

Contradictions and False Dichotomies in Ecogovernance: Shifting Cultivation as Agroforestry*

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This paper examines selected current issues in ecogovernance centered on shifting cultivation, by highlighting a specific contradiction and a false dichotomy embedded in rhetoric and practice. Insights are drawn from first-hand experiences in studying forest communities, supervising graduate students' research on indigenous agroforestry systems, handling a course on shifting cultivation, and reviewing relevant literature. The paper begins with an analysis of a major contradiction in ecogovernance discourses on the "goodness" of agroforestry and the "badness" of shifting cultivation. The paper then revisits the case of Tausug agroforestry systems to illustrate the false dichotomy of science versus indigenous knowledge. The paper concludes by indicating implications of the ideas presented for theory and practice in the forestry and environment sector.

INTRODUCTION

Ecogovernance is an alternative label for environment and natural resource management, which has been defined succinctly as "the new business of bringing our human enterprise into harmony with the natural world of which we are a part" (Speth 2005: 2). Ecogovernance has acquired prominence in development discourses. There is no longer any doubt that authentic development requires a serious consideration of environmental issues. Poverty reduction, which is today the all-encompassing goal of development initiatives, includes environmental

dimensions. Thus, the conventionally "social" realm of development has expanded to include the environment. On the other hand, the conventionally "biophysical" concerns for the environment are facing the challenge of incorporating various social dimensions and contexts.

The broad intention of this paper is to highlight a specific contradiction and a false dichotomy embedded in the rhetoric and practice of ecogovernance centered on shifting cultivation. I draw my insights from first-hand experiences in studying

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forest communities, in supervising graduate students' research on indigenous agroforestry systems, handling a course on shifting cultivation (and related topics in other courses), and reviewing relevant literature.

The objectives of the paper are: 1) to analyze a major contradiction in ecogovernance discourses, i.e., the "goodness" of agroforestry and the "badness" of shifting cultivation; and 2) to revisit the case of Tausug indigenous agroforestry systems to illustrate the false dichotomy of science versus indigenous knowledge. I conclude the paper by indicating some implications of the ideas presented for theory and practice in the forestry and environment sector.

Plural publics and multiple realities in ecogovernance

The realization of the necessity for a more holistic and participatory approach in addressing issues in ecogovernance has produced plural publics or interest groups. Categories of these different groups include "outsiders and insiders," referring to external development agents and local communities; and sectoral groups of government agencies from national to local units, civil society organizations including nongovernment organizations (NGOs), peoples' organizations (POs), and private companies. Other groupings that represent functional clustering but may not be mutually exclusive consist of educational (academic), scientific or research, and development or assisting organizations.

The plural publics of ecogovernance can be viewed as actively, though oftentimes implicitly, constructing their own realities pertinent to ecogovernance. These realities are encoded in language. The different uses of language intersect with the ways in which power relationships are sustained by expressions that mobilize meaning in the social realm. Thus, the analysis of language is central to my arguments about contradictions and false dichotomies. However, in this paper, I do not dwell on the theoretical aspects of language-reality relationships (see Banzon-Cabanilla 1996).

Why focus on shifting cultivation? In recent years, shifting cultivation has begun to occupy a central space in ecogovernance discourses. Multiple publics are talking about it and anthropologists who were among the first to document various cases are revisiting and adding to these cases (Classic studies include Conklin 1961, Frake 1962, Geertz 1963, Spencer 1966, and Rappaport 1971). Even state and academic institutions that represent the more dominant western "scientific" view are in the forefront of advocacies upholding traditional systems. The number of conferences, workshops, networks and publications focused on aspects of shifting cultivation has increased in the last few years. There is considerable rethinking among groups that used to view shifting cultivation negatively. These indications are just the beginning, setting the trend in a more sustained and widespread concern for

reconsidering the old paradigms in ecogovernance.

Another reason for the focus on shifting cultivation is that the plural publics and multiple realities have contributed to making the issue of shifting cultivation an illustrative example of contradictions and false dichotomies in ecogovernance. To address this confusing situation, we are challenged to raise the level of our alertness, establish some precision in our terminologies, and clarify the messages of ecogovernance.

