

The Dugout Canoe Trade in Central America's Mosquitia: Approaching Rural Livelihoods Through Systems of Exchange

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For over 300 years, dugout canoes have been traded within and between ethnic groups in the Mosquitia region of Honduras and Nicaragua. Drawing on ethnographic and archival research, I describe the development and contemporary dynamics of the canoe trade in order to operationalize, in one particular landscape, recent calls by geographers and anthropologists for greater ethnographic engagement with rural livelihoods. For example, historical analysis of the Mosquitia's canoe trade reveals several unexpected insights into the relationship between remote rural peoples and international capital, including the interaction and co-constitution of local and international trade circuits through time, how rural producers could manipulate canoe production to take advantage of boom-time trade circuits, and how canoe trading took on added importance during recessionary periods. Analysis of contemporary canoe production among Honduras's Tawahka Sumu points, in turn, to the economic viability of canoe trading, especially in contrast to cash crop production. Individual producers, however, face a variety of constraints on their ability to benefit from the canoe commodity chain, with young, undercapitalized households facing the largest barriers to canoe production and sale. Reliance on canoe sales can speak to a household's undercapitalization or to its ability to invest in new opportunities, especially in the form of education for their children. Ultimately, the canoe case study demonstrates how attention to the trade in everyday materialities in remote rural regions can help to envision and operationalize a new form of rural development, in which endogenous projects and capabilities are foregrounded. *Key Words:* exchange networks, rural development, livelihoods, canoes, Mosquitia, Tawahka, Honduras, Nicaragua.

Recently, Bebbington (1999, 2000) and Arce and Long (2000a, 2000b) have issued comparable calls for new conceptualizations of international rural development. They point out that current thought and praxis in this field continues to be dominated by normative assumptions about rural life, to prioritize outsiders' stewardship of the development process, and to unproductively polarize neoliberal and poststructural interpretations of rural peoples' engagement with globalized markets. Especially in remote or marginal rural landscapes, they argue that the result has been the failure of development projects that are rarely grounded in the lived experience of the rural poor, or, as Bebbington puts it, in any close understanding of the "way people get by and get things done" (1999, 2021; see also Dilley 1992; Wunder 2001).

In response to these failures, Bebbington, Arce, and Long advocate an alternative, more actor-oriented conceptualization of development, with emphasis on rural livelihoods—those "everyday practicalities and diverse modes of making and defending a living" (N. Long 2000, 186). Further, their view of livelihoods is more inclusive than that typically articulated by development

scholars (e.g., Ellis 2000), because they explicitly argue for recognition of the cultural, historical, and spatial dynamics of rural livelihoods—in addition to the more obvious economic dynamics—which render "making a living" inseparable from "making living meaningful" (Bebbington 2000, 498). This inclusive view of livelihoods, they argue, is necessary for envisioning development as an endogenous, multidirectional process in which multiple "modernities" are created through the localized blending of local and external influences, rather than as a unidirectional process toward a single Western modernity. To achieve this reconceptualization of rural development, all three scholars are united in calling for "more ethnographically informed research inputs" (Arce and Long 2000a, 2; see also Bebbington 2000, 496), which should allow researchers to access "development as lived, rather than invoked" (Bebbington 2000, 501).

New visions of development are long overdue in Central America's Mosquitia region. As in other remote, thinly populated rural areas rich in natural resources—so-called resource peripheries—outsiders' development prescriptions are often based on essentialized views about the relationship between residents and markets,

relying on such binary calibrations of rural livelihoods as either “autarkic” or “market-integrated”; “vulnerable” or “resilient.”¹ This article is an attempt to advance the understanding of rural livelihoods in the Mosquitia beyond these dichotomies, toward the sort of multi-sited, historically grounded, and actor-oriented vision advocated by Bebbington and others.

Specifically, I reconstruct the dynamics of the regional trade in dugout canoes, from the early 1600s to the present. I show how scrutiny of the system by which residents acquire a good of everyday importance—even one as congenitally local and apparently primitive as the dugout canoe—can shed an unexpectedly bright light on the nature of livelihoods in the Mosquitia, particularly in terms of how they have been shaped through time by negotiation with outside markets. More broadly, I also outline how attention to rural trade networks in other rural peripheries can offer researchers and practitioners a parsimonious means to simultaneously engage rural peoples' everyday economic imperatives while giving due weight to the multiscaled and multi-sited social and political processes through which rural livelihoods are constituted.

My emphasis on using trade networks to access the dynamics of rural livelihoods owes much to Martin Lewis's 1989 article in the *Annals* (Lewis 1989). In an examination of evolving trade patterns between ethnic groups in Luzon, Phillipines, Martin showed how historical scrutiny of seemingly vestigial trade networks could in fact reveal their enduring relevance in contemporary cultural life and could foreground the potential for remote peoples to negotiate and resist asymmetrical relationships with foreign economic systems. In analyzing the Mosquitia's canoe trade, I borrow from Lewis in my attention to the diachronic production of trade relations in the canoe exchange circuit, and in my emphasis on the potential for interethnic trade relations to be shaped by international capital *and* reproduced in its absence. I also extend Lewis's insights into recent scholarship on commodities, including Appadurai's concept of the “social life of things,” whereby attention to the “biography” of a single commodity holds the *object* of analysis constant while exposing the social and political systems through which it circulates (Appadurai 1986). I also lean on Ribot's (1998; see also Ribot and Peluso 2003) theory of access in commodity chain analysis in order to engage explicitly the relations that enable or constrain rural peoples' ability to benefit from the canoe trade.

In the next section, I introduce the Mosquitia, and briefly review 40 years of often pioneering research conducted there by geographers and anthropologists.

