

Mariteuw Chimère Diaw

International Institute of Tropical Agriculture

Humid Forest Station, BP 2008, Yaounde, Cameroon

Fax: 237 – 23 74 37

Email: c.diaw@cgnet.com

From Sea to Forest. An Epistemology of *Otherness* and Institutional Resilience in Non Conventional Economic Systems

Multiple commons; Governance; Theory

Anthropology

Introduction

For over a century, social theory - anthropology and economic theory, in particular - has been confronted with the resilience of economic and social systems of organization that do not fit the dominant paradigms of our times. The disappearance of these systems was anticipated as a natural evolution toward higher forms of modernity by powerful and influential paradigms (in the sense of Kuhn, 1972). A huge amount of theoretical activity has been devolved, since, to explaining *why* they have not disappeared as predicted and to finding the *raison d'être* behind their very existence. It is argued here that most of this *ex-post theorizing* has been centered around models of social and economic behavior that could not provide the keys to the answers sought. This, in turn, has been detrimental to the field-grounded discovery of the *distinct* principles of rationality, which do explain *how* they exist, *in themselves* and *for themselves*. In a context marked out by the resurgence of theoretical interests for 'indigenous systems' and by significant endeavors to integrate institutional theories into practical devolution schemes, a revisiting of the ambiguous relationship between social theory and non-conventional socioeconomic systems may have considerable policy implications. As various schemes of community-based management are now being experimented around the world, countries of the Congo Basin - a forest area second only, in size, to the Amazon - are also getting together to define and implement decentralization and forestry reforms. In that process, the forms and extent of the devolution of forest management functions to local bodies of the civil and rural societies have become a burning issue. The willingness to decentralize is met by an equal hesitation to do so, under the fear of granting too much space to customary tenure institutions and undermining State authority on the "national" forest estate. Several recent contributions¹ have highlighted the serious implementation problems faced by Cameroon's 1994 "community forests" reform – a pioneering initiative in Central Africa – and the risks of adverse selection and free riding related to its limited recognition of customary tenure institutions.

This attitude toward indigenous systems has striking parallels in other resource management areas, particularly in agriculture and coastal fisheries. One aim of this paper is to see how, in recent history, social theories may have fueled such a pattern. Faced with the resilience of "non conventional systems", influential scientific paradigms have, indeed, "rehabilitated" them, but

¹ Diaw, Assoumou & Dikongue, 1997; Diaw, 1997b,c; Karsenty, Mendouga & Penelon, 1997; Egbe, 1997, Bigombe-Logo, 1997; Njomkap, 1997; Vermeulen, 1997; Nguinguiri, 1997.

only after an initial phase of negation or exclusion. In many cases, this “rehabilitation” amounted to a *normalization* process through which these systems were in fact annexed to models which could not express their logic and practical efficiency (Diaw, 1994). This last moment of estrangement and theoretical annexation is critical, as it results in the alteration of the very principles that explain their resilience and, hence, their interest for the issue of sustainability. This contribution has, therefore, an anthropological content, an epistemological connotation and a policy reach. Drawing on years of field research in West African coastal fisheries and in the Cameroon-Gabon forest continuum in Central Africa, it strives to show the distinct principles of rationality, which animate non-conventional systems, with a particular focus on customary tenure institutions. By highlighting the nature of their dynamic coherence, it hopes to show their relevance to contemporary issues in natural resource management and sustainable development.

Social “otherness” in Economic Theory

For want of a better definition, we refer to these non conventional systems as *systems of “otherness” - des systèmes d’altérité*, in French - in order to express their generic and heuristic kinship and their belonging to an order of rationality that is not reducible to the dominant forms of social regulation in our time, the market and the State. Tenure systems grounded in collective property or in shared access to common pool resources, remuneration systems based on product sharing, such as sharecropping and the share system in coastal fisheries, forms of reciprocal or solidarity credit, such as rotational credit in the African *tontines*, are examples of such systems. Anthropological embeddedness of economic rights, political institutionalization of kinship and descent, shared stakes of owners and laborers in management *and* profit, and the primacy of social reproduction over individual gains can be diversely counted among their working principles. This is also true of various principles of reciprocity, flexibility, trust or *materiality of intents* (Diaw, 1994), for instance. The laws of Market and Finance, as well as State-induced transformations, have succeeded neither in eradicating them completely nor in imposing a different rationality at the core of their operating principles. Entire populations are still organizing their relations with nature and among themselves through the mechanisms they provide. They are *resilient systems* endowed with their own institutional and behavioral models. Notions of ‘*non conventionality*’ or ‘*otherness*’ boil down to *a definition by default* - a concession to the centrality of the economic and institutional models, and their epistemological ramifications, that have dominated social change during the last two centuries. They encompass a negation (B is *another* because it is not A) which, then, becomes a specific attribute of *otherness* (B is *something* only as far as it is not A). Ethnocentrism in human relations and *normalization* in theory building are potential results of this skewed B-A complex. This stand out in the modeling of the share system and in the dominant economic theorization of sharecropping, property rights, rent and common property, as well as in recent analyses of kinship and anthropological solidarity by the New Institutional Economics (NIE). Though not the only relevant theories in these fields of inquiry (since they have been debated and challenged), their influence on academic thinking, policy or legislation has often been determining. A quick reminder of their bases and ramifications in tenure and devolution issues should be instructive.

Sharecropping in agriculture

Generally considered as inefficient hangovers of a past time, sharecropping and the share system are both ways of sharing costs and earnings that contrast sharply with the wage labor model of

modern production relationships. This is why conventional and neo-institutional microeconomics were lead, from the start, to discuss their rationality within an epistemological framework centered around the “puzzle” of their *raison d'être*².

The Marshallian result of the productive inefficiency of sharecropping conditions all discussions on sharecropping, and partly on the share system. It works on the basis that neither the tenant nor the land owner (if they are "rational") would invest their resources beyond a point at which the marginal cost would equal half (and not all) of the marginal product. This results from the principles of efficient allocation in the marginalist model, which stipulate that “rational, income maximizing individuals” will always use a resource (in this case, labor) until its marginal product (the return to the entrepreneur) equals its price (the wage rate on the labor market). Marshall demonstrates that this is not possible in the case of sharecropping (in which the product is shared) and deduces that it is (by its very nature) inefficient.

This thesis could not, therefore, explain the resilience of sharecropping, any further than arguing the irrationality of the social actors involved. It was challenged by Cheung (1969) who brought new elements into the matrix, showing that an efficient equilibrium is still possible if the owner is able to influence the size of the farm, the share rate, or the quantities of inputs and labor to be provided by the tenant. This is again, on the condition that the tenant’s income should not be lower than the opportunity costs of his labor on the market. Cheung thus manages to retain the behavioral model of the neoclassical paradigm by extending its reach and by *displacing* the core of Marshall's assumptions. The “Marshallian” or “traditional” school (Bardhan & Srinivasan, 1971; Bell, 1977) responded by criticizing the fact that the new model accorded a monopolistic power of negotiation to the landlord and ignored the interests of the tenant. If it is accepted that the latter is able to influence the result of the negotiation, there necessarily follows a theoretical result of a Marshallian type. Led by Newberry and Stiglitz (1974, 1979), the “modernists” went on to refine Cheung's model by introducing additional hypotheses (uncertain and imperfect markets, transaction costs, combination of contractual arrangements, etc.). According to Srivastava (1989), however, the presumption that information is asymmetrically distributed to the actors inevitably leads to a “*second best*” contractual choice. In order to explain *why* sharecropping exists, a second source of imperfection becomes a theoretical necessity. “*Thus, conditions which explain the existence of sharecropping in general do not allow production efficiency to prevail and push the models into the realm of 'second best'*” (Srivastava, *ibid.*)

The circularity of this debate was pointed out by Robertson (1980, 1987). Relying on the comparative anthropology of African sharecropping systems³, Robertson showed that these are flexible, innovative arrangements which reflect the changing capacities of domestic and migrant

² While intellectual energies gravitated around the “higher” epistemological issue of the “*why?*”, critical empirical clues about the “*how?*” of their persistence were overlooked. This is well illustrated by the issue of the share system, all the fundamentals of which were laid out by Zoetewij, at the Round Table of the International Economic Association on the subject in 1956. Thanks to the detailed minutes of this meeting, then held under the aegis of FAO, one can see how the discussions side-tracked on issues of *raison d'être*, whilst key questions about the structure and functioning of the system were left idle (Turvey and Wiseman, 1956; Diaw, 1994).

³ Such as the *abusa* (cocoa production, Ghana), the *musharaka* in cotton production in Sudan, the *seahlolo* and *lihalefote* systems in Lesotho, and the *sama manila* (*mbay seddoo*) in the Senegambian peanut basin.

units and which redistribute wealth. He showed that some of its forms are in fact *post-capitalist* innovations (as in Ghana and Sudan) and not make-do arrangement destined to die out⁴. He also showed that sharecropping is not necessarily based on distinct and contraposed interests, but imply some form of stakeholder “collusion”, under diverse⁵ and complementary arrangements.

The Share System in coastal fisheries

Initiated as early as 1956 by the International Economic Association (Turvey & Wiseman, 1956; Zoetewij, 1956), the economic analysis of the share system only really took shape at the beginning of the 1980s (Sutinen, 1979; Flaaten, 1981; Anderson, 1982). This recess of nearly 20 years saved it from a whole stage of negationist doubts about its right to exist. From this time onwards, this work will stand as a major effort to *normalize* the system and *annex* it to the theoretical model of microeconomics and its ramifications into the New Institutional Economics, NIE (Nugent & Platteau, 1989, 1990; Datta & Nugent, 1989; Azabou & alii, 1989). This effort reached its zenith with the mathematical formalism of these analyses of the share system.

