African Potentials
Preface to the Volume 4

How People Can Achieve Coexistence through the Sound Use of Ecological Resources

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1. Three Issues for Rural Villages

Given the sharp rise in prices for crude oil and mineral resources from the middle of the first decade of the twenty-first century onwards, the economies of many African nations, with their abundant natural resources, began to break out of a long period of stagnation and exhibit rapid economic growth. Skyscrapers sprang up in the cities, and shops overflowed with imported goods and electrical appliances. However, these amenities were only available to a certain proportion of urban dwellers. The economies of the rural villages, where the majority of the population still live, remained as stagnant as ever. Soaring consumer prices and a widening gap between the urban and rural populations have also created stress in the lives of the people who still live in the countryside. In the cities, there are educational institutions and medical facilities equipped with modern infrastructure, but these all cost a great deal of money to use. The existence of these modern facilities places significant pressure on the heads of village households with schoolchildren or sick people. The villagers who have no stable cash income resources are forced to rely on income received from biological resources in order to pay high school fees and medical expenses. These societal trends also lead to the deterioration of the biological environment. The scramble for biological resources is one of the factors leading to confrontations and conflict, while the growing population and increasing subdivision of land only make matters worse.

What complicates competition for resources even more is the reform of land laws that many African nations have undertaken. Ever since the 1990s, the land use policies of many African nations have undergone a transformation, and while they recognize Africans' customary ownership rights, producers' land rights have been strengthened (Takeuchi 2015). The fallow method, widely employed in traditional African agriculture, does not mix well with the strengthening of land ownership rights. This method involves leaving a piece of land uncultivated for a long period, allowing time for the land to "rest" and the vegetation to recover, so that the nutrients in that vegetation are then returned to the topsoil. Slash-and-burn agriculture makes use of this method. In the sort of slash-and-burn agriculture seen in Africa, the rights of the original developer of the land to raise crops on newly cleared land and to profit from them are recognized for only a few years, and the individual's rights expire the moment he or she stops growing crops (Itani 2002). Then, until the vegetation has again recovered, the fallow land is loosely managed by the community, in accordance with custom. However, with the reform of the land laws, recognition of individual ownership rights placed restrictions on the use of fallow land. There were even cases in which fallow land was sold to outsiders and converted to ordinary fields. In

African villages, where the use of chemical fertilizers is limited, many areas are still dependent on fallowing to restore the fertility of the soil. According to Tanzania's 1999 Village Land Act, land that an individual, family or group uses or occupies under customary law is viewed as "customary land," and it is not subject to allocation by the village council (Ikeno 2015). Therefore, in Tanzania's villages, people often clear more woodland than necessary in order to have any piece of land of any size viewed as being for their own use or occupation. This practice delays the restoration of soil fertility and contributes to the environmental degradation of woodlands.

With more agricultural land needed as a result of rising expenses, an increasing population, increasing land subdivision due to inheritance, and a decrease in the amount of fallow land available, further stress has been placed on the everyday lives of many villagers. The first efforts to alleviate the chronic land shortage were aimed at mountain woodlands, wetlands, riverbanks and other land held in common by villages. Since the 1990s, in particular, the development of seasonal wetlands and interior low-lying wetlands has proceeded rapidly (Itani 2014), and the cultivation of rice as a source of cash income has encouraged further development of these wetlands. Landless young people and farmers who have few sources of cash income have competed to plant crops on these wetlands, although most wetlands have still not been cultivated. However, wetlands are also used as valuable grazing land for livestock, which are not merely a form of wealth but a stable source of cash income. Moreover, the use of large animals, such as cattle and donkeys, as working animals has increased over the years, and a combined focus on crops and animals has now become a stabilizing livelihood pattern in villages all over Africa. The cultivation of wetlands has therefore deepened the dilemma between livelihoods derived from agriculture and those derived from animal husbandry.