Collectively, their work has not only helped to shed light on the specificities of the region, but has also reflected as much as challenged dominant understandings of how rural peoples' lives are shaped by their interactions with the wider world. The sometimes disparate insights of this scholarship inform, and are to some degree reconciled, in a two-part reconstruction of the dugout canoe trade, based on archival research and fieldwork conducted since 1994. First, I reconstruct the trade's historic development in the Mosquitia and then its modern expression in Honduras's Patuca River basin. I later summarize the key insights of the case study, particularly in terms of addressing some of the stubborn conceptual binaries that continue to guide rural economic development. I then elaborate on the main attributes of trade network analyses for the study of rural livelihoods. The article concludes with a brief examination of the case study's relevance to rural development theory and practice.

Central America's Mosquitia

Central America's Mosquitia region stretches along the Caribbean littoral from eastern Honduras to the Río San Juan in Nicaragua, and is comprised in large part by the Honduran department of Gracias a Dios and the Nicaraguan coast's Northern and Southern autonomous territories (RAAN and RAAS). The region is better defined, however, by its predominantly indigenous character, encompassing the homelands of Miskito, Pech, Rama, Garifuna, and Sumu (also known as Mayangna) subgroups.² Within their respective countries, these groups have been among the most economically and politically marginalized; where data exist, it is clear that their territories often represent areas of particularly acute poverty (see Hale 1994; Anaya and Crider 1996; Cultural Survival 2001; Gonzalez 2001; IWGIA 2003). An array of national and international nongovernmental organizations are, therefore, active in the region, especially in the areas of education, health, and agricultural extension. International conservation attention, in addition, has focused especially on the biodiversity of the Mosquitia's terrestrial and marine ecosystems, including seagrass pastures, pine savannas, and rainforests, which together form the largest expanse of contiguous wildlands in Central America (Herlihy 1997; Nietschmann 1997). The region now represents a keystone in the international Mesoamerican Biological Corridor (Kaiser 2001; Miller, Chang, and Johnson 2001).

Although the Mosquitia's cultural and biological diversity evokes long isolation, the region's history, in fact, bespeaks a place profoundly shaped by its interaction

with the wider world, especially through residents' involvement in the commercial mobilization of the region's resources. This history is exemplified by the 17th-century ethnogenesis of the proto-Miskito Tawira and Sambo³ groups, who emerged through the intermixing of native coastal dwellers, escaped African slaves, and Northern European pirates (see Offen 1999, 2002). The Miskito's subsequent hegemony in the region was even institutionalized when the British crowned a Miskito King in 1687 as a means to consolidate their geopolitical and economic toehold in the isthmus. In the more than 300 years since, the Mosquitia's natives have been directly, if sporadically, tied to international markets as producers and extractors of their homeland's most attractive resources, from sea turtle, bananas, mahogany, and tree latexes to gold, lobsters, cacao, and pine. Further, foreign economic interests in the region—from the 19th-century Anglo-Spanish scramble for a transisthmian trade route to the 20th-century defense of U.S. business—have been inseparable from the international political struggles in which the Mosquitia's peoples have been bound up, including the *contra*-Sandinista war of the 1980s (Hale 1994).

The degree to which the Mosquitia's inhabitants have been intimately—if cyclically—connected to global capitalism is well documented. How this economic engagement has been interpreted by scholars deserves review for how their work has both mirrored and challenged debates within the social sciences about the role of economic integration in rural livelihoods. For example, in a 1971 monograph, the anthropologist Mary Helms challenged then-standard notions that extralocal investment in remote peripheries was necessarily culturally assimilative and economically asymmetrical. Instead, she suggested that the Miskito's ethnic resilience was a dynamic product of the cyclical, “boom-bust” nature of extralocal investment in the region.⁴ She argued that bust periods allowed local peoples to return to traditional subsistence pursuits that renewed their cultural core until they were again able to seek out “symmetrical” economic relationships in the next foreign-financed boom (1971, 7; see also Helms 1978). Later, Barney Nietschmann's pioneering cultural-ecological work among the Nicaraguan Miskito was more critical: he envisioned boom-and-bust cycles as successive episodes of resource extraction that increasingly unbalanced and undermined local subsistence and ecological systems, impoverishing the region's inhabitants while tying them evermore to dependence on foreign capital (Nietschmann 1973). Although he later tempered his opinion of the Miskito's vulnerability to exogenous economic cycles (Nietschmann 1979, 256), Nietsch-

mann's integration of fine-grained cultural ecology and world-systems insights stands as a model of trans-spatial analysis of the effects of international markets on seemingly isolated societies (Butzer 1989).

In the 30 years since, scholarly attention to the Mosquitia's development has turned to residents' struggle for land and resource rights in the national context. For example, researchers have engaged Marxian development analysis to debate the degree to which resource security—in the form of continued access to land and sea resources—shaped Miskito resistance to the Sandinista government's integrationist agenda (see Macdonald 1988; Hale 1994). In a refutation of Macdonald's interpretation of the Miskito's political resistance as something nurtured in the absence of outside control, Hale argued instead for the existence of a type of political syncretism, in which Miskito resistance strategies assimilated hegemonic ideas, or “incorporated certain premises of the . . . dominant order they oppose” (1994, 202).

In the 1990s, research in the Mosquitia was increasingly shaped by global concern over biodiversity preservation. Much work focused on the potential for combining indigenous territorial claims with conservation agendas, especially in the urgent context of accelerated colonist expansion into the region, and in the face of intensified exogenous development pressure from commercial fishing, forestry, mining, and energy interests (e.g., Anaya and Crider 1996; Nietschmann 1997; Ahuas-Declaration 1998). In many cases, the line between researcher and activist blurred as researchers played a nontrivial role in effecting the delimitation of indigenous territories and campaigning for their defense.

Today, several ongoing mapping, zoning, and management projects in the Mosquitia use cutting-edge participatory methods to delimit and manage native territories, and combine concerns over cultural integrity, sustainable resource use, and economic development (see Herlihy 1997, 1999; Dana 1998; Offen 2003; Stocks 2003). Other studies sited in the Mosquitia in the 1990s have been similarly interested in resource use, but have used econometrics to establish how householders' use of forest resources changes with increasing integration into markets (Godoy et al. 1998; Godoy et al. 2000).