As with the study of sharecropping, the Walraso-Paretian canonic model of equilibrium provided the basic framework for hypothetico-deductive analyses. The “desirability” of the share system was weighted against the advantages of the wage and rent systems while its effects on the neoclassical and bioeconomic models was subjected to various simulations. Taking the wage model as the pivotal element in their mathematical description of the system, these analyses then simulated different conditions under which variants of the system could be “preferred”. They deduced from this that, in given conditions of tenure and management, there are “*wrong share systems*” leading to sub-optimal allocations and to “waste” (Flaaten, 1981). They introduced the concept of “*share rate illusion*” (Anderson, 1982) and decided, on theoretical grounds, that the share system could be efficient only if costs and revenues are shared at the same rate between crew members and boat owners. Following the hypothesis that the share system has transaction costs- and risk-reducing features (Sutinen, 1979, 1983; Flaaten, 1981), authors within the NIE (Nugent & Platteau, 1989) went on to assimilate its role in minimizing *production and market* risks, and *risks of opportunistic behavior* to its *raison d'être*. All these approaches either postulated or concluded the absence of any effect of the share system on the micro-economic model, which opened the way to its insertion into modern representations of the economy.

Behind this statement of neutrality and *possible* efficiency of the share system, lies, however, an epistemological trap which is exposed by the deconstruction of its underlying mathematical reasoning (Diaw, 1994). To achieve this result, unacceptable distortions are actually imposed on both the social and natural systems. For these models are not restricted to merely *postulating* equality between share rates and wage rates, under the implicit model of the private firm, they also literally *transform* the share system into a wage system, through a trick of substituting scales and equations between the short and medium term (Flaaten, 1981, Anderson, 1982, Nugent &

⁴ As posited not only by the neoclassicists but also by their marxist counterparts who see sharecropping only as a means of surplus extraction from the peasantry, in feudal or semi feudal systems in transition toward capitalism (Patnaik, 1983, Pearce, 1983, Byres, 1983).

⁵ For instance, the “redistributive” *seahlolo* system, as opposed to the accumulative *lihalefote* in Lesotho, and the exchange of land for labor - and not only labor against a share of the output - in the Senegambia.

Platteau, 1989). Faced with the additional task of integrating cost sharing into their models, the most ambitious among them⁶ also had to *conform* it to the draconian norms imposed on the economy by the marginalist model. They were then left with little choice but to *maximize income according to costs* and to find a way to obtain *a single point of optimal effort*. This was finally accomplished by Flaaten, which postulates an unrealistic exponential relationship between costs and effort (Diaw, 1994). By means of this process, the biomass, the capturability and the price of fish were transformed into known constant parameters. It is well known, however, that these variables, which have eluded generations of scientists of all disciplines, are among the most volatile in the fisheries. This manipulation, which establishes a constant relationship between a unit of effort and a unit of income, and thus *sets a price on fishing effort*, leads to the complete neutralization of the natural and economic variability. It amounts to transforming one of the most uncertain activities in contemporary economics into a simple production line (Diaw, *ibid.*).

Overall, the tautological and “syntactical” (Carnap, 1950) aspects of this modeling of the share system has been detrimental to the inductive discovery of its component parts⁷. It inhibited the understanding of the full extent of its mathematical *and* accounting complexity (several thousand theoretical combinations of which several dozens were empirically observed in West Africa). The result is that criteria such as the “necessary” equality of the share rates are falsified by field observations (only 14% of the units studied in Casamance, for example). The translation of the theoretical models into practical accounting terms also leads to significant error in the estimation of incomes and profits. The specific mathematical logic of the share system (Diaw, 1983, 1989) and its ramifications in the symbolic and cultural economy of fishing communities (Diaw, 1994) demonstrate its enormous capacity to adjust to uncertain and changing conditions. They show that its accounting complexity, strengthened by management solidarity (including *risk, cost and profit* sharing), and by principles of reciprocity and gift giving (including the relinquishing of shares), gives it the necessary flexibility to make these adjustments. This, at the antipode of wage labor rigidity, is what truly ‘explains’ its resilience and its universality in coastal fisheries.

Fisheries Rent and Common Property

“Common property” has been one of the most studied questions over the last 30 years, and that on which the assumptions of microeconomics have been most questioned. It is largely accepted now that common property does not mean “free access” and does not necessarily result in a *tragedy of the commons* (Ciriacy-Wantrup & Bishop, 1975, Weber, 1995). However, the focus of a large part of these discussions on Hardin's thesis (1968) and not on its origins in Gordon's prior analysis (1953, 1954), which established the true bases of the bioeconomic paradigm, may have limited the epistemological reach of this critical evaluation.

⁶ The models of Sutinen and of Nugent & Platteau (*ibid.*) deal only cosmetically with the issue of cost sharing. Those of Flaaten and Anderson (*ibid.*) are therefore the ones concerned by this analytical line.

⁷ In particular, the bipolar structuring of the system into: (1) cost sharing and output sharing; (2) ‘shared expenses’ (deducted from the gross proceed) and ‘personal expenses’ (paid by individuals on their own share); (3) partitioned system (separate remuneration of capital items and crew members under a fixed lay) and non partitioned system (remuneration of all human and capital components of the fishing unit out of a common pool) (Diaw, 1989). Combined, these different levels of complexity have a determining impact on the calculation of actual shares.

Gordon developed the concept of “rent dissipation” which is based on the idea that, given the absence of private property in the sea, there is a free gift from nature - the rent -, which leads to profits higher than “the normal profit”. Given the law of diminishing returns and neoclassical efficiency principles, he deduces that, in the context of a homogenous flotilla and of “free access competition” to the resource, each entrepreneur-fishermen would invest until the whole flotilla has equalized costs and returns, thus dissipating the surplus to normal profit. This situation is assimilated to a market failure and so the neoclassicists would justify State intervention⁸ and develop a succession of models, the most sophisticated of which simulate normative policies designed to correct the state of “waste” brought about by the status of the resource (Chaboud, 1989).

These scenarios have had a strong influence on States regulation of fisheries. A host of ever new regulatory mechanisms (limited entry, global quotas, etc.), finally lead to the establishment of what could be considered the ultimate tool of “rent restoration”, the individual transferable quota (ITQ; Europe, Canada, Australia...). This latter privatizes the resource by granting *transferable ownership rights on fish not as yet caught*. It should be remembered that the main obstacle to the privatization of the resource in fisheries is the mobility of its biological component, which can only be appropriated through capture (Diaw, 1983).

Recurrent social and bioecological crises, which its influence on fisheries management was able neither to prevent nor to curb, has triggered challenges to this model. It began to be increasingly recognized that the “costs of optimal allocation” could prove to be higher than its “gains” (Turvey, 1964), and that the establishment of private property rights could produce rent dissipation phenomena similar to those resulting from the “tragedy of the commons” (Anderson & Hill, 1984; Abgrall, 1982). The many anthropological interventions on the matter (Ciriacy-Wantrup & Bishop, 1975; McCay, 1981; Berkes, 1985; McCay & Acheson, 1987; Marshak, Guppy & McMullan, 1987) followed the same vein. They culminated in a criticism of the very idea of common property, the ambiguity of which they emphasized. Thus, they set the *res communes* against the *res nullius* of the economists – “*Common property is not everybody's property*” (Ciriacy-Wantrup & Bishop, 1975) - and established a series of operational distinctions between “common property” and “community property” (Marshak, Guppy & McMullan, 1987), “free access” and “access regulated by the commons”.

These works also criticized the tendency to limit solutions to the dilemma of the commons to the intervention of an external authority and the privatization of property (McCay & Acheson, *ibid.*). Drawing on a rich pool of examples⁹, they proved, in particular, that common property is a historically based social institution and that, in most cases, it allows fisheries to be self-regulated

⁸ Gordon (1953) actually identifies four ‘optimization’ conditions that can be collapsed into two: (1) resource privatization, including “group private property”, and (2) State control of the resource, either as a “public property” or through taxation.

⁹ Which demonstrate the great diversity of fishing rights. These include mechanisms to appropriate eco-niches or eco-zones through information or technological control (Forman, 1967, Andersen, 1972, Lofgren, 1972, Cordell, 1974), forms of space control through territorial rights, religious taboos or seasonal regulations of fishing (Bataille-Benguigui, 1989, Fay, 1989), as well as prebendal domains based on family or individual rights on given species or techniques (Breton, 1977, Bataille-Benguigui, 1989).

more effectively than under State control (Berkes, 1985; McCay & Acheson, 1987; Bataille-Benguigui, 1989). This literature underlines the responsibilities of the State, which, in its distribution of access privileges and fishing quotas, creates more contradictions than it resolves: “*Instead of talking about tragedy of the commons, we should be talking about the tragedy of mismanaged state property*” (Marshak, Guppy & McMullan, 1987).

It is, however, a group of economists (Morisset & Reveret, 1985; Boude, Morisset & Reveret, 1986) that went the farthest in that criticism by attacking the very concept of rent and the theoretical and social issues linked to the ITQ. These authors show in particular that, in fisheries as in agriculture, the quota is presented as a means of decreasing inputs given the relative immobility of capital, but that the supposed mechanisms for the quota to circulate contradict Gordon's homogeneity hypothesis. If the possibility of differential or intra-marginal profit is excluded, and if all the entrepreneurs have equalized their marginal costs with a single marginal profit, how could there be expectation differences which would allow the quota to circulate? In lifting the homogeneity hypothesis (Copes, 1972), we may indeed allow the quota to circulate and to play its role of optimal allocator, but, in doing so, the theory is cut off from its logical basis of legitimization. In solving one practical impasse, we create another, more fundamental to the theory.