Heavily dependent on natural vegetation, agriculture and raising livestock are means of livelihood that are directly affected by environmental degradation, but competition for natural resources has not always led to confrontations or antagonism. People faced with new ecological or social environments have successfully reconstructed livelihood systems and entered into dialogue to work out ways of sharing resources or using them in common. Africa has undergone many socioeconomic changes in recent years, and this book focuses on three phenomena that have had the most obvious influence on the biological environment and livelihoods in rural villages during that period. These are: (1) competition for agricultural and grazing land, (2) changes in economic conditions, and (3) the relationship between humans and vegetation. With regard to these phenomena, I would like to analyze how and why competition for resources has not developed into confrontations or antagonism and how new symbiotic relationships have evolved instead. I would also like to clarify the ways in which people maintain and use dwindling biological resources and how they create systems for sharing or using resources in common. While elucidating these processes, I will also examine the potential for symbiosis that many African regional societies possess. In keeping with this approach, this book consists of three sections. All of them deal with people's confrontation, competition and cooperation in relation to plant resources. Part 1 focuses on contacts with the outside world, Part 2 focuses on changing forms of livelihood, and Part 3 focuses on new relationships between biological resources

and livelihoods.

2. Contacts with the Outside World

The classical definition of an ethnic group is a substantive social group the members of which share a common language and culture, have ties based on kinship, are concentrated in one geographical area, and are bound by an awareness of affiliation. Nowadays, of course, the category of "ethnic group" is a structural entity, and even if the group is strictly defined it is by no means an isolated, closed-off group. Ethnic groups have come to be viewed as entities that are open to others in their region, and due to relocation by individuals or even by the group as a whole, have social and cultural ties with other groups. We are no longer able to attach the label "ethnic" to the resources or technology that we discuss in this book. However, even if we take this view as a given, contacts among societies and cultural groups have major significance as they represent opportunities to create new technologies. Indigenous technologies that have been developed in a certain region can spread to other regions through interrelationships such as the exchange of goods, commerce, marriage or assimilation, giving rise to a variety of innovations in a process by which these technologies are imitated and adapted to the local society. Technological progress has opened up new paths for the use of biological resources, so that improved product quality and mass production have enriched people's lives.

Part 1 will deal with modern-day interactions between agricultural and pastoral societies, focusing on the flows of people and goods, motivated by differences in values, and the spread of technology. All these cases demonstrate that when two ethnic groups whose values differ significantly come into contact and live in close proximity, neither economic equality nor harmony in terms of lifestyle is a necessary condition for a successful relationship. Rather, the significance of coexistence based on mutual acceptance of one another's economic and cultural differences becomes clear.

Chapter 1 discusses the societal role of affluent people in modern African villages by looking at the symbiotic relationship between the agricultural and pastoralist Sukuma people, who migrated to the shores of Lake Rukwa in southern Tanzania, and the indigenous Wanda people. The Sukuma are an agricultural and pastoral people who speak a Bantu language and place a high value on cattle. Their original home area was on the southern shores of Lake Victoria but, beginning in the middle of the 1970s, households that owned large numbers of cattle migrated to undeveloped regions in search of more grazing land. One branch broke through the Miombo woodlands of central Tanzania, where the tsetse fly is endemic, arrived at Lake Rukwa in the southwestern part of the country, and settled on the grasslands along the lakeshore. They fattened their cattle on the rich grasslands, and as the cattle increased in number, they used them as working animals to expand rice paddies in the wetlands. When the market price of rice rose in the latter half of the 1990s, the Sukuma hired the indigenous Wanda to expand these paddies even further and created new areas for growing rice. Thus, a clearly unequal society has formed on the shores of Lake Rukwa, composed of the affluent Sukuma, with their multitudes of cattle and expansive rice paddies, and the Wanda, small-scale farmers who grow small

lots of rice using hand hoes rather than draft animals. Yet the Sukuma are only a small population, and they live in scattered settlements all over the plains, so they occupy a peripheral position in local politics and rice cultivation, which is their economic base, is still heavily dependent on the labor of the Wanda, so they do not necessarily occupy a prominent social position. Rather, since the Sukuma fear that dissatisfaction and jealousy on the part of the Wanda could accumulate and explode into violence, they strive to maintain favorable relations by letting the Wanda carry out the social roles of affluent people, as they wish. This chapter, therefore, focuses on the Sukuma people's customary understanding of their role as affluent people and discusses the underlying principles of coexistence in an unequal society.