These studies have made Mosquitia-based scholarship prominent in research at the rural development-resource use nexus. At the same time, it is unclear how the different insights of this corpus can be brought together into a continuous, multiscaled, multi-sited vision of livelihoods in the region. For example, the construction of the Mosquitia's economic character as either boom or bust, while usefully illuminating the historic

foundations of modern resource struggles, can obstruct understanding of the continuous changes that local peoples experience whether external stimuli are present or not. Indeed, the boom/bust dialectic can suggest that without foreign markets for its goods, the Mosquitia has no commercial character at all. Thus the same Patuca River Tawahka Sumu villages where sewing machines were bought with mahogany-cutting wages in the 1910s (Landro 1935), and from which locals were flown by helicopter to tap *chicle* latex for the Wrigley's Co. in the 1970s (Calix and Cruz 1977), can be described, in the 1990s, as "autarkic" (Godoy 2001, 109). If these insights could be integrated diachronically, then analysis of local people's economic decisions could be enriched by historic contextualization. Similarly, while efforts to map indigenous territories perform essential political work, they could become even more powerful if they could simultaneously engage the multi-sited flows of people and resources beyond the immediate sites of intervention, and so incorporate the strategies that can be central to rural peoples' ability to maintain and defend livelihoods in place.

The challenge, then, is to incorporate the different perspectives on the Mosquitia—as on rural places more generally—in a way that does credit to the strengths of these different entry points into rural livelihoods while simultaneously engaging others. Such an approach could, for example, bring the relevance of locals' past negotiation of economic change into the present, recognize the multiscale and multi-sited nature of livelihoods, and above all, shift development focus from generic "capacity building" to one that can recognize, and so build *on*, specific local capabilities. In the following sections, I demonstrate the degree to which a trade-network approach can go far to achieve these objectives, through the reconstruction of the regional trade in a vital commodity, the dugout canoe.

The Dugout Canoe Trade

In the contemporary Mosquitia, most native households own a dugout canoe, whose role is analogous to that of the North American family car. Dugouts are currently made from at least fourteen different hardwood species, and come in two styles. Narrow, flat-bottomed canoes (Miskitu: *duri*; Spanish: *pipante*) are used in river environments and vary in size from two-foot wide family canoes to five-foot wide freight canoes that can hold up to 1,200 kg, or over twenty passengers (Figures 1 and 2). Steady demand for rugged, all-purpose river canoes is maintained due to the lack of terrestrial infrastructure, the prohibitive cost of alternative boat-building materi-



Figure 1. Tawahka men refining a freight river dugout at Krausirpi, Río Patuca, Honduras, 1996. The canoe is made from tropical cedar (*Cedrela odorata*), and is 44 feet (13.4 m) long with a beam of almost 4 feet (1.2 m).

Source: Photograph by the author.

als, and because even the highest-quality wooden canoes tend to wear out after about two years of continuous use (McSweeney 2000).



Figure 2. A Tawahka man and his son poling their family canoe up the Río Wampú, Honduras, 1998.

Source: Photograph by the author.

The second dugout form is the keeled sea canoe, or “dory” (Miskito: *duri*; Spanish: *cayuco*). Recent economic changes along the Honduran and Nicaraguan coasts have differentially influenced demand for these boats. Since the 1980s, for example, demand for large cayucos has declined as fishermen adopt the planked “catboat,” a style that was introduced in the 1970s by Caymanian immigrants (Smith 1985). Growing numbers of coastal households are also able to purchase fiberglass or metal boats, often with proceeds from their serendipitous high seas interception of U.S.-bound cocaine. The trend away from traditional dugouts has been somewhat offset, however, by increasing demand for small dugouts among divers supplying the U.S. rock lobster market (field observation).

In the following section, I describe how both river and sea canoes have been traded throughout the Mosquitia for four centuries—since first coastal contact with Europeans in the 17th century until the late 1990s. To reconstruct the first three centuries of the trade’s development, I draw from an array of primary sources, including 17th-century buccaneers’ accounts, as well as travelers’ and merchants’ narratives from the 18th and 19th centuries. For the 20th century, I combine missionary reports with the testimonies of canoe producers that I recorded during fieldwork in the Mosquitia between 1994 and 2002; the latter are denoted throughout the text by the informants’ initials. Places referred to in the text are included in Figure 3.

Historic Development: 1630s–1990s

From first sustained contact with English Puritan settlers in the 1630s (Offen 2002), the use and exchange of canoes has mediated economic relationships between the Mosquitia’s natives and the outside world. For example, the early alliance of Northern European buccaneers and proto-Miskito groups—by which the latter obtained firearms, monopolized coastal trade, and came to dominate and enslave interior tribes—can be traced to the early usefulness of their canoes and canoe-related skills. As a French pirate noted of the natives at Gracias a Dios about 1687, “Being very dextrous at their javelins [thrown from sea canoes], they are useful to the pirates in victualling their ships . . . for one of these Indians is alone able to victual a vessel of 100 men” (de Lussan 1771[1689], 214).

For this reason, many of the pirate ships that plied the Caribbean—and some that ventured as far as the south Pacific—kept on board a couple of Miskito “strickers” (see Galvin 1999; Severin 2002). The Miskito’s canoes and navigational skills also helped northern European pirates

to attack clumsy Spanish ships and incipient Spanish settlements all along the Central American coast. The Miskito also relied on canoes in their own slaving raids between Belize and Darien (Dampier 1927[1683]; Feldman 2000, 217–20; Dozier 1985). Canoes were also essential to the Miskito’s acquisition of maritime resources, especially hawksbill turtle shell from Costa Rica and green turtle meat from the Miskito Cayes, which they traded (as they did slaves) with Europeans in exchange for foreign goods (Uring 1928[1726], 154; Olien 1988, 43). Symbolizing the centrality of the canoe to the Miskito’s cosmopolitan identity were the massive, ornate boats of the Miskito king, which were used to escort foreign dignitaries along the coast (Young 1842, 25; Bell 1899, 273).