Considering anthropological contributions, these authors show that the real stakes behind the ITQ go beyond the mechanics of rent ‘dissipation-restoration’ and integrate the historical incapacity of the vertically integrated firm to compete with coastal fisheries on a simple basis of market and production costs. These two forms of production have neither the same concepts of costs nor the same management principles, and respond to a profoundly different logic. Whilst the capitalist enterprise has to pay salaries and remunerate its capital, coastal fisheries use family and/or share-rewarded labor. Their objectives of maximization do not concern profit, but rather the catch: “*first prize and rate of profit are not necessarily compatible.*”

Shaped by the theories and controversies centered on sea tenure and, to a lesser degree, on pastures, the issue of common property has rapidly spread to a series of connected fields, such as irrigation systems, social forestry, rangelands, hunting and protected zones (Pomeroy, 1994; Ostrom, 1994; Poffenberger, 1996). It is now at the core of prolific attempts at restructuring institutional thought in view of practical applications to the management of shared-access resources. These attempts are of great interest to contemporary management issues in tropical forest ecosystems, at the interface of common property, land tenure rights and the institutional status of kinship.

Evolutionist Theories of Property Rights and Neo-Institutional Analysis of Kinship and Contractual Relations

During the 1960s, the frustration expressed in the post-war economic literature about “market failures” began to crystallize into *an internal movement of reform* of conventional microeconomics. With the publication of *The Problem of Social Cost* by Ronald Coase (1960), the hope of reducing the “black box” of these *market failures* by taking transaction costs and property rights into account began to take on an operational form within academic circles. This was when the issue of common resources (Hardin, 1968) began to take shape, as did the emerging theory on *the logic of collective action* (Olson, 1965), both of which deal with the

prisoner's dilemma and the problem of the *free rider* (see also Axelrod, 1983). The theorization of property rights (Demsetz, 1967), together with the neo-Marshallian (Cheung, 1968, 1969) and neo-institutional (North 1990; Platteau, 1989, 1992; Datta & Nugent, 1989) theses on property rights and kinship formed part of this growing movement.

According to the evolutionist theory of property rights, agricultural systems are submitted to a general process of transition from communal forms of tenure to private land ownership. Under population pressure and market penetration, various changes take place in the relative prices of factors. From a particular point onwards, land becomes alienable and appropriable by private individuals. It thus acquires a collateral value and becomes an asset - a possession from which one may make profit - which increases the supply of credit and allows the accumulation of capital in agriculture. According to Demsetz (1967), any externality comes from a potential gain of exchange, that is, the sale of one set of property rights against another. If the exchange takes place, the externality is "internalized"; if not, there is market failure. The prohibition of exchange (the case of collective property) or the existence of prohibitively high negotiation costs (the case of common property) thus create externalities, which is prejudicial to investment and to resource conservation. This view of land tenure has led to calls for land reforms that would facilitate or accelerate the pace of privatization in systems that do not fit these evolutionist conditions (Goodland, 1991), and has fueled reductionist approaches to land tenure otherness.

Although criticized for its "mechanistic and technocratic bias" (Platteau, 1989), this approach to property rights is taken up in its turn by the NIE, which integrates it both into its analytical framework (Alchian & Demsetz, 1972; Williamson, 1974, 1975; Coase, 1984), and in the questioning of its historical school (Davis & North, 1971; North & Thomas, 1973; North, 1977). This characteristic of the NIE, as a *research program*, in the sense of Lakatos (1978), is of interest. As much by *percolation and translation* as by *coagulation*, this restructuring movement of microeconomics actually annexes or rallies to its flag all the main themes of the time, including those of economic anthropology, dealt with in the form of a response to "*the challenge of Karl Polanyi*"¹⁰ (North, 1977). The approach to *transaction costs*, linked to the central concepts of *bounded rationality*¹¹ and *opportunism*¹² (Williamson, 1975, 1985), provides the unifying framework needed for its analytical coherence. This framework is then massively applied to as diverse centers of interest as the mining and manufacturing industries, insurance, agricultural tenure, livestock, fisheries, the structure of firms and of the extractive industry,

¹⁰ Who questioned the validity of the categories of "formalist economics" for the study of societies governed by reciprocity and redistribution. For Polanyi, the study of the "changing place of the economy" requires an examination of its "substantive meaning" and its historical, empirically observable characteristics. This is what makes possible the identification of the "forms of integration" through which economies are institutionalized and gain stability, interdependence and recurrence of their elements (Polanyi, 1957).

¹¹ This concept, developed from the works of Simon (1962, 1969), is based on the idea that limitations in their information and cognitive competency put a bound to the *intent of rationality* of economic agents.

¹² Opportunism is described as a subtle or strategic form of self-interest seeking "with guile" (Williamson, 1985). It weakens contractual arrangements by generating externalities, in the form of both ex-ante (before the contract) and ex-post (enforcement) costs. It is also a source of the "adverse selection" (a bad risk mistaken for a good one) and "moral hazard" (cheating) problems, initially identified in the study of insurance markets (Holmstrom, 1979).

electoral coalitions, rent-seeking strategies, and the emergence and decline of civilizations¹³. Property rights, seen as an institutional constraint likely to generate or neutralize transaction costs (Baak, 1982), are incorporated into this analysis, as are kinship, reciprocal and altruistic institutions, construed as *substitutes for the existence of an insurance market*.

This topic of 'insurance', which already figures in the theorization of the share system, is key to the neo-institutional interpretation of social otherness. In this respect, reciprocal or rotational credit, village associations, gifts exchange, and kinship are all considered to be "*risk pooling*" mechanisms (Platteau, 1989), or *implicit insurance contracts* in "primitive societies" placed under the continuous threat of violence (North, 1990). The same is true of family enterprises, together with extra-family, extra-domestic and intergenerational relationships, as well as family adoption in "less developed" countries (Datta & Nugent 1989). In relation with the evolutionist theory of property rights, Platteau (1992) also attributes this "*risk pooling*" function to the "extended African family". As a focal field of personalized relations based on trust, vertically structured networks, and traditional access to capital assets through inheritance, this latter is presented as a "*collateral substitute*"¹⁴ for market imperfections. It is also supposed to slow down innovation and technology adoption, "*because of the conservative mind of the elders*". This metamorphosis of the African lineage into a "collateral substitute", concludes the process of integrating practices of otherness into the rationality of "insurances". This process is based on several 'absences', ranging from the absence of private property rights, to the absence of writing and archival traditions, functioning transport and communications networks, and even stable climatic conditions, to culminate in the "imperfection", "deficiencies", and "underdevelopment" of the market in its various states. It is in this last 'absence' that lies the essence of all the others, their "ontological truth". It is because of markets *imperfection* that the whole fabric of "traditional" societies - of which the distinct nature is also stressed - becomes interpretable in terms of insurance networks. It is as if the logic of insurance were an *intrinsic and innate* fact of the social system onto which, *by default*, would be pinned a subordinate logic based on ascriptive practices. There is complete inversion of the historical relationship between otherness and the market, as the problems of the theoretical system are *displaced* towards the social system. The motto is at the 'revalorization' of the 'informal' and its reintegration into representations of the economy; but, rather too often, at the price of its counterfeiting.

African Land Reform and Indigenous Tenure Systems: From collision course to negotiated settlement

¹³ According to Douglas North (1990), two contradictory forces define the path to institutional change and the different performances of societies: "increasing returns" (responsible for the "exceptional success story of the Western World in economic history") and "imperfect markets characterized by significant transaction costs". This is key to his thesis of "path dependency", whereas the potential of conservation or inertia of these on the institutional framework and mental constructs affects property rights and the long-term path taken by the economy.

¹⁴ With its origins in the revision of the evolutionist theory of property rights, this concept of "collateral" is a concept of bankers and insurance agents, which stands for "guarantees". It is also applied to the fisheries where the absence of "secure and sellable property rights" is supposed to prevent the realization of the entire evolutionist sequence. This would be the "*missing link*" in the causal evolutionist chain (Platteau, 1992).

African land reforms in history

Historically, land tenure policies in Africa have taken place in a context of latent rivalry between the nation-States and traditional communities and have generally worked *against* local forms of control over the environment. The succession of “*national domain*” laws, which marked the emergence of a “*land tenure nationalism*” in Africa, at the beginning of the 1960s, is symptomatic of the phenomenon. Perceived as a means of reducing “traditional resistance” to the development and modernization of societies in accordance with the European model, these laws were intended to “break” the communal basis of land tenure systems - to “*detrribalize*” them (Melone, 1972) in the case of Central Africa. They were to establish for the new nation-States the territorial basis that was considered necessary for the “rational development” of national resources. Following this logic, the State became the exclusive “manager”, “guardian”, “administrator” (Senegal, Côte d'Ivoire, Mali, former Upper Volta, Madagascar, Cameroon, etc.), or the “owner” (Guinea, Mauritania, former Zaire, etc.) of the national estate. In almost all the countries concerned, these policies came up against strong grass-roots resistance, and were affected by sporadic conflicts (Melone, 1972; Tjouen, 1982; Coquery-Vidrovitch, 1982; Fisiy, 1990; Bigombe-Logo, 1996). This brings to mind the problems encountered in the dissociation of the forest from agrarian systems in Europe, where these policies have their historical roots¹⁵. Their results, in Africa, differed greatly, however, depending on the country and the environment¹⁶.

A major paradox in African land tenure nationalism is its origin in colonial tenure policies. It was Faidherbe, in 1865 in Senegal, who began the policy of promoting private ownership through land registration techniques, which basically denied pre-existing community rights to land. Alexandre Tjouen (1982), who does share the non-tribal and developmentalist principle of the 1963 government decree and the 1974 land ordinances in Cameroon, clearly traces their origin in the Imperial ordinance of June 1896, under the German colonial regime. Formalizing the German interpretation of the 1884 treaty signed with King Akwa, this latter classified the so-called “*herrenlos lands*” (vacant lands without a master) as part of the *kronland* (crown land). This move opened the way to the distribution of millions of hectares of traditionally owned forests to German agricultural and forestry companies (Tjouen, 1982, Egbe, 1997).