Chapter 2 also concerns the Sukuma, and describes in detail how they moved to the flood plain of the Kilombero Valley located in southeastern Tanzania, their conflicts with the existing inhabitants, an agricultural group known as the Bogoro, and the process by which they also achieved coexistence. At the beginning of the 1980s, when the Sukuma began to move in, the riverbank was still undeveloped with wide expanses of marshland, so they built houses on the flood plain and began growing rice and grazing cattle. The Bogoro also specialized in growing rice, but they lived outside the flood plain and planted rice only along the tributary streams that flowed into the Kilombero Valley, so there was no competition with the Sukuma for arable land. When the price of rice began to rise in the late 1990s, the Bogoro began expanding their rice paddies deep into the flood plain. As a result, violent conflicts with the Sukuma began to occur frequently due to competition for agricultural land and grazing damage caused by livestock. Even as confrontations intensified, a cyclone that hit the area served as an opportunity for relations between the two ethnic groups to improve. The Sukuma used their cattle as draft animals on the fields belonging to the Wanda, who could no longer use tractors in their flooded fields. As a result, the two groups came to accept each other's lifestyles, livelihoods and customs, and they began more intensive exchanges of technology and knowledge. It was an accidental, abnormal weather event that prompted the exchanges between the two ethnic groups, but that was no more than a triggering event, and the internal factors that allowed them to interact were already fully in place. This chapter explores, from the perspectives of both ethnic groups, the subtleties of interaction up to the point where they were able to develop a positive relationship, and discusses the potential for ethnic coexistence.

Both Chapter 1 and Chapter 2 are case studies examining how the migrating Sukuma people coexist with indigenous groups, but the former is about symbiotic relations that assume the existence of economic inequality within a certain type of livelihood, while the latter focuses on work relationships in everyday life that assume there are different patterns of livelihood. In either case, the Sukuma are in a superior position economically but in an inferior position politically, and they stabilize their position in society by developing symbiotic relationships with the indigenous farmers with respect to either their lifestyles or their livelihoods. Aside from the symbiotic relationships created when people with different cultures live in the same geographical area, social, cultural and religious differences can also create symbiotic relationships among ethnic groups that live separately from one another. One

good example, presented in Chapter 3, is the relationship centered on the cola nut business carried out between the Muslim farmers of the arid northern part of the West African nation of Ghana and the Christian farmers who live in the humid southern part. In southern Ghana, known for the production of cacao, fast-growing cola nut trees have been planted as shade trees for the cacao. Cola nuts are by-products of this practice, but for the Muslim farmers of the arid north, they are a sought-after product essential for survival in a harsh environment. Cacao is a major source of income in the forested regions of the south, but cola nuts are also a valued supplementary source of income for everyday expenses when they are sold to the Muslim merchants from the north, especially the Hausa. Interactions between people of the north and south, based on the trade in cola nuts, have also affected the supply of seasonal laborers for cacao production. In the pre-colonial era, there were conflicts between the northern and southern ethnic groups, but with the development of a market economy and distribution systems, the cola nut business has served as a means of restoring and maintaining relations. This chapter looks at the flow of processes and trade in the cola nut business and elucidates the state of inter-ethnic cooperation that has overcome differences in language, customs and religion, offering a rich source of material casting light on African potentials.