Given the canoe’s role in Miskito economy and geopolitics, it is noteworthy that there is no mention in the historical record of Miskito constructing their own dugouts.⁵ Instead, the Miskito appear to have obtained all their canoes, until at least the early 1900s, from neighboring ethnic groups, including various Sumu (Mayangna) groups, the Rama, and perhaps the Pech. These inland-dwelling groups were reported to “make *all* the hollowed-out cedar canoes that are used *everywhere* in the rivers and lagoons on this coast” (Harrison 1990[1895–96], 414, emphasis added; see also Young 1842; Zuñiga 1938[1879]).

The association of particular ethnic groups with specific products—effectively, ethnic production specialization—is common, if not characteristic, of neotropical societies, and presumably a pre-Columbian trait (see, for example, Hugh-Jones 1992; Heinen and García-Castro 2000). In the Mosquitia, the most important reason for this particular ethnic division of labor was the early correspondence of ethnic homelands and biogeographic zones. Following the violent 17th-century ascent of coastal Miskito groups, neighboring cultures were assimilated, enslaved, or fled upriver, typically settling above rapids where they were relatively safe from Miskito attack (Uring 1928[1726], 156–57). Their upland settlements also coincided with the fairly sharp biogeographic transition from coastal pine savanna to rain forest (Parsons 1955; Offen 1998).⁶ As early 19th-century observers noted, non-Miskito groups therefore enjoyed easier access to the highest-quality hardwoods used in canoe construction, including mahogany (*Swietenia macrophylla*) and tropical cedar (*Cedrela* spp.) (Roberts 1827; Bell 1862, 1899).

By the 17th century, it appears that this ethnic settlement pattern had rendered the Miskito reliant on inland groups to provide them with an essential element of their material culture, even while they were

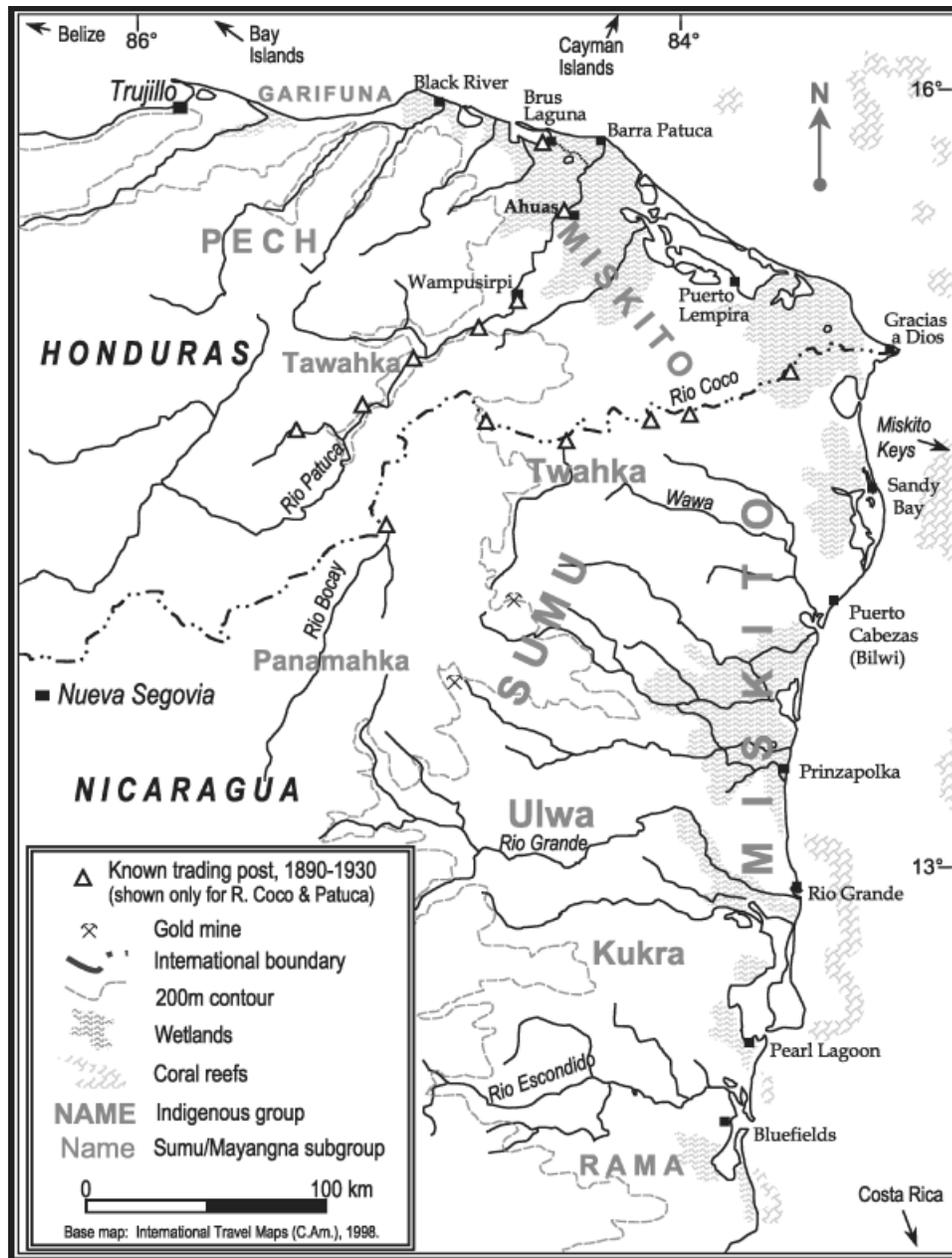


Figure 3. The Mosquitia region, showing the location of ethnic groups ca. 1800. Adapted from Offen (1999, 2004).

continuing to enslave these same suppliers (see Olien 1988). For their part, the interior Sumu were losing contact with the inland Spanish trade and so found themselves ever more reliant on the Miskito for access to foreign goods traded at the coast (see Helms 1978)—especially iron tools (adzes, axes), which by the late 1600s had almost entirely replaced the use of shells in canoe manufacture (Dampier 1927[1683], 32; see also Strangeways 1822). How this socioeconomic tension played out over the next 300 years, and how it articulated with extralocal political and economic processes, is

reflected in the evolution of the canoe trade. Five principal stages in the trade's development are outlined below, each differing in its timing and intensity over different parts of the Mosquitia.