The French and British legislations, which succeeded the German occupation in 1916-1919, made several modifications to technical aspects of the legal framework without changing, however, the basis of the new relationship established between the State, the land and local communities. On the whole, “freehold lands” were kept outside of local control, despite the recognition of limited areas within which traditional rights remained valid. Under the French colonial system, this limited recognition was done through a recording procedure – *le régime de*

¹⁵ In France, this was only achieved in the 19th century, at the outset of protracted conflicts between the forestry administration and rural people, and through the transformations of the industrial revolution (Karsenty, 1995).

¹⁶ In general, the effect of those policies is more mitigated in rain forest areas where low population pressure and strong clan organization are determinant in the enforcement of traditional rights. Tjouen (1982) notes that the 1963 Decree-Law in Cameroon, which allows non indigenous people to acquire ownership titles on customary lands has an effect only in urban centers. In the countryside, the “*unshakable position of customary chiefs*”, immigrants’ consciousness of the legitimacy of indigenous rights and their fear of “*the reaction of the dead, which translates into a succession of deaths*”, are such that potential beneficiaries do not dare claim for their new ‘rights’.

la constatation -, which later introduced an administrative certificate and then a land record book. In the British system, customary rights to “*native lands*” were recognized by the Forestry Ordinance of 1916 and by the Land and Native Rights Ordinance of 1927, but not in the former ‘*herrenlos lands*’. All lands were also placed under the ultimate authority of the Governor of Nigeria who had “all-embracing powers of regulation and disposition” in the British territory (Egbe, 1997, Ngwasiri, 1984, Anyangwe, 1984, Coquery-Vidrovitch, 1982)¹⁷.

Through this whole process, the pre-eminence of reasons of State and of land titling remained the basis of the arguments opposed to communities in matters of land tenure. This did not change with post-independence legislation. It even became more radical, as the regime of « *constatation* » disappeared from Cameroonian law in 1966 to be replaced by the principle of « *mise en valeur* » (*making good use*), more in tune with the ideology of planned development and the normative target of individualizing tenure rights¹⁸. The case of Cameroon is but an example of a general process that virtually touched all African societies. Forestry legislation, tightly linked to these land tenure laws and based on a ‘specialized’ concept of land use, separated the *forest-as-trees* from other agrarian uses and put legal limitations to traditional authority over forest expanses. It also underwent successive reforms, in response to “encroachments” and “traditional resistance to change”, whilst still maintaining global legal coherence with the philosophy of State edification and land privatization.

“*Second Best*” or “*Best Bet*”? *The Question of Local Institutions*

With its origins in legal and institutional paradigms dating back to the European enlightenment era, the history of land tenure reforms in Africa is a good illustration of the syndrome of “extraordinary treatment” to which social otherness has been subjected in contemporary politics. As the review of selected social theories in section 2 has tended to show, this pattern has its exact parallel in modern sciences. It is, therefore, legitimate to ponder over the risk of reductionism and estrangement associated with the ‘rehabilitation’ of local institutions in the current string of forestry reforms. It must be reminded that the interest for these systems stems in great part from the environmental crises of the 70’s, which exposed the vital link between population and the environment. Despite genuine ethical concerns, the larger mobilization of the international community was mainly triggered by efficiency considerations related to global interests in conservation and development. It is the realization that the contradistinction between the *access*

¹⁷ This separation of “freehold lands” from native reserves had serious consequences on the viability of social organization in Bakweri areas, as reported by a 1925 colonial report (Tjouen, 1982). It triggered a strong movement of protest for the restitution of customary lands, which, in the aftermath of WWII, led to the creation of the Cameroon Development Corporation (CDC), a government agency, whose role is to manage huge plantations in the name of the “natives”. This prefigures the “nationalist” form of agro-industrial transformation of customary forests.

¹⁸ Land registration becomes the unique mode of recognizing land ownership rights and requires that all members of a community be listed, in the case of a collective request, and that the “*mise en valeur*” be proven. This is confirmed by the 1974 Land Ordinances which demands for the granting of a provisional concession of land “free from occupation or exploitation”, that the request be justified by a program of “*mise en valeur*”, under the control of a Consultative Commission. This procedure brings to mind the provisions of the “Simple Management Plan” in the current forestry reform in Cameroon. The notion of “making good use” is just replaced by that of “management”, which reflects the evolution of administrative paradigms in favor of a planned concept of durable forest use.

power of local populations and their exclusion from decision-making models applying to their own environment was not sustainable that really underlies the shifts in policy.

It must also be stressed, from the viewpoint of theory, that the status of "*second best optima*" attributed to institutional forms of otherness, and particularly to African land tenure systems, is primarily the result of the modeling of a series of theoretical hypotheses that have not been empirically proven. The two comparative studies conducted a few years ago by the World Bank and the Land Tenure Center of the University of Wisconsin, Madison (Bruce & Migot-Adholla, 1994) on "land tenure security" are a striking illustration of this. Covering seven African countries, these studies were intended to fill the lack of sufficient empirical and statistical bases on that issue and to test the hypothesis of a causal relationship between the individualization of land tenure rights and an increase in investment and agricultural productivity. Despite the reliance on an epistemology¹⁹ for which private property is the model, by definition, of "tenure security", the "field orientation" of these studies led them to important, albeit "*counter-intuitive*", findings. The fact is that, on the whole, no significant relationship could be found between the existence of private ownership rights to land, on one side, and the use of agricultural credit, land investment, land improvement, and agricultural yields, on the other (Bruce, Migot-Adholla & Atherton, *ibid.*). These studies also confirmed that traditional tenure systems have a huge capacity for adaptation to different production and market conditions. It was even discovered, as in the case of Kenya and Senegal, for example, that national legislation and land registration were a cause of uncertainty and land insecurity rather than the opposite.

The history of social or community forestry is another case of trial and error processes due to misunderstandings about local systems. The first generation of social forestry projects (India, Kenya, Yemen, Malawi, Pakistan, Haiti, Zimbabwe, etc.) were based on the idealistic assumption that reforestation and 'basic needs' objectives would be better achieved by massive planting of fuelwood by 'communities', on communal lands. This option resulted in a series of setbacks, which were only made good by a return (Haiti, India, Tanzania) to smaller social units, mainly family farms, more appropriate for this type of activity (Cernea, 1991b, Guggenheim & Spear, 1991). As a logical backlash from these experiences, it was concluded that community action was ineffective and that individuals and households were more relevant units for achieving community forestry goals (Arnold, 1991). But this conclusion may be overlooking two critical factors:

- (1) These first generations of projects were elaborated in a context of arid, semi-arid and deforested areas faced with severe environmental and energy crises. The focus of community forestry has now largely moved to the issue of *maintaining* actual tropical forest ecosystems through various schemes of sustainable management.
- (2) From the standpoint of customary tenure systems²⁰, *planting - as farming* – belongs to the realm of *productive and development rights* (see next section), which, by definition, fall into

¹⁹ The studies were based on the neoclassical theoretical model, backed up by contributions from the New Institutional Economics (Place, Roth & Hazel, 1994; Migot-Adholla & Bruce, 1994).

²⁰ From a rigorously scientific standpoint, this assertion can be validated only, at this point, for the systems that we studied, or that have been documented by other sources in Cameroon and Gabon. The many similarities with other

the sphere of individual and domestic control. This is not true of primary and secondary forests, which, within the tangle of rights and levels of control that characterizes local tenure systems, refer to common pool appropriation regimes. In the same way that, under customary principles, large communities were not the best-fit entities for tree farming objectives, the management of common pool forests can also not be vested in individual farm households or in a segment of potential forest claimants. This problem of the “*social unit of action*” (Diaw, 1997c) – a moving target, indeed - poses a major challenge to community-based management schemes in areas still under the strong influence of customary principles.

One facet of this issue of the “social unit of action”, in the case of Cameroon, is that of the so-called ‘legal entities’ designated to act as local interlocutors in the implementation of the 1994 community forestry reform. A rapid appraisal survey, covering 475 villages, over 2000 community-based organizations and dozens of farmer federations, confederations and credit unions, was conducted in 1996-1997 by IITA, with the view of assessing the potential for collective action in its southern Cameroon benchmark area (Oyono & Diaw, 1997, Diaw, 1997b). This study had considerable side-benefits with regard to the ‘legal entities’ issue. It highlighted the enormous development potential of these organizations, which legalization was boosted by the decentralization reforms of the early 1990’s, and clarified the major role they could play in *the proactive dimensions* of community forestry (Diaw, *ibid.*). It also made clear, however, that they *do not* have, generally, the community mandates required to negotiate *the devolution component* of the reform. That latter is key to the present process, as the reform is not based on a proactive community forestry scheme but is merely limited to the granting of ‘forest concessions’ to local communities, under administrative supervision (Chi, 1997; Diaw, 1997b). This series of observations highlight the considerable risk of failure entailed by both scientific and bureaucratic assumptions about local tenure institutions. The reinsertion of local populations in new ‘participatory’ schemes of resource management being clearly a *move by default*, its success may ultimately depend on the bypassing of the epistemological trap of reductionism. Such a task requires an epistemological break and a serious attempt at rediscovering the design principles of these resilient institutions. The exposure of those principles, *through field-grounded research and appropriate social methodologies*, is a prerequisite to the ‘structuring of devolution’, if only, because of the financial, environmental and social costs of potential failure.