The terms “contradictions” and “false dichotomies”, like all words, have several meanings, thus it is necessary for me to specify their meaning in this paper. By contradictions, I mean inconsistencies with or oppositions to statements. Thus, one need only to contrast statements to identify inconsistencies. In this paper, I focus mainly on the internal contradiction of the statement, “Agroforestry is good but shifting cultivation is bad.” The statement is, of course, a gross generalization of the continuing debate about shifting cultivation but it serves the purpose of my paper.

I have found it much easier to surface contradictions than to label dichotomies “false”. Dichotomy is the state of being divided into two; in logic, it pertains to the division of a class into two mutually exclusive subclasses, one positive and the other negative, such as poor versus non-poor. In anthropology, particularly in structuralism, the bifurcation of phenomena is referred to as “binary

opposition” or “pairs of opposites” (Levi-Strauss 1967 is considered the model of this type of analysis). To label these dichotomies “false” is tricky. If by “false” we mean “contrary to truth or fact” then the burden of proof is in establishing the standard truth or fact. In this paper, I limit the meaning of “false” to “artificial” or “not real.” In this sense, all conceptual devices are “false” in the way they are synthetic tools that are not reality themselves but simply heuristic tools for understanding reality. This is debatable: do dichotomies actually exist in reality or are they only representations of reality? But, aren't representations of reality also real?

Thus, contradictions and false dichotomies are not necessarily negative phenomena that should be condemned. In fact, I am revealing my own contradictions and false dichotomies in this paper. In today's increasingly complex and variable world, individuals and groups find themselves located in phenomena and situations characterized by numerous contradictions and false dichotomies. This scenario is a healthy indicator of an era of vigorous debate and contestations that has resulted in a rich diversity of ideas and practices. A more disturbing and lamentable situation is when there is uniformity in thinking and a lack of critical thinking and action. Of course, an extreme situation would be where the contradictions and false dichotomies become counterproductive to both theory and practice.

Contradiction: Agroforestry is good but shifting cultivation is bad?

The success of the promotion of agroforestry as a strategy in sustainable forest governance is manifested worldwide by the number of academic and developmental programs and projects that focus on, or at least include aspects of, agroforestry. This section focuses on the internal contradiction of the proposition that agroforestry is desirable but shifting cultivation is undesirable. Why is this a contradiction? I argue that shifting cultivation is agroforestry and thus the identification of shifting cultivation as the problem and agroforestry as the solution is a contradiction. I see this major contradiction emerging from the fundamentals, that is, the definition, characterization and typologies of shifting cultivation.

Shifting cultivation is also called shifting agriculture, extensive cultivation, slash-and-burn, or swidden (from an old English dialect meaning “burned clearing”). Some experts (see Olofson 1981) prefer the latter term because it is perceived to be a “neutral” term that does not carry the derogatory meanings of the other terms. I use “shifting cultivation” in this paper simply because of its popular usage.

Terms for shifting cultivation in various local languages have been enumerated in different publications (see for example Conklin 1954). Of course, even these vernacular terms are generic because there are many other languages within a country that

have other terms for shifting cultivation. Are these terms synonyms? Do they refer to the same thing or do they specify particular kinds of shifting cultivation?

What is shifting cultivation? What are its features? What are its different varieties? The different answers to these basic questions (see Warner 1991) are at the heart of the contradictions between and within pronouncements by specific publics and across publics. The answers are crucial when we are passing judgment on shifting cultivation. A major concern of ecogovernance is forest loss and degradation, and shifting cultivation is usually cited by state forestry agencies and other organizations as a (if not the) major cause of deforestation. The assumption is that there is only one type of shifting cultivation, the destructive type, and consequently the sooner shifting cultivators learn to practice permanent agriculture the better.

Anthropologists, by disciplinary tradition, have pioneered the study of societies that practice shifting cultivation. Some of the classic definitions of shifting cultivation offered by the pioneer anthropologists are shown in Table 1.