Seventeenth and Eighteenth Centuries: Canoes as Plunder and Tribute

During the height of the Caribbean market for Amerindian slaves—about the late 1600s to the mid-1700s

(Olien 1988; Offen 2002)—intertribal economic exchange in the Mosquitia appears to have been antagonistic at best. Far from unusual, the violence of the interethnic exchange context appears common to the early Contact era of New World groups, in which the differential acquisition of European firearms played a crucial part (see Ray 1974; Overing 1992; Ogborn 2000). In 1699, the English freebooter “M.W.” witnessed an exchange between Sumu and Miskito on the Río Coco in which he reported that “they civilly intreat [sic] one another. . . . But when their fair or mart is over, they hold it allowable to rob and murder each other as much as they can, which they do by surprise” (1732, 290). While the Miskito sold both people and plunder to Dutch, English, and Jamaican traders (W. 1732, E. Long 1774; Dampier 1927[1683]), it is noteworthy that they were also known to capture Sumu slaves specifically “for the purpose of making . . . doreys and pitpans” (Young 1842, 87).

The Miskito also acquired canoes and other tribute from inland natives by invoking the institution of the Miskito King; tribute payments were enforced using a system of chieftaincies that stretched from modern-day Honduras to Panama. Canoes are reported in tribute lists from Chiriqui Lagoon (Costa Rica), Prinzapolka, Wawa, and Bluefields in Nicaragua (Roberts 1827; Bell 1862, 1899). Although the tribute system could be well organized, particularly near seats of political power (see Offen 2002), it was also widely abused; as historical accounts make clear, almost any Miskito could use tribute collection as a thin pretext for coercing forest resources from Sumu, Rama, and Pech peoples (Roberts 1827; Bell 1862, 250–51; Fleury et al. 1938[1905]). Not only did the Miskito intimidate inland groups into particular forms of production, it appears that they also levied duties on any goods traded through their territory, therefore enforcing their role as middlemen by preventing the Sumu from trading directly with foreigners at the coast (E. Long 1774, 323).

Early Nineteenth Century: Mercantilism and Canoe Barter

The anthropologist Michael Olien (1988, 50–51) has shown how the Miskito’s economic relationships with their inland neighbors changed slowly from slaving and plundering to more persuasive entrepreneurship between the late 18th and the mid-19th centuries. He shows that more favorable interethnic trading relations appear to have been encouraged by British settlers, who were eager to resume trade after their formal return to the coast in 1837 (see also Dozier 1985). Certainly, Britain’s commercial investments in the Mosquitia had long been

predicated on the continuous flow of primary goods from “a well-regulated and extensive inland trade, carried on by the aid and under the guardianship of the Mosquitos and their allies” (E. Long 1774, 317; see also Speer 1844[1765]). The British may have been especially eager for congenial canoe-trading relationships if—as elsewhere in the Latin American lowlands—colonial administrators recognized that the effective extraction of products from the region relied as much on a steady supply of freight canoes as of extractive product itself.⁷

In fact, the historical record suggests that the Miskito’s more favorable treatment of canoe producers may have arisen specifically, if not solely, from the need to entice a continuous flow of dugouts from Sumu producers in order to supply a growing coastal canoe industry:

The chiefs here [at Prinzapolka], have found it in their interest to encourage and protect, rather than oppress, the [Sumu] of the interior; and, *in consequence*, they carry on a small trade in canoes, dories, and pittpans, which these tribes bring down the river roughly formed or blocked out, and they are afterwards neatly finished, and decorated for sale. (Roberts 1827, 119–20, emphasis added)

The demand for canoes was probably further stimulated by the Miskito’s well-documented population growth during the early 19th century (see Nietschmann 1973; Helms 1983; Offen 1999). A growing population required more canoes—for trade, subsistence activities, and travel—than could be satisfied by taxation and intimidation alone.⁸ Coastal canoe scarcity is suggested by evidence of Miskito towns competing for the Sumu’s rough canoes (Roberts 1827, 120–1), and by the fact that Miskito middlemen began to negotiate complex commission arrangements with Sumu canoe suppliers in the early 1800s. For example, the English trader Orlando Roberts describes Miskito middlemen at Prinzapolka advancing tools to a group of Ulwa canoe makers, which were worth 25 percent the predetermined value of “a vessel of the largest dimensions” (1827, 119). In exchange for their boats, inland canoe producers received coastal resources and foreign goods—particularly iron tools—from the Miskito. For example, the Bawihka [Twahka] Sumu were said to “go to the coast about once a year to pay their tribute to the King, *and* sell canoes . . . for hardware, cloth, beads, salt, etc.” (Bell 1899, 129, emphasis added; see also Roberts 1827, 119).

Mid to Late Nineteenth Century: Changing Factors of Production

By the latter part of the 19th century, barter, contractual agreements, and trade enticements had come

to dominate canoe exchanges in the Mosquitia (see, for example, Wickham 1894; Bell 1899; Martin 1990[1894]). The historical record provides clues to suggest that this emerging commercialization responded to changing relations of labor, supply, and demand in the canoe trade. The primary catalyst for these changes was the signing of the Treaty of Managua in 1860, after which the British were last expelled from the region. In consequence, the Nicaraguan Miskito faced reduced trading opportunities, as well as territorial circumscription in their restricted "Mosquito Reservation" (see Dozier 1985). Equally important was the influence of the Moravian Church, which from its arrival in 1849 promoted sedentism for the rapidly growing Miskito population. Thus, the Miskito found themselves in control of a finite territory requiring the long-term development of its economic infrastructure (see Helms 1978).