Design Principles and Institutional Resilience

What do we know about local institutions and to what extent does that matter to sustainable management of forest natural resources? Institutions are sets of rules, norms, customs and conventions, which have the capacity to govern and regulate social interactions in a relatively stable and predictable way (Nugent & Nabli, 1989, North, 1990, Diaw, 1997c). Their functional (*what can they do and to what extent?*), social (*who are the people concerned and to what degree?*) and decisional reach (*on what subjects do they have authority and how much?*) is therefore much wider than that of organizations, which are often only the visible part of their make up. This distinction is essential to capturing the essence of customary tenure institutions in the so-called “acephalous” societies of the Central African rain forest. Often portrayed as weakly hierarchized and loosely organized, these societies are actually built upon strongly

African (Guinea, Ghana, Nigeria, etc.) and Asian (Philippines, Indonesian *adad* system and *damar* ‘agroforests’, etc.), make it a hypothesis, which general applicability cannot be neglected.

encoded patterns of behavior, which are key to the resilience of their institutions. Detecting those patterns and decoding their social and institutional significance is a fundamental challenge for social research.

For want of time and space, this section will be limited²¹ to the clarification of the structural dynamics of rights and appropriation principles which pose the greatest epistemological and local policy challenge to conventional approaches of forest management in a Central African setting. Their relevance to the theory of common pool resources also needs to be underlined, inasmuch as they highlight ‘*substantive*’ *design principles* of ‘embedded’ local institutions as well as the dynamics of embedded common pool regimes. This allows going beyond a static view of ‘common property’ as a homogenous appropriation regime and opens the way to new research and policy question. Paramount among those is the issue of the *substantive* – and not only ‘*procedural*’ – “design principles of long-lasting user-governed institutions” (Ostrom, 1994). This leads, in its turn, to operational differences between the crafting of new institutions (to manage an irrigation project, for instance) and the integration of already embedded institutions (into a devolution framework, for example). An example of such substantive issues is the relative position of blood rights and civil rights in local institutions, taking into account the fact that the embeddedness of the latter into the former is a quasi-universal feature of customary tenure institutions throughout the world. To conclude, the paper will briefly introduce the concept of *integrated landscape management*²² as a logical step toward the reconciliation of sustainable forest management with agricultural growth objectives in this type of system. It will also raise the core negotiation issue implied by the mutual otherness of the social reference systems involved and by the *adaptive*²³ nature of any viable scheme of community-based management.

Forest and Land as Social Representations

In the administrative and professional view, the forest is a space apart, dominated by the economics of timber extraction and, to a lesser extent, that of other natural resources. This view is largely reflected by the compartmentalization of landscape natural resources under different administrative mandates (forestry and hunting, agriculture, fisheries, etc.), and by the specialized focus of research, conservation, and development projects in forest areas. Indigenous views of this space, on the other hand, are not specialized, but *integrative*. The Bulu representation of space, which is shared by a whole range of forest peoples (Bëti, Fang, Fon, Eton, Bënë, Ntumu, Mvae, Mabi, Ngumba, Menye, etc.) in Cameroon and Gabon, considers the forest to be an integral part of agricultural lands (*si-mëfub*), as it does fields, fallow land and swamps. Together with the aquatic space (*mëndim*) and arid or inaccessible areas (*ayët si*), they form the *si*, the Land, in contrast to *si-bëkon*, the invisible world, and *nyëm*, the air or cosmos (Diaw, 1997a).

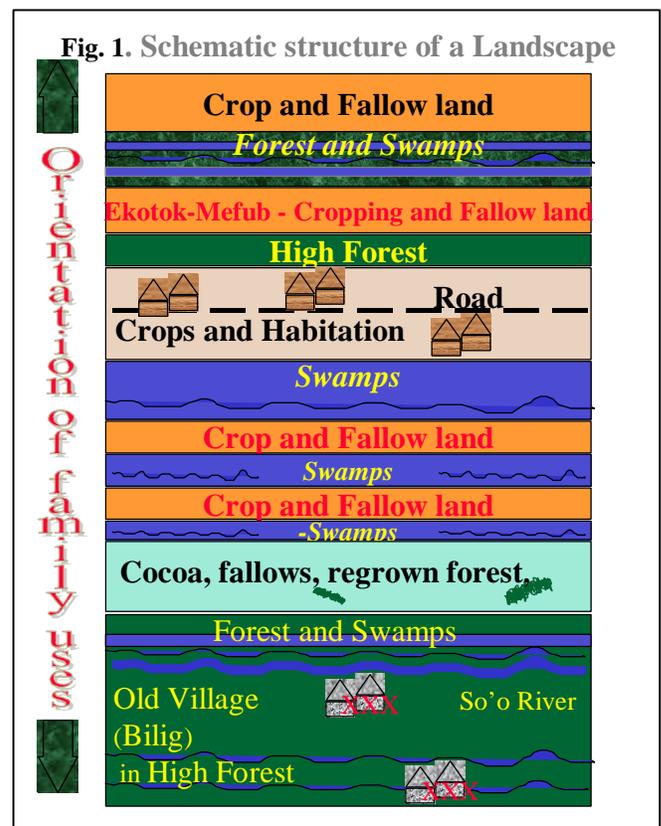
²¹ More detailed discussions of these systems can be found in Diaw (1997a,b & c) and Njomkap (1997).

²² The *Alternative to slash-and-burn consortium* is now moving in that direction. The concept recognizes landscape ‘mosaics’, and the fact that land uses with varying environmental, economic and social benefits can be combined and improved within a sustainability framework.

²³ The Center for international Forestry Research (CIFOR) has recently introduced the notion of ‘*adaptive co-management*’ as a follow up to the conclusions of its project on the Criteria and Indicators of Sustainable Forest Management.

This specific representation of forest as part of agricultural lands logically follows from the principles of land conversion that underlie productive cycles, as we will see. Its incidence on co-management schemes is still difficult to assess, but might be considerable. When we talk about ‘forest management’ does that include the forest-agriculture interface, which is a vital constituent of forest people’s daily interactions with nature? Another example of the semiotic and symbolic differences between worldviews, forced by circumstances to forge a common understanding of reality, is that of fallow lands. To research and agricultural services, uncultivated lands of 15 years and more are still considered ‘long fallow’ fields, whilst in the indigenous concept, these land areas acquire the status of secondary forest (*nfos afan* or *esëng*) as soon as they reach climax vegetation (around 10 years, following climatic conditions). These perceptual differences go largely beyond semantics, because perceived changes in the natural status of land have a direct bearing on land uses and property rights, as we will show later (figures 3 & 4).

To understand further the implications of this issue, one has to envision the basic structure of landscapes in the humid forest (figure 1). The systemic and systematic character of this structure was made clear by a series of participatory mapping exercises carried out in 1997 by IITA, in collaboration with CIFOR (Colfer & al., 1997; Diaw & al., 1998)²⁴. Throughout the region, land uses are structurally organized into lateral strips, which follow the natural contours of the landscape, and longitudinal transects, based on the implicit rights of lineages over the agroforests adjacent to their homestead. Households’ integrated portfolio of food crops and tree-based fields, complemented by an array of activities, such as fish farming, hunting, fishing, and gathering of non-timber tree products, is a direct product of this configuration. This *mosaic of multiple uses and multiple eco-niches* is the foundation of livelihood strategies and is built upon a kin-based system of « *nested rights and nested access regimes*²⁵ ». This latter is subjected to dynamic conversion processes during short and long-term productive cycles.



²⁴ These exercises were part of the testing of twelve social science assessment methods, in the framework of the research led by CIFOR on criteria and indicators of sustainable forest management. They covered a whole gradient of resource use intensification across IITA’s benchmark area, from the Sanaga river in the forest margins of Center Cameroon to the Evergreen Atlantic forest of the Ntem bend, at the border with Gabon. They also covered communities of the Evergreen forest in the area of Kribi, on the Atlantic coast.

²⁵ This was adapted from the notion of “nested enterprises” developed by Ostrom (1994).

Individual, Collective and Intergenerational Rights

The clan is the primary social institutions in the Cameroon-Gabon forest continuum. Based on exogamy and virilocality (which, combined, require women to marry outside of the clan and in their husband's residence), it is segmented into patrikin groups of progressive inclusiveness. These groups, the lineages, are the essential units through which territorial and tenure rights transit. These are founded upon genealogy and the valorization of human labor and are first made of three hierarchically interlinked series of rights, which have a 'constitutional' value in the traditional system:

Genealogical rights. These are constituted by the establishment of a territorial right of first occupation, symbolized by the *ax right* to virgin land and the establishment of a lineage (*mvog*). These rights are transmitted through the genealogical line to the male descendants of the founder. The rights of these first generations are not really lost with their death. The land remains the ultimate property, *in individis*, of generations dead, living and unborn; hence, the principle of "non exo-alienability" of land in African customary tenure systems (Verdier, 1971).

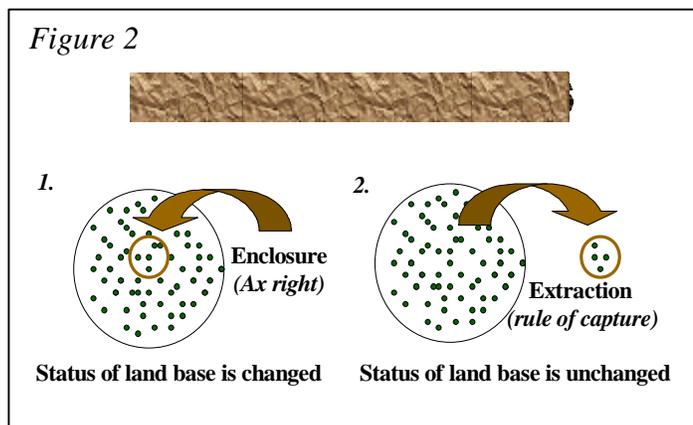
Productive rights. All individual rights to natural resources have a basis in usufruct. The first productive right is the right to live by one's own labor. All members of the community, including strangers to whom asylum has been accorded, are 'constitutionally' entitled to this right. The fundamental appropriation principle in this series of rights is the incorporation of labor into the resource. The enduring physical evidence of labor done on determines the duration and security of individual tenure. This is the second type of *ax right*, *as an individual right of development*.