3. Changing Patterns of Livelihood

As long as technology is based on human muscle power, the equilibrium between use and regeneration of biological resources is maintained, but the introduction of mechanical technology using fossil fuels or electric power has broken down the traditional balance between use and regeneration. Market economies have permeated every corner of Africa, and movements and interactions among peoples have become more common. As a consequence, resources are now being perceived as valuable and are being more widely distributed. However, this has contributed to a situation in which the depletion of many resources is now reaching crisis levels. The pursuit of technological efficiency and the values of outsiders have changed ideas about resources and their uses. As resources become both more economically valuable and scarcer, they have become contributing factors in confrontations and conflicts among people. Confrontations over new resources have arisen between neighbors, between farmers and absentee landlords, and sometimes between residents and local governments. Yet not all of these confrontations grow into major conflicts, and discussions among the parties involved usually lead to some sort of agreement, even if regional courts and local governments intervene or monetary compensation is offered as part of the mediation process in some cases. There are some instances where customary uses of resources and the legal system are intertwined in complex ways, and where contemporary society is unable to figure out immediate measures to solve the resultant problems, but in the long run, repeated consultations usually allow both sides to acknowledge each other's circumstances and values. Systems have been developed that allow compromises to be made so that both parties can share resources and coexist.

Environmental changes that involve people's livelihoods, especially decreases in the amount of resources, stagnation in the local economy, the spread of diseases, and labor shortages, are grave

problems that threaten livelihood sustainability. Part 2 of this book presents four cases of dealing with dwindling supplies of land.

For a long time, large numbers of people have settled in the Boji Highlands of southern Tanzania, a region known for the production of coffee. People have been drawn there by the fertile soil and the abundant rainfall, and they have developed systems of settled farming. In the main populated area of Nyiha, people have developed a combined livestock and crop-based form of agriculture, raising cattle in the seasonally humid areas and using them as draft animals to cultivate coffee and maize. However, with the increase in population the amount of available land has decreased, and individually owned maize fields have intruded on the seasonally humid areas that the local community has, in the past, treated as shared grazing land. Only some of the local households own cattle, but all local residents are dependent on cattle as draft animals for harvesting and transporting crops, so the decrease in pasture land threatens the sustainability of the whole agricultural system. Thus, conflicts over the right to use and profit from land in the seasonally humid areas have broken out all over the Boji Highlands. For the people involved it has become a matter of life and death, but none of these conflicts have yet erupted into violence. Instead, the parties involved have taken the time to work out solutions by talking with one another until they reach an understanding – either by themselves or sometimes through government intervention. Chapter 4 explores African potentials in terms of the processes by which compromises are formed, analyzing cases of negotiation and dialogue from all over the seasonally humid area in order to find out how negotiations among residents about resources are conducted and what factors control them.

Chapter 5 focuses on the intensive agriculture that is a feature of the flourishing banana farming cultures of the highland areas of Africa. A unique agricultural area with bananas as the main crop is scattered through the equatorial highlands of East Africa. The people who live in this region maintain this agricultural system and lifestyle by planting a variety of root vegetables among the banana orchards to supplement their banana-based diet, which otherwise tends to be insufficient by itself. The Ganda people of central Uganda are among those who have developed this kind of banana-based culture. The banana orchards, containing a variety of useful trees and crops, allow for increased self-sufficiency and stable settlement, and support a relatively high population density. During the civil unrest of the 1980s, families could survive as long as they had their banana orchards, even if they were cut off from the outside world. In recent years, however, soil exhaustion and subdivision of land, the spread of disease-bearing insects, and other factors, have combined to cause a reduction in the amount of bananas produced. This chapter points out that while the Ganda are trying to stabilize their food supplies by growing a variety of crops and practicing more intensive or diverse agriculture, they are also trying to strengthen ties among the inhabitants of their area by clinging to a diet centered mainly on bananas.