This sampling of classic definitions identifies shifting cultivation basically as a farming technology (“agriculture”, “cultivation”). This is consistent with more recent definitions such as “any temporal and spatial cyclical agricultural, system that involves clearings of land —usually with the

Table 1. Definitions of Shifting Cultivation by Pioneer Anthropologists

Pioneer Anthropologist	Year of Publication	Definition of Shifting Cultivation
Watters	1960	an agricultural system with subsistence-level production and impermanent use of land.
Conklin	1961	a system of farming rainforest land in a "continuing agricultural system in which impermanent clearings are cropped for shorter periods in years than they are fallowed." It usually involves the two f's, fire and fallow, but variation is great and it does not always involve burning or slashing.
Frake	1962	"The tropical forest agriculturist must establish a controlled biotic community of sun-loving annuals and perennials in a climatic region whose natural climax community, the tropical rainforest, is radically most different in almost every respect from the community agricultural man seeks to foster. The swidden farmer meets this problem by periodically putting the forest through its successional paces. He modifies and operates on an existing ecosystem rather than permanently replacing it with an utterly different kind of biotic and edaphic world, such as that of the wet- rice paddy" (pp. 55-56).
Geertz	1963	He discusses similarities between swiddens and the forests from which they are carved, and contrasted the differences between swiddens and rice-paddies. The swiddens as "canny imitations" of the forest: swidden and forest are similar in their degree of generalization, as an ecosystem with high diversity. Both have a high ratio of nutrients in living biological forms to nutrients in the soil. Both have closed-over architectural structures. Contrast of swidden versus paddy: forest imitation vs. artificial aquarium; highly diversified, multicrop vs. highly specialized monocrop; closed-over architecture vs. open field; nutrients cycle between living forms rapidly and are provided to crops through ash vs. minerals are borne by paddy- water and nutrients also come from decaying stalks and fertilizers; dependence on rainfall without elaborate water control vs. reliance on man-made, capital intensive waterworks to channel rainwater; delicate equilibrium-over-population leads to habitat deterioration vs. stable equilibrium-over-population is merely absorbed by finer technique; dispersive and inelastic, allowing only low population densities vs. concentrative and inflatable; allows extremely high population densities.
Spencer	1966	"mobile techniques of crop growing which do not use systems of permanently sited fields under specified legal tenure." He would prefer to call it "jungle gardening" or "proto-agriculture" rather than "agriculture" (as in shifting agriculture) which, to him, is mechanized, but both involves disturbance of soil or "cultivation."
Rappaport	1971	one strategy where the farmer anticipates the return of the forest. It involves the establishment of "...temporary associations of plants directly useful to man on sites from which forest is removed and to encourage the return of forest to those sites after the useful plants have been harvested. The return of the forest makes it possible or at least much easier to establish again the associations of cultivated plants sometime in the future" (p128).

assistance of fire— followed by phases of cropping and fallow periods” (IFAD et al. 2001:24). However, although some recent definitions include the phrase, “closely linked with socio-cultural values that are central to the lives and livelihood of shifting cultivators and their communities” (IFAD et al. 2001:3), it is usually the anthropologists, through detailed ethnographies, who have gone beyond a compartmentalized view by showing the interconnections of technology, ideology, social relations, and environment in a holistic cultural

framework. No wonder those who define shifting cultivation merely as a technological problem also identify solutions that are merely technological.

We can see some of the convergences among the definitions of shifting cultivation in the anthropological typology of human cultures as adaptive strategies (Ember, Ember, and Peregrine 2002). Shifting cultivation is defined as a type of horticulture, which in turn is one of the three kinds of food production, which are compared in Table 2.

Table 2. General Features of Three Types of Food Producers (Adapted from Ember, Ember, & Peregrine 2002: 272)

	Horticulturists	Pastoralists	Intensive Agriculturists
Population Density	Low-moderate	Low	Highest
Maximum Community Size	Small-moderate	Small	Large (towns and cities)
Nomadism/ Performance of Settlements	More sedentary; communities may move after several years	Generally nomadic or seminomadic	Permanent communities
Food Shortages	Infrequent	Frequent	Frequent
Trade	Minimal	Very important	Very important
Full-time Craft Specialists	None or few	Some	Many (high degree of craft specialization)
Individual Differences in Wealth	Generally minimal	Moderate	Considerable
Political Leadership	Some part-time political officials	Part- and full-time political officials	Many full-time political officials

For anthropologists, horticulturists are those people who grow a variety of crops using relatively simple tools like the hoe and dibble stick. The shifting cultivator grows crops on land that is periodically fallowed or rested for long periods. Horticultural societies combine crop cultivation with hunting and fishing. Some are seasonally nomadic. Horticulturists produce more food in a given area than is available to food collectors (foragers or hunters and gatherers), and thus can support more people. Compared to foragers, they have a more sedentary life although groups may move to another plot to farm after several years. Among horticulturists there are indications of differentiations in society. There are a few craft specialists as well as some part-time political officials. Individual differences in wealth can be seen although generally minimal.