Succession rights. These are determined by the principle of patrilineal descent, and guarantee the access of men to inheritance through their nuclear lineage. Because of virilocal exogamy, women are generally excluded from these successorial rights, although this principle may be changing (Diaw, 1997a). These three series of rights together guarantee the equilibrium between the universal right "to create" and to live by one's labor, and the imperative of conserving within the group the resource base necessary for its reproduction from one generation to the next.

"Nested Rights", Land Conversion, and Productive Cycles

These three series of rights are expressed in space through four distinct access and property regimes:

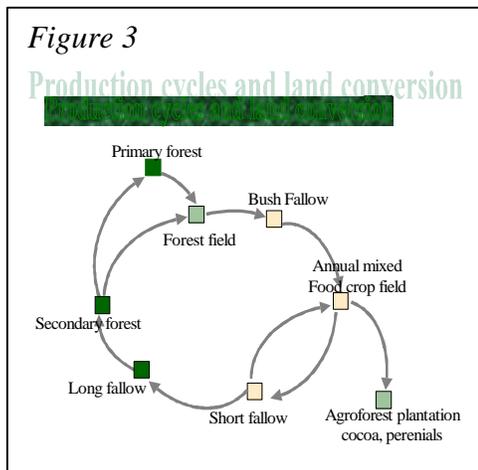
Collective ownership. This property regime applies to all areas under human influence, be they forests, rivers, swamps or farm land. It is the result of the genealogical rights held by the *corporate lineage*, that is, the operational unit that deals with land allocation, access, succession, litigation and other aspect of the tenure system. Several such lineages, endowed with their own exclusive land base, may coexist within the same community and share common pool resources (e.g., primary forest and fisheries) and common governance institutions (e.g., village councils).



Individual control. This is the domain of productive rights when they are associated with an investment in the resource. Crop fields, tree-plantations, fallow lands, swamp farms and women's fishing barrages (*fis*) are all under this access regime. The lineage remains the collective owner of the resource base, but individuals within the framework of their household and nuclear lineage exercise actual exclusive control. In cases of perennial investment in the resource (cocoa or oil palm plantations, fishponds, etc.), this regime may have all the features of permanent ownership, except for the possibility of exo-alienability of the land base.

Common pool access. This definition is more exact than that of 'common property', since it refers, as with the previous one, to an *access regime* based upon collective property. Access is free to all members of a territorially based group (the corporate lineage or the community, as a cluster of lineages) and restricted to outsiders. This access regime is the pivotal element in the dynamics of resource use and tenure conversion. All collectively owned resources are subjected to it, at some stage in their lifetime. There are only two fundamental ways of transforming the initial collective or open status of resources into an individually owned product: enclosure or extraction (figure 2). One unit of resource enclosed or subtracted by one individual from the *common pool* is not available to the next. Agricultural fields, tree farms or fishponds are typically subtracted through enclosure, whilst the appropriation of fish, wildlife and forest wild fruits can be accomplished only through the so-called 'rule of capture'.

Free access. Areas exempt from exclusive control are quite rare in the forest zone. They consist mainly of arid zones, tracks and some rivers. Some forest products, such as *esok*, *Garcinia lucida*, are also subject to open access.



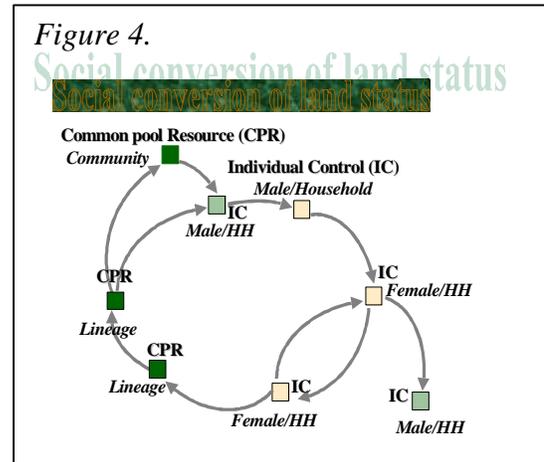
All these regimes interlink to form a prism of nested rights applying to nested eco-niches across the landscape, and overtime. This is because the land base and above ground vegetal and animal resources may be subjected to different tenure statuses and transformation conditions²⁶. Several layers of rights are thus intertwined into different segments of the landscape. Agriculture in the area has also been historically built on long term productive cycles that imply several mutations and transmutations of the natural and social statuses of land (figures 3 & 4). This cycling is neither linear nor

unique, and lead to numerous variants. It has, so far, permitted in most areas the reconstitution of secondary and mature primary forests, after a period of agricultural use.

²⁶ In addition to enclosure and extraction, which are basic differences in transformation conditions, there are a number of operational restrictions applying to specific activities. Projectile-based hunting, for instance, is open to all community members throughout the landscape, but trapping is not authorized around other people's fields. Fishing may be restricted to the portion of river owned by one's lineage and be forbidden by a woman in her enclosed fishing ground. Appropriation of a swamp area suitable for fish farming can be done through the creation of adjacent crop field and not necessarily through direct investment and enclosure. Examples such as these are abundant.

Socialization and Local Institutions

The complexity of the traditional system of allocation, appropriation and conversion would make it practically impossible to manage, were it not based on the socialization of individuals within the values of the clan and linear system. This considerable force of socialization is symbolized by the extent of the taboo on incest that justifies exogamic marriage and that spans over no less than seven to eight generations. The intervention of an external authority to judge the right to open up land for cultivation within an old fallow, to hunt, fish or exploit forest products is therefore rare. Nobody asks, generally, for an authorization to open a forest field in a long forest fallow. It is enough to know how to ‘read’ the many clues scattered across the landscape, such as the presence of the ‘red flower’, *Draceana spp.*, and other indicators of climax vegetation. It is only when the proposed changes are likely to have a lasting effect on common pool resources (establishment of a cocoa plantation in an *elig* - an abandoned village forest site - for example) that the lineage council might be called on to intervene. This latter, led by the elder, *mbi ntum*, is represented, along with other lineages and important ‘notables’, on village councils. In cases of land dispute, inter-village councils, the Territorial Administration and the judicial system do intervene, but always take due account of the decisions of the village council (Diaw, 1997b).



Conclusion: Devolution, Negotiation and Sustainable Development

The structure and dynamic complexity of customary tenure institutions clearly indicate the limits of a devolution initiative that would be restricted only to the forest as such and that would set rigid standards against which the performance of local management would be weighted. Local systems do have their weaknesses and limitations. The most salient among those relate to stock management and technological issues. As mostly non-accumulative systems based on finite stocks of renewable resources, these systems cannot, by themselves, solve the problems of economic growth and resource pressure, which are inherent to the question of sustainability. They are therefore threatened, in the long run, by demographic expansion. It is now known that, with regard to fisheries (FAO, 1995) as well as forests (Sayer, Vanclay & Byron, 1997), viable alternatives to natural production need to be found and developed in order to meet the human consumption needs of the next century.

A solid endogenous basis is, however, a necessary precondition to the development of socially viable and sustainable innovations. The historical and epistemological distortions, which have prevented systems of otherness from anchoring themselves, *in their own ways*, into world accumulation processes need to be transcended. This means that, for once, externally induced change - including devolution initiatives - needs to conform itself to the internal logic of these systems, and particularly to their adaptive and integrative features across time and space. This might not be easy to achieve, since it might imply a move from sectoral specialization to *adaptive forms of integrated landscape management*, which methodologies are yet to be

developed and for which most research, conservation, development or government agencies have not been prepared.

In the case of on-going forestry reforms, a clear consensus already exists on the need for stakeholders' negotiation. It must only be stressed, again, that this involves a *negotiation of meanings*, whereas indigenous conceptions and structuring of the natural and social world would be fully understood *for what they are* and integrated as legitimate components of the negotiating framework itself. This importance of 'social fitness' for induced social change (Cernea, 1994) highlights the responsibility of social sciences with regard to the fitness of their own theories and to the task of transforming social knowledge into tools for action.

BIBLIOGRAPHY

- ABGRALL, J.F., 1982 - La gestion des pêches. Du modèle bio-économique à l'analyse des liens contractuels. Communication au 50^e Congrès de l'Association Canadienne pour l'Avancement des Sciences. UQAM, Montréal.
- ALCHIAN, A. A. & H. DEMSETZ, 1972 - Production, Information Costs and Economic Organization. *American Economic Review* 62:777-795.
- ANDERSEN, R., 1972 - Hunt and Deceive : Information Management in Newfoundland Deep Sea Trawler Fishing. Pp. 120-140 in R. Andersen & C. Wadel (eds.), *North Atlantic fishermen : anthropological essays on modern fishing*. Newfoundland Social and Economic Papers 5, St-John.
- ANDERSON, L.G., 1982 - The Share System in Open-Access and Optimally Regulated Fisheries. *Land Economics* 58,4:435-449.
- ANDERSON, T. L., & P.J. HILL - 1984 - Privatizing the Commons : An Improvement? *Journal of Southern Economic Review* 51:438-450.
- ANYANGWE, C., 1984. Land Tenure and Interests in Land in Cameroonian Indigenous Law. *Cameroon Law Review*, 27:29-41.
- ARNOLD, J.E.M., 1991. Foresterie communautaire. Un examen de dix ans d'activité. FAO, Rome.
- AXELROD, R., 1983 - The Evolution of Cooperation. Basic Books, New York.
- AZABOU, M., L. BOUZAINÉ & J.B. NUGENT, 1989 - Contractual Choice in Tunisian Fishing. Pp 158-177 in Nugent, J.B. & M.K. Nabli (eds), *The New Institutional Economics and Development. Theory and Applications to Tunisia*. North-Holland, Amsterdam, New York, Oxford, Tokyo.
- BAAK, B., 1982 - Testing the Impact of Exclusive Property Rights: The Case of Enclosing Common Fields. Pp. 257-272 in Ransom, R.L., R. Sutch & G.M. Walton (eds.), *Exploration in the New Economic History. Essays in the honor of Douglas North*. Academic Press, New York.
- BARDHAN, P.K. & T.N. SRINIVASAN, 1971 - Crop Sharing Tenancy in Agriculture. A Theoretical and Empirical Analysis. *American Economic Review* 61,1.