Even as the Miskito were forced to look inward for resources, the populations of their principal canoe suppliers (most notably the Sumu) were in steep demographic decline after multiple epidemics and years of maltreatment and enslavement (Bell 1862; Wickham 1894). In addition, the mahogany and tropical cedar that they required to produce canoes were becoming increasingly inaccessible throughout pericoastal forests, especially where canoe producers competed with lumbermen (see Bell 1899, 126; von Oertzen, Rossbach, and Wunderrich 1990, 119–20). The hardwood scarcity was the result of over a century of selective logging in the region, which had accelerated after the return of Belizean lumber entrepreneurs to the Mosquito Coast in the 1820s; by the 1850s, logging operations had extended up the main rivers deep into Sumu territory (see Bell 1862; Naylor 1967; Tucker 1992). Logging further intensified after the Treaty of Managua, as the Miskito granted generous concessions to various foreign timber operations and in other ways welcomed development of the industry (Hodgson 1822; Sorsby 1972; Coates 1990[1849]; Offen 2004).

Facing both a labor shortage and supply-side scarcity, the dynamics of the canoe trade changed. For their part, the Miskito continued to improve the terms of trade by easing up on the depredations that originally alienated the Sumu, and by making the trading context friendlier. For example, a German missionary described the wary but amicable exchange of a canoe for a cow between a Sumu and a Miskito on the Río Coco in 1890 (Martin 1990[1894], 162). Not only does the missionary's account suggest a commercial climate characterized by growing trust, but also points to how Sumu producers could use canoe exchange not only to perpetuate canoe production (i.e., to acquire metal wood-working tools),

or to maintain household reproduction (to acquire goods such as fishhooks and cooking pots), but also to diversify their production activities through investments in other sectors (e.g., cattle raising).

"Boom" Times: Canoe Exchange Co-opts the Debt-Merchandise System

By the late 1800s, then, raw materials and labor in the canoe trade had retracted inland, and Miskito canoe buyers found themselves traveling upriver for a week in order to acquire Sumu canoes (Martin 1990[1894], 162). Such trips eventually became less necessary, however, due to the increasingly formalized establishment, in the late 19th century, of interlinked trading posts, or "commissary" stores, along the Mosquitia's major rivers (Figure 3). The trading posts were financed by foreign investors eager to exploit emergent international markets for forest and agricultural goods (especially tree latexes, animal pelts, timber, and bananas); trading posts became particularly well articulated following the Nicaraguan gold discoveries of 1889 (Offen 2004).

Staffed by ladinos, nonlocal Miskito, and even Chinese and German operators (known as "factors"), these small storehouses represented the penetration of extralocal capital over 100 km inland, in a pattern that came to characterize different waves of foreign investment in the Mosquitia throughout the 20th century (see Offen 1998; Green 1999). Trading posts were intended to extend credit to indigenous extractors (in the form of tools, food, and other supplies) who were then bound to pay off their debts in extractive product (see DeKalb 1893; Bell 1899; Palmer 1945). Known elsewhere as the "debt-merchandise contract" (Barham and Coomes 1996) or the "putting-out" system (Ray and Freeman 1978), debt-credit arrangements have typified extractive economies in thinly inhabited, resource-rich "peripheries." These systems are argued to be an efficient adaptation to capital provisioning over large, inaccessible areas worked by a thin, mobile labor force; they have also been shown to be an effective, if highly imperfect, means to coax a relatively steady stream of goods from scattered independent producers (see Barham and Coomes 1996; Offen 1998).

What is less recognized is that this seemingly foreign debt-merchandise system could take its form in part from, and then overlay, an existing exchange network. In the Mosquitia, the debt-merchandise system mobilized a pre-boom trading structure of interethnic exchange. Although the intention of foreign investors was to tap particular resources from the region, the hybridized sys-

tem was, in turn, appropriated to serve locally defined needs as well, by facilitating the regional circulation in everyday goods such as canoes. For example, the missionary Martin describes Miskito factors using commissary credit to negotiate for Sumu canoes at a rubber-era trading post on the Río Coco:

A [trading post operator] . . . likes to arrange his credits in such a way that the end sum of the debt is 16 to 20 dollars, because, depending on the price, this means “Dussa Kumi,” i.e., a dug-out cedar trunk, that [he] can design into a nice canoe. If the Tahwira or Summu Indian has gotten a dog on credit from his Moskito brother, he will also get an axe, a machete, an iron pot, etc., to round up to the above stated sum. (Martin 1990[1894], 162, transl.)

Miskito factors likely used the canoes acquired in this way to pay off their own considerable debts (see von Oertzen, Rossbach, and Wunderrich 1990). Indeed, it appears that a chain of interpersonal debt and credit provided an effective means to link the canoe trade’s increasingly distant participants and to ensure product flow over long and difficult distances, such as along the frequently white-water Río Coco. In the process, both canoe producers and buyers could significantly reduce their transaction costs. The canoe trade was particularly well complemented by the debt-merchandise system because canoes themselves were vital in conveying extractive product downriver (see, for example, Offen 1998, 2004). Delson (1995) has described a similar form of “piggybacking” along 19th-century Amazonian canoe routes, in which local goods eddied within the dominant export-oriented flow.