As I have mentioned, many foresters and other environment-concerned professionals condemn shifting cultivation as a major cause of forest destruction. But, is it really shifting cultivation and not some other form of agriculture that they are condemning? Here, the characteristics of shifting cultivation serve as basis for a checklist of features. The classic characterization of swidden farming by Pelzer (1953) includes the following features:

1. rotation of fields rather than of crops;
2. periods of cropping are short (1-3 years); whereas

3. fallow periods are long (from 6-8 up to 20 years or more);
4. the forest or bush is cleared by slashing and burning;
5. crops are planted by hoe or digging stick (the dibble), the plow being employed in rare cases only.

Spencer (1966) listed the following characteristics of swidden farming:

1. practiced by low-energy cultures of small total population; occasionally used by anyone to whom it appears expedient;
2. labor is chiefly human in nature with the use of a few hand tools;
3. cooperative labor patterns are frequent, with variation in structure of work group;
4. clearing of fields by felling, cutting, slashing, burning to dispose of debris that has been allowed to dry thoroughly. There are a few exceptions to the use of fire in wet areas;
5. frequent sequential shifting of cropped fields usually within a land area given by traditional law to the social group through right of usufruct;
6. many variations in planting systems, with both multiple and specialized crops;
7. use of annual and short-term food crops predominant, with the addition of long-term shrub and tree crops;
8. crops usually for subsistence; surplus or cash crops sometimes cultivated for sale;
9. use of permanent gardens in

houseyard, or near the village or homestead, especially among groups using permanent or near-permanent settlement sites;

10. yields per acre and per man-hour compare favorably with permanent-field agriculture, when comparison can be properly made, and when both do not involve mechanically powered systems;
11. the area cropped per capita annually is small, but similar to non-powered sedentary systems;
12. vegetative cover is used as soil conditioner and source of plant nutrients;
13. when the system is efficient, soil erosion, soil depletion, and destruction of natural resources are no greater than in other efficient systems;
14. there is a great variation in details of farming practices due to physical environment and cultural tradition;
15. the shifting of residence is common but not universal, depending on cultural preference and harmonious adaptation to the environment; and
16. operative chiefly in regions where technologically complex systems are not yet economically feasible and where land is not appropriated by more powerful people.

In 1954, Conklin published a now-classic article that contested the commonly-held negative ideas about shifting cultivation. In agreement with his contestations, the narratives of

various indigenous peoples in Mindanao that I studied in 2000 affirmed the sustainability of traditional forms of shifting cultivation. These indigenous peoples were located in four provinces, namely, Davao del Norte, Davao del Sur, Bukidnon and Sarangani (see ADB 2000 for the demographic and income profiles of the provinces, municipalities and households considered for the Community-Based Forest Management Project in the Philippines). Some of them were holders of the Certificate of Ancestral Domain Claim (CADC) as shown in Table 3.

These indigenous peoples today vary in terms of degree of acculturation, but they have in common the general story of how their traditional cultures were forest-based, with the forests addressing practically everything (*tanan-tanan*) that they needed in these extensive ancestral domains. Food, medicine, and materials for clothing, housing, weapons, tools and containers for subsistence production were supplied by the forests. In addition, their beliefs and knowledge systems as well as social organization and social processes were also greatly influenced by the forests. The traditional farming system was shifting cultivation, which incorporated crop diversity, fallow periods, labor exchange, equitable sharing of benefits, and respect for nature. For generations, shifting cultivation provided sustainable lifeways. Only with the advent of deforestation caused by large-scale logging were the Indigenous Peoples unable to practice traditional shifting

Table 3. Holders of the Certificate of Ancestral Domain (CADC) among the Visited Indigenous Peoples, 2000

CADC No.	Recipient IP	Location	Area (hectares)
R-11-CADC-015	B'laan	Matanao, Davao del Sur	7,028
R-13-CADC-017	Tagakaolo	Malita, Davao del Sur	33,731
R-11-CADC-059	Tagakaolo/ Kalagan	Malungon, Sarangani	37,752
R-11-CADC-060	B'laan	Malungon, Sarangani	43,877
R-10-CADC-161	Bukidnon/ Higaonon	Malaybalay, Bukidnon	27,025
R-11-CADC-102	Talaingod, Langilan, Kaylawan, Ata-Manobo	Talaingod, Davao del Norte	65,000

cultivation and thus were reduced to belonging to one of the poorest and most marginalized sectors in the country (see Lamug and Banzon-Cabanilla 2001 for additional insights on poverty of these communities).