- BATAILLE-BENIGUI, M.C., 1989 - La pêche traditionnelle aux îles Tonga, Polynésie centrale. Tenure marine et gestion des ressources. Pp. 103-117, in *La recherche face à la pêche artisanale*, Livre 1, contributions provisoires. ORSTOM-IFREMER, Montpellier.
- BELL, C., 1977 - Alternative Theories of Sharecropping. Some Tests Using Evidence from Northeast India. *Journal of Development Studies*, 13,4:317-346.
- BERKES, F., 1985 - The Common Property Resource Problem and the Creation of Limited Property Rights. *Human Ecology* 13,2:187-208.
- BIGOMBE-LOGO, P., 1996. Contestation de l'État et attestation d'une identité spatiale dans le Cameroun méridional forestier. *Polis – Revue Camerounaise de Science Politique*, Vol. 1, numéro spécial "Hommage à Jean Louis Seurin".
- BOUDE, J.P., M. MORISSET & J.P. RÉVERET, 1987 - Rente et profit en matière d'exploitation des ressources halieutiques. *Cahiers d'économie et de sociologie rurales* 4. Université Laval, Québec.
- BRETON, Y., 1977 - The Influence of Modernization on the Mode of Production in Coastal Fishing : An Example from Venezuela. Pp.125-137 in E. Smith (ed.), *Those who live from the sea*. West Publishing Company, New York.
- BRETON, Y., 1973. A comparative study of Rural Fishing communities in Eastern Venezuela : An Anthropological Explanation of Economic Specialization. Unpublished Ph. D. Dissertation, Michigan State University.
- BRETON, Y., 1987 - The Common Property Theory and the Social Anthropology of Fishing. The Pitfalls of Problem Formulation. SSHRC Occasional Scholarly Conference. Brock University, St. Catherines.
- BRUCE, J.W. & S.E. MIGOT-ADHOLA, 1994 (eds.) – Searching for Land Tenure Security in Africa. Kendall/Hunt Publishing Company, Dubuque.
- MIGOT-ADHOLA, S.E. & J.W. BRUCE, 1994. Introduction. Are Indigenous African Tenure System Insecure? PP. 1-13 in Bruce, J.W & S.E. Migot-Adholla, *Searching for Land Tenure Security in Africa*. Kendall/Hunt Publishing Company, Dubuque.
- PLACE, F., M. ROTH & P. HAZEL, 1994 – Land Tenure Security and Agricultural Performance in Africa: Overview of Research Methodology. Pp. 15-39 in Bruce, J.W & S.E. Migot-Adholla, *Searching for Land Tenure Security in Africa*. Kendall/Hunt Publishing Company, Dubuque.
- BYRES, T.J., 1983 - Historical Perspectives on Sharecropping. *Jn of Peas. Stud.* 10,3:7-41.
- CARNAP, R., 1950 - Empricism, Semantics, and Ontology. *Revue Internationale de Philosophie* 4:20-40.
- CERNEA, M. (Ed.), 1991. Putting People First. Sociological Variables in Rural Development. Second Edition, The World Bank, Oxford University Press.
- CERNEA, M., 1991b. The Social Actors of Participatory Afforestation Strategies. Pp. 340-393 in Cernea, M. (ed.), *Putting People First. Sociological Variables in Rural Development*. Second Edition, The World Bank, Oxford University Press.
- CHABOUD, C., 1989 - Socio-économie des pêches maritimes artisanales en Afrique de l'Ouest : état des connaissances et évolution de la recherche. Contribution à la synthèse des connaissances. Symposium International *La Recherche face à la Pêche Artisanale*, Juillet, Montpellier.
- CHEUNG, S., 1968 - Private Property Rights and Sharecropping. *Journal of Political Economy* 76:1107-1122.
- CHEUNG, S., 1969 - The Theory of Share Tenancy. University of Chicago Press, Chicago.

- CHI, A.M., 1997. Community Forest Management Agreement: An Administrative Contract. *First community Forestry Network Meeting*, Yaounde, 7-8 October.
- COASE, R. H., 1960. The Problem of Social Cost. *Journal of Law and Economics* 3:1-44.
- COASE, R. H., 1984. The New Institutional Economics. *Journal of Institutional and Theoretical Economics* 140:229-231.
- COLFER, C., R. L. WADLEY, E. HARWELL & R. PRABHU, 1997. Inter-generational Access to Resources: Developing Criteria and indicators. Working Paper 18, CIFOR.
- CIRIACY-WANTRUP, S.V. & R.C. BISHOP, 1975 – ‘Common Property’ as a Concept in Natural Resource Policy. *Natural Resources Journal* 15:713-27.
- COPEL, P., 1972 - Factors Rent, Sole Ownership and the Optimum Level of Fisheries Exploitation. *Manchester School of Economics and Social Studies* 40,2:145-163.
- COQUERY-VIDROVITCH, C., 1982. Le régime foncier rural en Afrique Noire. Pp. 65-84 in Lebris, E., E. Le Roy et F. Leimdorfer, *Enjeux Fonciers en Afrique Noire*, Karthala, Paris.
- CORDELL, J.A., 1974 - Luna Tide Fishing Cycle in Northern Brazil. *Ethnology* 13.
- DATTA, S.K. & J.B. NUGENT, 1989 - Transaction Cost Economics and Contractual Choice : Theory and Evidence. Pp 34-79 in Nugent, J.B. & M.K. Nabli (eds), *The New Institutional Economics and Development. Theory and Applications to Tunisia*. North-Holland, Amsterdam, New York, Oxford, Tokyo.
- DAVIS, L.E. & D. C. NORTH, 1971 - Institutional Change and American Economic Growth. Cambridge University Press, New York.
- DEMSETZ, H. 1967 - Toward a Theory of Property Rights. *American Economic Review* 57:347-359.
- DIAW, M.C., 1983 - Social and production relationships in the artisanal maritime fisheries of West Africa: A comparative analysis. M.A. Thesis, Michigan State University, Lansing.
- DIAW, M.C., 1989 - Partage et appropriation : le système de part et la gestion des unités de pêche. *Cahiers Sciences Humaines*, 25:67-87.
- DIAW, M.C., 1994. La portée du partage. Les implications théoriques et épistémologiques du système de parts pour l'étude de l'altérité en économie. Unpublished Ph.D Dissertation, Laval University, Québec.
- DIAW, M.C., 1997a. Si, Nda bot and Ayong: Shifting Cultivation, Land Use and Property Rights in Southern Cameroon. *Rural Development Forestry Network Paper* 21e.
- DIAW, M.C., 1997b. Anthropological Institutions and Forest Management . What Institutional Framework for Community-Based Management in Cameroon. Acts of the workshop on Community-Based Forest Management in Cameroon. WWF, Yaounde.
- DIAW, M.C., 1997c. Institutional Choice and the Decentralization Model: Devolution and the Problem of the Social Unit of Action. *First community Forestry Network Meeting*, Yaounde, 7-8 October. Forthcoming publication, 1998.
- DIAW, M.C., R. OYONO, F. SANGKWA, C. BIDJA, S. EFOUA & J. NGUIBOURI, 1998 – Social Science Methods for Assessing Criteria and Indicators of Sustainable Forest Management. A report of the Tests conducted in Cameroon Humid Forest Benchmark and in the Lobe and Ntem River Basins. Part 1, General Assessment. Manuscript, IITA, Yaounde.
- DIAW, M.C., M.H ASSOUMOU & E. DIKONGUE, 1997. Community Management of Forest Resources. Conceptual Developments and Institutional Change in the Humid Forest Zone of Cameroon. Working Paper. EPHTA, Yaounde.