Some missionary observers in turn-of-the-century Nicaragua described the manipulation of Sumu extractors by the debt-merchandise system as a form of debt peonage (e.g., Grossman 1990[1906], 268; see also Helms 1971, 31). But varied evidence suggests that there were different ways in which Sumu producers could benefit from this seemingly usurious relationship, especially when they incorporated canoe production into their activity mix.⁹ For one thing, rising demand for freight canoes during boom periods appeared to drive up canoe prices (CC, HM). In addition, 20th-century Tawahka Sumu testimonies indicate that producers’ skill at constructing and piloting the workhorse of the boom-time trade circuits garnered them respect, which probably helped them to negotiate inflation-adjusted prices and wages (see also Brooks 1989, 322–25). The fact that trading post operators accepted canoes in debt repayment also suggests a relatively flexible payment environment for extractors. For example, canoe trading could allow rubber extractors to make up for tapping

shortfalls and extend their access to credit into the off-season. Further, it appears that debt-based relationships offered an important form of livelihood security: the thicker the web of debt, the more Sumu canoe suppliers could be assured of some trading post operator with financial interest in their continued well-being as producers, who would always be interested in supplying them with tools and foodstuffs (HM). As Palmer (1945, 24) opined about debt-merchandise arrangements on the Río Coco in 1905: “The system is not wholly good and gives room for abuse by both parties, but everyone understands it and knows with whom he is working.”

“Busts”: Canoe Trading as Employment Insurance

The canoe trade was thus closely articulated with boom-time debt-merchandise systems, due to shared financing opportunities, stimulated demand, and increased flexibility and diversity in production arrangements. Arguably more significant, however, was the persistence and emergent importance of the canoe trade when booms turned to busts. In the Patuca River basin, for example, the production of family-size canoes for the constant, downriver Miskito market—especially at Ahuas, Barra Patuca, and Brus Laguna—appears to have served the vital function of buffering the effects of recession when international demand for local goods dried up (RS). In fact, while prices for freight canoes appeared to rise during boom times, prices for family-size canoes apparently rose slightly during subsequent recessions (CC). The following passages are excerpts from separate oral history interviews I conducted with seven older Tawahka men in 1998 (translated from Miskito or Spanish). They illustrate the role of canoe commerce in easing the impact of a series of economic transitions from boom to bust over a sixty year period between the 1930s and the 1990s:

When the *ulera* [rubber era] ended, we made pipantes. Pipantes to sell, to buy little necessities. If not, we would have been naked . . . the pipante always helped. . . . Those who knew [how to make a canoe], always brought [downriver, to the coast] to sell. When we need something, we sell pipantes. In fact, up to today, that’s how we are. (ES)

I began to make pipantes for the reason that when we left *tunu* [commercial extraction of *Manilkara zapota* latex], there was no other way to make money. (AS)

When the *tunu* and [wild cat] pelt markets “broke,” the only thing left was to sell pipantes, until the *chiclera* [chicle-tapping era] arrived. (GD)

[After the tunu period] we looked for a way to live—we made pipantes. I made many. We lived only from this. When our money ran out, we had to get another. I lived for six years from pipantes, making three or four a year; we took them [downriver] to sell. (RC)

I worked in gold a little, then from there, in the chiclera for three years, it was good money. . . . When the chiclera stopped—from there I started making pipantes—up to today (IS).

In the early 1980s, we always had a pipante around to sell to people downriver, if they wanted it. There was no other work. Everyone kept an extra pipante for sale at the shore. Had there been a “company” [buying goods] at that time, it would not have been so. But because there was no other source of money—(JD).

Today there is little money here. The only way to get it is by selling cayucos (NR).

In short, for the last sixty years, if not longer, Tawahka Sumu households have been able to fall readily back on the regional canoe trade during periods when their activity choice was not overdetermined by high international prices for specific local products. The segue from production for international markets to production for regional markets appears to have been smoothed by the retention, even in the absence of extralocal capital, of the already syncretized basic boom-time patterns of production, especially in terms of geographic scope and the organization of labor and financing. Informants report, for example, that when tunu buyers withdrew from the Patuca and Coco rivers in the late 1970s, Tawahka producers returned during agricultural off-seasons to the familiar upriver tunu forests in order to make canoes from stands of mahogany and cedar they had previously spotted there (SO, IS). As during the tunu era, they often went in groups of up to ten to twelve men to trade off labor responsibilities (JD, LS). To finance such trips, the carvers acquired credit—usually in the form of foodstuffs—from the same downriver storeowners who had provisioned them for tunu expeditions in years prior (LS, IS).

Contrary to Helms's (1971) influential thesis, then, boom-time economies were not followed in the Mosquitia by wholesale commercial atrophy and residents' exclusive return to bounded subsistence. Rather, the imprint of boom-time institutional, social, and financial arrangements was carried forward in the networks by which people continued to circulate locally important goods such as canoes. A similar process has been observed in Amazonia, where researchers have described

how trade relations mobilized during extractive booms endured during subsequent recessions (e.g., Hugh-Jones 1992; Barham and Coomes 1996; Stoian and Henkemans 2000; Pinedo-Vasquez et al. 2001). Although the dynamics by which local commodities circulate appear less visible to outsiders than the structures that mobilize international commodities like rubber, as I will show below, attention to their dynamics can nevertheless reveal much about the ongoing ways in which rural livelihoods are produced.

The Patuca Basin Canoe Trade, 1990s

At the close of the 20th century, canoes continued to be produced and traded throughout the Mosquitia.¹⁰ Below, I describe the trade's contemporary expression in Honduras's Patuca River basin, with specific attention to commercial canoe production by the 1,200-strong Tawahka Sumu during the 1990s. To do so, I draw from qualitative and quantitative data that I collected over thirty months in the Patuca region, using household surveys, life history interviews ($n = 40$), unstructured interviews, and participatory observation during three canoe-making trips (see McSweeney 2000, 2001). My focus on the Tawahka's involvement in canoe exchange is intended to offer a fine-grained counterpoint to the broad-brush historical picture of the trade, and to balance the historical record's emphasis on canoe consumption with an emphasis instead on canoe production. Worth noting here is that the study period (the 1990s) coincided with a time of relative recession in the Patuca basin's economy. The dynamics of the canoe trade are thus scrutinized in an economic context analogous to the underexamined best periods of the past.