Shifting cultivation is practiced in a variety of forms depending on both the local environment and culture, as illustrated by the specific cases of the Indigenous Peoples earlier mentioned. The typologies of shifting cultivation (Conklin 1961, Watters 1960, Spencer 1966) show how complex the variation is among different types of shifting cultivation. If shifting cultivation destroys the forest, which type is being referred to? One thing is sure, shifting cultivation and foraging do not exist as pure types. Rather, they are found in various combinations, increasingly even with intensive

agriculture.

From the definitions, characteristics, and typologies of shifting cultivation, it is not difficult to see that shifting cultivation is a kind of agroforestry because it combines trees and other woody perennials with agricultural crops and animals in spatial arrangements or temporal sequences. That shifting cultivation is agroforestry has received some degree of acceptance in recent materials. For example, in the recent volume published jointly by key organizations (IFAD et al. 2001) involved in agroforestry, several articles mention shifting cultivation as "the original form of agroforestry" (3); "All shifting cultivation systems are actually forms of agroforestry systems" (24); "Many of these agroforests have been created

by swiddeners" (142).

However, despite the agreement that shifting cultivation is agroforestry, there are contradictions evident in recent materials. [My choice of materials is based only on ready accessibility; my citation of them here is only for the purposes of my paper and does not mean that I do not laud their significant initiatives.] Let us examine the language of the newest international organization focused on shifting cultivation. The Alternatives to Slash and Burn (ASB) Programme is part of the Consultative Group on International Agricultural Research, and ICRAF serves as its convening center. The "alternatives" mentioned in the program's name are "agroforestry options and alternatives." But isn't slash-and-burn (shifting cultivation) an agroforestry system by definition? Even with the qualification of slash-and-burn as "unsustainable," the need to clarify the seeming contradiction is not answered. The interpretation of a reader could be: slash-and-burn (shifting cultivation) is bad and agroforestry is good.

Reading the second issue (December 2002) of *Soil Fertility Matters*, A Newsletter on Soil Fertility and Fallow Management in the Upland Tropics, we can also detect contradictions. "The search for a creative linkage between indigenous knowledge systems and agroforestry is important to develop a culturally appropriate and sustainable agroforestry management system" (Suminguit, 11). "... (G)reen manures and cover crops ... and development

of agroforestry systems are very interesting pathways of how shifting cultivation may evolve.." (Magcale-Macandog, 12). These are just a few examples of statements that contain contradictions. It would seem that the "unspoken" typology of agroforestry systems consists of the indigenous type practiced by traditional societies and the "experimental" type practiced by researchers trained in western science. While some authors write about the juxtaposition of existing local and the external intervention agroforestry, there is still a dominant thinking that the "experimental" agroforestry is good and the indigenous one is bad. Here we see that contradictions are related to false dichotomies.

False dichotomy: science versus indigenous knowledge

In this section, I limit my discussion on a major false dichotomy in ecogovernance namely, science versus indigenous knowledge, using the Tausug indigenous agroforestry systems as a case in point.

Today, more than ever, indigenous knowledge is romanticized. Everyone is in love with indigenous knowledge, and numerous studies, conferences and organizations have been produced because of the support of indigenous knowledge-friendly funding agencies. The international agreements that were formulated in the 1992 Earth Summit – the Rio Declaration of Principles, Agenda 21, the Convention on Biological Diversity, and the Statement of Forest Principles contain three aspects which are reiterated in

several parts: 1) the recognition of the unique knowledge of indigenous peoples, which defines their crucial role in sustainable development; 2) prescriptions to states to support and promote this unique knowledge, including identity, culture and interests; and 3) prescriptions to states to guarantee the effective participation of indigenous peoples. The key ideas involving indigenous peoples that the Earth Summit advanced provide a broad justification for action: 1) that the recognition of traditional knowledge of indigenous peoples is relevant and useful in the management of natural resources and in the pursuit of sustainable development; that this knowledge should be interfaced with the current natural resources management, as appropriate; and 3) that indigenous peoples should actively participate in decision-making, particularly with regards to lands, waters, and resources in which they have a traditional bond and interest (Cicin-Sain and Knecht 1995, UN Department of Public Information 1992).