As market economies come to dominate rural African villages, every region is looking for cash crops that are appropriate for the local environment. Chapter 6 discusses the timber industry, which has

grown swiftly in the semi-arid parts of southern Tanzania and has spread as a new source of cash income to such a degree that it has given rise to economic inequality. The nation's rapid economic growth has led to a boom in building construction in the cities and increased the demand for wood. In the cool southern highlands, some farmers have responded adroitly to this trend by planting pines on the barren plains, earning massive profits and using them as capital to expand their pine groves. On the other hand, the semi-arid regions of Africa experience a long dry season lasting six months and, for various reasons, forest fires break out nearly every year. Controlling forest fires is the key to the survival of the timber industry in these semi-arid regions. Stands of pines and other such trees, with their abundance of resin, are extremely vulnerable to fire. Even as the households of foresters that own large-scale mountain woodlands are forced to deal seriously with disparities, they have returned their earnings from the timber industry to the local community in order to set up fire prevention systems and fire warning networks that encompass the whole region. In African villages, which place a high value on equality, economic disparities inevitably produce friction and, in such cases, jealousy stemming from these disparities can even be a factor affecting the incidence of forest fires.

Few African villages have such superb sources of income as coffee production and timber, and most make a living earning temporary incomes through migrant labor or the sale of natural forest products, selling the food they grow, or becoming dependent on income from a small number of local wealthy people. The pattern of livelihood described in Chapter 6, centered on the owners of a large-scale timber company, is a good example of this type of dependence. However, this return of wealth to the local community does not always lead to the alleviation of fundamental inequality. In African village society, uneven distribution of wealth can lead to jealousy and hatred. However, it has been pointed out that there are mechanisms working forcefully to equalize wealth in order to prevent such jealousy and hatred arising (Kakeya 1994, etc.). In recent years, market economies have permeated every corner of village life, giving rise to apparent economic inequality. However, tendencies toward equalization have not totally disappeared. As Chapters 1, 2 and 6 show, the wealthy are forced to make some sort of social contribution in order to maintain their wealth. The Bemba people of northern Zambia have been raising finger millet as a food source in burnt fields known as *chitemene* and earn cash by raising maize in fertilized fields but, more recently, with the production of cash crops and commercial activity picking up steam, obvious disparities have arisen between households. In Bemba society, well-to-do households create small-scale employment, providing other villagers with an opportunity to acquire cash. This form of labor, known as "piecework," mainly involves clearing fields. As Chapter 7 describes, this practice was intended to return cash to the community but, in fact, it results in more land being owned by the wealthy, thereby solidifying economic inequality. This chapter also points out the negative aspects of piecework, and how it can contribute to the deterioration of woodlands.

4. Biological Resources and Livelihood

The speed with which resources are used up is determined by multiplying the population by the individual rate of consumption, and the speed with which resources are restored is determined by

combining the effect of various environmental factors, such as climate and soil type. It is fair to say that if biological resources in a given ecosystem have room to replenish themselves, then the human activity in question can be considered sustainable, irrespective of the society's awareness or lack of awareness of environmental protection. Conversely, even if work takes place among abundant resources, that activity lacks sustainability if the resource is used up faster than it can be restored. If we take a broad view of the potential for avoiding conflict through one's livelihood, the former situation produces a society in which confrontations over resources are unlikely to occur, but we can judge a society in the latter situation as needing to institute some remedial measures concerning the use of resources. An overall view of livelihoods in contemporary Africa shows that population and individual consumption are increasing and the speed at which resources are being used up is also rapidly increasing everywhere. Since irreversible environmental degradation is also occurring, it would come as no surprise if hostilities concerning resources eventually arose.

Most livelihoods in African villages are extremely dependent on biological environments. In other words, environmental degradation means the destruction of existing patterns of livelihood. However, as we have shown, both competition for resources and economic inequality have, as yet, usually been alleviated by various means. There are examples of regions or societies in which nature and humans coexist and display an awareness of environmental protection while still recognizing both the profitability and the limited nature of biological resources. The groups involved have discovered new methods of using resources in changing biological environments while also creating sustainable livelihood systems. One criterion for judging the sustainability of such a system is whether it is equipped with mechanisms for environmental restoration. Part 3 focuses on the relationship between livelihood systems and environmental resources and looks at three cases of how new social environments have determined the way in which people deal with forests and woodlands in arid and semi-arid areas, and in tropical rain forests.