- DOWNS, R.E & S.P. REYNA (eds), 1988. Land and Society in Contemporary Africa. University Press of New England, Hanover.
- EGBE, S., 1997 – Forest Tenure and Access to Forest Resources in Cameroon. An Overview. Forest Participation Series 6, International Institute for Environment and Development, IIED, London.
- FAO, 1995. Safeguarding Future Fish Supplies : Key Policy Issues and Measures. *International Conference on the Sustainable Contribution of Fisheries to Food Security*, Kyoto, 4-9 December.
- FAY, C., 1989 - La production de pêche dans le Delta Central du Mali: systèmes de perception et d'appropriation des territoires. In «La Recherche face à la pêche artisanale», Contributions provisoires, Livre 3: 1057-1070. ORSTOM-IFREMER, Montpellier.
- FISIY, C., 1990. Peasant Resistance to Land Law Reform. XIV Congress of the European Society for Rural Sociology, July, Giessen.
- FLAATEN, O., 1981 - Resource Allocation and Share-Systems in Fish Harvesting Firms. Resources paper 72, PRNE Resources Discussion Series. The University of British Columbia, Vancouver.
- FORMAN, S., 1967 - The Raft Fishermen. Indiana University Press, Bloomington.
- GOODLAND, R., 1991. Tropical Deforestation. Solutions, Ethics and Religion. Environment Working Paper 43, The World Bank.
- GORDON, H.S., 1953 - An Economic Approach to the Optimum Utilization of Fisheries Resources. *Journal of the Fisheries Research Board of Canada* 10:442-447.
- GORDON, H.S., 1954 – The Economic Theory of a Common Property Resource. *Journal of Political Economy* 80:1031-1039.
- HARDIN, G., 1968 - The Tragedy of the Commons. *Science* 162:1243-1248.
- HOLMSTROM, B., 1979 - Moral Hazard and Observability. *Bell Journal of Economics* 10:74-91.
- KARSENTY, A., 1995. Maîtrises foncières et gestion forestière. Séminaire APREFA-GREEN, *Du foncier à la gestion viable des ressources renouvelables*. Document provisoire, Avril.
- KARSENTY, A., L. Mendouga Mébenga & A. Pénelon, 1997. Spécialisation des espaces ou gestion intégrée des massifs forestiers ? *Bois et Forêts des Tropiques* 251,1:43-54.
- KUNH, T. 1972 - La structure des révolutions scientifiques. Flammarion, Paris.
- LAKATOS, I., 1978 - The Methodology of Scientific Research Programs. Cambridge University Press, Cambridge.
- LOFGRËN, O., 1972 - Resource Management and Family Firms: Swedish West Coast Fishermen. pp.82-103 in R. Andersen & C. Wadel (eds.), *North Atlantic fishermen : anthropological essays on modern fishing*. Newfoundland Social and Economic Papers 5, St John.
- MARSHAK, P., N. GUPPY & J. McMULLAN, 1987 - Uncommon Property. The Fishing and Fish Processing Industries in British Columbia. Methuen, Toronto, New York, London, Sidney, Auckland.
- McCAY, B. & J.M. ACHESON (eds), 1987 - The Question of the Commons : the Culture and Ecology of Communal Resources. Univ. of Arizona Press, Tucson.
- McCAY, B., 1981 - Optimal Foragers or Political Actors? Ecological Analysis of a New Jersey Fishery. *Am. Ethnologist* 31 (1) 356-82.
- MELONE, S., 1972 – La parenté et la terre dans la stratégie du développement. Klinksienck, Yaounde/Paris.

- MORISSET, M. & J.P. REVERET, 1985 - Les quota individuels dans l'agriculture et la pêche : une analyse critique. In agriculture et politiques agricoles : transformations économiques et sociales au Québec et en France. Co-edition L'Harmattan/Boréal Express.
- NEWBERRY, D.M.G. & J.E. STIGLITZ, 1979 - Sharecropping, Risk Sharing and the Importance of Imperfect Information. Pp. 311-339 in J.A. Roumasset, J.M. Boussard & Inderjit Singh (eds) *Uncertainty and Agricultural Development*. Southeast Asian Regional Center for Graduate Study and Research in Agriculture, Laguna, Philippines.
- NEWBERRY, D.M.G., 1974 - Cropsharing Tenancy in Agriculture: Comment. *American Economic Review* 64, 6:1060-1066.
- NGUINGUIRI, J.C., 1997. Les approches contractuelles dans la gestion des écosystèmes forestiers d'Afrique Centrale. Revue des initiatives existantes. Manuscript, CIFOR/CORAF, Pointe Noire.
- NGWASIRI, N.F., 1984. The Impact of the Present Land Tenure Reforms in Cameroon on the Former West Cameroon. *Cameroon Law Review*, 27:73-85
- NJOMKAP, J.C.S., 1997. La notion de communauté dans la problématique de la forêt communautaire au cameroon : Cas des sociétés Bulu, Fang et Beti du Sud Cameroun. *First Community Forestry Network Meeting*, Yaounde, 7-8 October.
- NORTH, D.C. & R. THOMAS, 1973 - The Rise of the Western World. A New Economic History. Cambridge University Press, Cambridge.
- NORTH, D.C., 1977 - Non Market Forms of Economic Organization. The Challenge of Karl Polanyi. *Journal of European Economic History* (Fall).
- NORTH, D.C., 1990 - Institutions, Institutional Change and Economic Performance. Cambridge University Press, Cambridge.
- NUGENT, J. & J.P. PLATTEAU, 1989 - Contractual Relationships and their Rationale in Marine Fishing. Miméo, University of Southern California/Faculté Notre-Dame-de-la-Paix, Namur.
- NUGENT, J.B. & M.K. NABLI (eds), 1989 - The New Institutional Economics and Development. Theory and Applications to Tunisia. North-Holland, Amsterdam, New York, Oxford, Tokyo.
- OLSON, M., 1965 - The Logic of Collective Action. Harvard University Press, Cambridge.
- OSTROM, E., 1994. Institutional Analysis, Design Principles and Threats to Sustainable Community Governance and Management of Commons. Pp. 34-50 in R.S. Pomeroy (ed.), *Community Management and Common Property of Coastal Fisheries in Asia and the Pacific: Concepts, Methods and Experiences*. ICLARM, Manila.
- OYONO, R. & M.C. DIAW, 1997. À l'interface des ONG et des organisations paysannes au Sud Cameroun Trajets, connexions et ruptures dans l'évolution des schémas institutionnels pour l'action collective et le développement. Submitted, *Africa and Development*, CODESRIA, Dakar.
- PATNAIK, U., 1983 - Classical Theory of Rent and its Application to India : Some Preliminary Propositions with some Thoughts on Sharecropping. *Jn. of Peasant. Studies* 10,2-3:71-87.
- PEARCE, R., 1983 - Sharecropping, Towards a Marxist View. *Jn of Peasant. Studies* 10,2-3:42-69.
- PLATTEAU, J.P., 1988. Traditional Systems of Social Security and Hunger Insurance :Some Lessons from the Evidence Pertaining to Third World Village Societies. The

- Development Economics Research Programme, Suntory-Toyota International Centre for Economics and Related Disciplines. London School of Economics, London.
- PLATTEAU, J.P., 1989 - La contribution de la nouvelle économie institutionnelle pour l'analyse des relations contractuelles et des formes organisationnelles dans le secteur de la pêche maritime. In «La Recherche face à la pêche artisanale», Contributions Provisoires, Livre 2 : 749-764. Orstom-Ifremer, Montpellier.
- PLATTEAU, J.P., 1992. Small-Scale Fisheries and the Evolutionist Theory of Institutional Development. Pp 91-114 in Tvedten, I. and B. Hersoug, *Fishing for development. Small-scale fisheries in Africa*. The Scandinavian Institute of African Studies, Uppsala.
- POFFENBERGER, M., 1996. Communities and Forest Management. A report of the IUCN working Group on community Involvement in Forest Management. IUCN-The World Conservation Union, Cambridge.
- POLANIYI, K., 1957 - The Economy as an Instituted Process. In K. Polaniyi, C.M. Arensberg & H.W. Pearson (eds) *Trade and Markets in the Early Empires*. The Free Press, Glencoe.
- POMEROY, R.S. (ed.), 1994. Community Management and Common Property of Coastal Fisheries in Asia and the Pacific: Concepts, Methods and Experiences. ICLARM, Manila.
- ROBERTSON, A.F., 1980 - On Sharecropping. *Man* 15,3:411-29.
- ROBERTSON, A.F., 1987 - The dynamics of Productive Relationships. African Share Contracts in Historical Perspective. Cambridge Un. Press, Cambridge, London.
- SAYER, J.A., J.K. VANCLAY & N. BYRON, 1997 – Technologies for Sustainable Forest Management: Challenges for the 21st Century. Occasional Paper 12, CIFOR.
- SIMON, H.A., 1962 - The Architecture of Complexity. *Proceedings of the American Philosophical Society* 106:467-482.
- SIMON, H.A., 1969 - The Sciences of the Artificial. MIT Press, Cambridge.
- SRIVASTAVA, R., 1989 - Tenancy Contracts during Transition : A Study Based on Fieldwork in Uttar Pradesh (India). *Journal. of Peasant Studies* 16,3:339-95.
- STIGLITZ, J.E., 1974 - Incentives and Risk Sharing in Sharecropping. *Review of Economic Studies* 41,126.
- SUTINEN, J., 1979 - Fishermen Remuneration Systems and implications for fisheries development. *Scottish Journal of political economy* 26, 2:147-162.
- SUTINEN, J., 1983 - Agricultural Share Contracts and Risk. Proceeding of a Workshop on Agricultural Rent. USDA, Washington.
- TJOUEN, A.D., 1982. Droits domaniaux et techniques foncières en droit Camerounais (Étude d'une réforme législative). Economica, Paris.
- TURVEY, R. & J. WISEMAN (eds.), 1956 - Proceeding of a Round Table organized by the International Economic Association, FAO, Rome, September.
- TURVEY, R., 1964 - The Economics of Fisheries. Optimization and Suboptimization in Fishery Regulation. *American Economic Review* 54:64-76.
- VERDIER, R., 1971 – Evolution et réformes foncières de l'Afrique noire francophone. *Journal of African Law* 15,1:85-101.
- VERMEULEN, C., 1997. Foresterie communautaire au Cameroun et typologie du milieu chez les peuples forestiers: Des représentations contradictoires ? Document de travail, first Community Forestry Network Meeting, Yaounde, 7-8 October.
- WEBER, J., 1995. Gestion des ressources renouvelables : Fondements théoriques d'un programme de recherche. CIRAD-GREEN, Paris.

- WILLIAMSON, O.E., 1974 - The Economics of Antitrust: Transaction Cost Considerations.
University of Pennsylvania Law Review 122:1439-1496.
- WILLIAMSON, O.E., 1975 - Markets and Hierarchies: Analysis and Antitrust Implications. Free Press, New York.
- WILLIAMSON, O.E., 1985 - The Economic Institutions of Capitalism. Free Press, New York.
- ZOETEWEIJ, H., 1956 - Fishermen's Remuneration. Pp 18-41 in R Turvey & J Wiseman (eds),
The Economics of Fisheries. Proceeding of a Round Table organized by the International Economic Association, FAO, Rome, September.