In addition, national and local laws and policies, notably the Indigenous Peoples Rights Act of 1997, lay down the institutional support for indigenous knowledge. Thus, there is no need to argue for the recognition of indigenous knowledge. The indigenous knowledge of forest communities is manifested in their major farming technology, shifting cultivation. No wonder descriptions of the indigenous knowledge of these communities have mushroomed in the literature. However, only a few (and usually

anthropologists) would refer to indigenous knowledge as science, or at least, ethnoscience.

In contrasting science from other forms of knowledge, dichotomies have always been employed: science versus religion, rational versus irrational, universal versus particular, theoretical versus practical. This style of invoking dichotomies has forced powerful categories unto popular imagination. A style that uses dichotomies serves to define what is included and excluded, and creates hierarchies privileging one type of knowledge over another (see Gutmann 1992). I do not intend in this paper to provide a history of the relatively recent ascendancy of western science. Rather, I ask the question: is indigenous knowledge not science? As Nader asks: "If knowledge is born of experience and reason, ... and if science is a phenomenon universally characterized (after the insight) by rationality, then are not indigenous systems of knowledge part of the scientific knowledge of mankind?" (1996).

Instead of belaboring my point that the science-indigenous knowledge dichotomy is false, I present a case where that dichotomy, along with such subsidiary dichotomies as nature versus culture, is non-existent. After all, the nature-culture dichotomy has been identified with western worldviews that have separated humans from nature, and the case that I present is on indigenous agroforestry systems.

I refer to one of the articles that I have co-authored with Salahuddin

Kaing, my Tausug thesis advisee, where I re-analyzed his data on Tausug indigenous agroforestry systems (Banzon-Cabanilla and Kaing 1997). The study was conducted in Tanduh, Luuk, Sulu with an estimated area of 751 hectares developed into six types of indigenous agroforestry systems, which are described in Table 4.

My interest here is not on the agroforestry systems per se but on how their sustainability is ensured by the moral order that underlies their practice. Tausug culture is the moral order that defines the people's standards of right and wrong, desirable and undesirable. Thus, it is not only the agroforestry systems but also the whole Tausug culture that is made sustainable. My interpretation of Kaing's data focuses on what I see as the central principles of this cultural morality (Banzon-Cabanilla and Kaing 1997):

- 1) The inseparability of "religious" and "secular" domains. The dominance of Islam as a major force in Tausug culture including the agroforestry system is very evident. Farming technologies and practices operate as part and parcel of, rather than separate from, religion and are therefore premised not only on biophysical but also sociocultural factors. Prayers asking for grace from Allah for a good harvest are recited in all phases of farming. *Jakat* (tithe)-giving is conceived as "savings and investment" for life after death.
- 2) The pervasive culturally constructed concept of shame.

The Tausug concept of shame (*sipug*) is internalized by the Tausug, and guides social behavior. To die is better than to be put to shame. Hence, each one is cautious about his thoughts and actions so as not to offend and be offended. Conflict is minimized, and cooperation, respect and harmony are promoted.

- 3) The concern for social equity that is built in the system. Tausug farmers are motivated to have good harvests so that they can give *jakat*, which is divided into three equal parts: the first part goes to the *pakil* (mosque leaders); the second part to the *masjid* (mosque); and the third part to the *tabid* (faith healers or herbal doctors), *panday* (local midwife), *balu balu* (widows and widowers incapable of working), *ilu-ilu* (orphans), and the *sula* (agricultural leader). A portion of the first two parts constitutes the *kuliling*, which is set aside for emergencies such as death, penalties, and weddings for the poor.
- 4) The traditional respect for the environment, which is incorporated in indigenous knowledge and practices. The Tausug have a deep awareness and understanding of their ecology as seen in their indigenous taxonomies for land, land use and other environmental aspects. Land is considered the best gift for the next generations because it is the source of water, air and life. The agroforestry practices are based on an elaborate traditional environmental