When woodlands are cleared to create fields in Africa, certain wild trees are sometimes left standing, and Fujioka (2013) refers to these sparse stands of trees as "agricultural woodlands." Agricultural woodlands are deliberately left standing to maintain the material cycle or because of the unique economic, material or ceremonial value of the trees themselves. In other words, they are a type of scenery unique to the region and created by the special relationship between humans and the local ecology. The stands of marula seen in fields in the semi-arid regions of northern Namibia can also be considered agricultural woodlands. The marula tree is a member of the cashew family that is native to the semi-arid parts of southern Africa, and people ferment its sweet and sour fruit to make wine. This extraordinary wine has been enjoyed by rulers throughout history, and has become known as "the king's wine." Accordingly, these fruit trees have been shared and protected by the local communities. Even after Namibia was granted independence in 1990, the agricultural woodlands of marula were maintained, and the inhabitants have continued their custom of gathering together to squeeze the fruit and enjoy the wine. Chapter 8 points out that the social and cultural significance of this fruit wine has helped the agricultural woodlands survive and describes it as one way in which woodlands can be

preserved in arid regions.

Chapter 9 contains a case study of cacao production in southeastern Cameroon. As with cola tree cultivation, described in Chapter 3, cacao cultivation requires shade trees to provide protection from bright sunlight. This pattern of cultivation is called "cacao agro-forestry," and the non-wood products from the shade trees alleviate any adverse effects caused by fluctuations in the income derived from cacao, while the forest itself creates an ecology composed of many different kinds of animals and plants. The Bangandu of the tropical rain forests of Cameroon are an agricultural people who raise bananas and root vegetables in burnt fields, as well as cacao trees. Every year, they clear woodlands to produce their own crops, but since they do not touch the shade trees in the cacao fields, these fields have become a kind of refuge for biological diversity. In addition, the fields are managed in such a way that they are never thoroughly weeded or cleared, which contributes to the maintenance of a diverse range of plants. The diversity of shade trees and the introduction of cacao, without damaging the creation of a dynamic ecology, should be favorably regarded as examples of the potential. We tend to think that economic activity in forested areas leads to environmental destruction and the loss of biological diversity, but the agricultural practices of the Bangandu show that economic activity can actually contribute to the preservation of biological diversity and this, in turn raises possibilities for coexistence between people and forests in contemporary Africa.

In contrast to tropical rain forests, with their ability to rapidly regenerate, forests in high altitude mountainous regions regenerate slowly after being cut, due to the cooler temperatures. The mountainous areas created by the Great African Rift still bear the scars of slash-and-burn agriculture from the pre-colonial period, with bleak grasslands covering the ridgelines. In these kinds of regions, it is difficult for vegetation to recover naturally and some sort of human assistance is required. Chapter 10 describes possibilities for reforestation in mountainous regions. There are still many villages in the southern highlands of Tanzania that are far removed from electrical power networks. There are cases of non-electrified villages using the abundant water resources and local variations in topography to establish small-scale hydroelectric generating facilities on their own. Even though these hydroelectric facilities generate only small amounts of power, they create opportunities for earning cash income and help invigorate village life by fulfilling the modern need for electricity. The success of businesses that make use of biological resources has, in turn, increased the inhabitants' awareness of environmental protection. This chapter uses the power generation project established by the agricultural Bangwa people of the southern Tanzanian highlands as a case study, while providing a detailed description of the process by which a project that promoted economic improvements and regional revitalization also led to autonomous environmental protection on the part of the local population. After examining these practices, the author discusses an ideal for sustainable rural village development.

The final chapter is a summary of various examples of conflicts and cooperation between different ethnic groups, as described in Part 1, the relationship between socioeconomic changes and livelihoods, as described in Part 2, and new relationships between humans and the biological environment, as

described in Part 3. It focuses on the development of new relationships that allow groups of people to coexist with others, and to coexist with nature in African villages, as they experience increasing globalization. At the same time, it considers the potential for coexistence that many regional African societies possess.

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