile) from the center of the town of Baybay, Leyte, Philippines. The road to Hibunawan is a mixture of sand, gravel, and soil that gets nasty during rainy season and dusty during the dry season (Fig. 1.4).

Farming has been Donio's life. He worked for about 3 years in an ice-cream factory in Manila, the capital of the Philippines, but when he went home to Hibunawan for a short



Figure 1.4. Road from Donio's farm.