Table 4. Six Types of Tausug Indigenous Agroforestry Systems

Type of Agroforestry System	Features
Intercropping agroforestry	2 sub-types: 1) randomly-mixed intercrop - left-over forest vegetation are used for nurse trees of shade-loving agricultural crops; and 2) trees-along-borders - <i>Gliricidia sepium</i> is used as live fence for farms to supplement split-bamboo fences. <i>Gliricidia</i> also provides green manure and firewood.
Coconut-based agroforestry	Combination of coconut with forest trees, annual crops, medium-term perennials and fruit trees. Coconuts are planted in definite rows and constitute 70% of total vegetation. The system is motivated by the market popularity of copra.
Fruit-tree based agroforestry	Combination of different species of fruit trees, bamboo, coffee, banana, coconut, and some forest trees. Crops have no definite pattern of arrangement but dominant vegetation consists of fruit trees like durian, baluno, huanni, and marang. First, fruit trees are planted. Then seeds of their fruits are scattered by the farmers or are dispersed by insects and mammals. In due time, a climax forest dominated by fruit trees is developed.
Modified swidden farming	Clearing and farming of old fruit-tree based agroforestry area resembling swiddening with fallow periods.
Agrisilvipasture	Livestock are either 1) tied and allowed to graze in pasture areas or under coconut-based and fruit-tree based agroforestry areas, or 2) left free to graze anywhere. Farms are well-fenced to prevent damage.
Random block agroforestry	Blocks of agricultural and forest crops are planted separately in same piece of land. Annual crops are interspersed with strips or patches of forest trees or fruit-tree based agro-

ethnoscience.

- 5) The wide recognition and acceptance of local leaders. The authority of the local leaders is widely accepted by the Tausug despite changes in the leadership patterns from the sultanate to the present state governance. Decision-making is facilitated, followers are guided, and norms of behavior are explicit. This is

exemplified by the *sula* (agricultural leader) who dictates the days of planting and spearheads the assessment of fines upon violators of their rules.

The Tausug case shows a reality that rejects the nature-culture dichotomy. In our contemporary western science, we reduce the whole into isolated parts: we have a

conceptual box for culture (everything human-made) and separate box for nature (everything beyond culture). Thus, shifting cultivation is both culture and nature, both science and indigenous knowledge. Instead of using dichotomies that are by definition mutually exclusive, should we think in terms of a continuum?

CONCLUSION: IMPLICATIONS FOR THEORY AND PRACTICE IN ECOGOVERNANCE

The central point of my paper is to reassert the presence of contradictions and false dichotomies in the language of ecogovernance. I have focused on only one major contradiction (“agroforestry is good but shifting cultivation is bad”) and one false dichotomy (indigenous knowledge versus science).

These contradictions and false dichotomies emerge from multiple publics who have their own interests and who construct their own realities encoded in language. In a positive sense, our raising of these contradictions and false dichotomies to a level of explicitness should lead to: 1) a heightened vigilance about such contradictions; 2) a commitment to establish more precision in our terminologies, which will provide better directions for theory and practice; and 3) a concerted effort to clarify the messages of ecogovernance.

This is in line with a renewed interest in language in the social sciences along with a revival of

constructivist paradigms that provide alternatives to the more dominant positivist-empirical kind of science. The interpretive/hermeneutic and transformational epistemologies deserve more serious consideration, especially in the case of indigenous systems (see Alejo 2000 as example).

Precision in language includes clarifying what “population pressure” means. It has been invoked in explanations of why shifting cultivation was “once good” but “now bad.” But “population” is more than just the demographic processes of fertility, mortality and migration. It is also about social structure and equity along class, gender and ethnic lines. Thus, “population” includes power relationships especially in terms of access to and control over resources at the local, national, and global levels.

Other implications of the ideas we have presented, particularly for academics in the forestry and environment sector include:

1. Recognizing the inadequacy and/or inappropriateness of “old” ecogovernance strategies. This includes developing modalities for interdisciplinary action-research on shifting cultivation.
2. Heightened concern for the erosion of cultural diversity and extinction of indigenous ethnoscience.
3. Deeper understanding of the philosophy of sustainability in indigenous agroforestry.
4. Equitable incorporation of ethnoscience in instruction and

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