When compared with evidence from the historical record, the contemporary trade in canoes in the Patuca basin is different in two ways. First, whereas the Tawahka Sumu were once said to “make all the craft used on the [Honduran] coast” (Zuñiga 1938[1879], 219, transl.), today, Miskito villagers and Spanish-speaking agricultural colonists have learned from the Tawahka and now produce some small canoes for their own use (JB; field observation). Second, the increasing scarcity of mahogany and tropical cedars in the region has encouraged canoe producers to harvest some twelve lesser-quality species to make their craft (McSweeney 2000).

Commercial canoe production, nevertheless, remains an important activity to the Tawahka, both economically and culturally. Household survey data indicate that between 1990 and 2001, the approximately 200 working-age men in the Tawahka's five communities carved at

least 552 canoes, of which they sold about 45 percent. For the group as a whole, data from 1997–1998 suggest that canoe sales comprised about 8 percent of their aggregate market income,¹¹ which represented the third-largest source of market income after cacao sales and wage work (McSweeney 2002). Tawahka identity is also tied to the production and export of canoes. Their regional reputation in this regard dates from at least the 1820s (Young 1842, 87), continues to the present (JB), and remains a source of some cultural pride. As one Tawahka carver claimed:

We, the Tawahka, *we* are the people who make pipantes, cayucos. The people from downriver are the ones who come here to buy. (IS, Krausirpi, 1998, transl.)

The Geography of Trade

The Patuca basin's canoe exchange network spans the river's length and ties together three very different cultural regions: the cattle-oriented ladino colonization zones of the upper watershed; the Tawahka homeland of the mid-Patuca; and the Miskito fishing communities

lining the lower Patuca and the stretch of the Caribbean coastline from Palacios to Puerto Lempira. Between 1990 and 2001, household survey data show that Tawahka carvers sold at least 167 new and at least 76 used canoes in these three different "markets" (there is no fixed marketplace; boats change hands all along the water's edge), as shown in Figure 4.

The Tawahka's central role as the Patuca basin's primary canoe suppliers is due in part to their renown as carvers, to their strategic midriver location (which allows them to access both up- and down-river markets), and to the relative abundance and size of tropical cedars, mahogany, and other "canoe" hardwoods in the broad-leaved forests of their homeland, which corresponds roughly to the limits of the 2,400 square km Tawahka Asangni Biosphere Reserve (*Biosfera Tawahka Asangni*, or BTA).¹² Mahogany is found in particularly high densities in the rich soils of the Río Wampú basin (see McSweeney 2000; House 2001), where they have been spared over a century of logging that has reduced quality hardwood numbers along the Patuca's main channel (see Cruz and Benítez 1994). Not surprisingly, 40 percent of canoes made by Tawahka

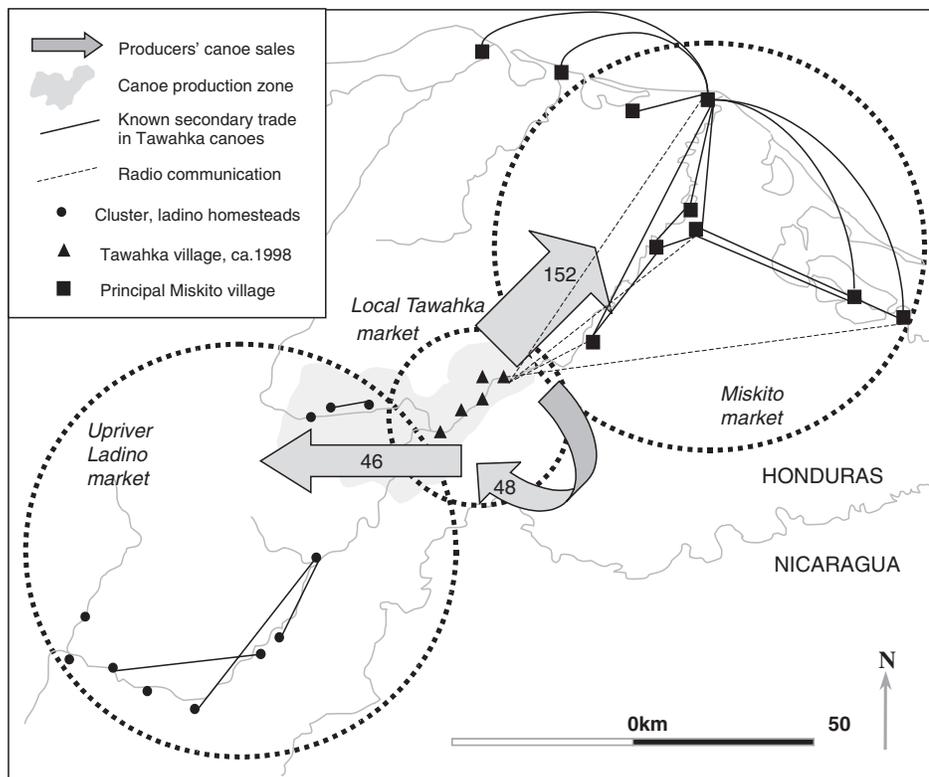


Figure 4. Trade in Tawahka-built canoes, showing location of three principal markets, 1990–2000, Río Patuca, Honduras. Source: Household surveys by author, 1995, 1996, 1998, 2001.

carvers between 1990 and 1998 came from the Wampú watershed.

The Canoe Trade's Economic Viability

Data on Tawahka canoe transactions allow close examination of what the historic record has left cloudy—canoe prices. During the 1990s, the Tawahka earned an average of US\$213 per canoe (inflation-adjusted; s.d. = \$68.6; range: \$5–\$1533), or about \$72 per foot as measured at the canoe beam. Prices reflect such factors as canoe size, wood quality, style, age, and degree of refinement (such as the presence of outboard mounts or gunwales).

During the 1990s, as during past bust periods, money was scarce on the Patuca. As a result, about 54 percent of canoe transactions included a mixture of cash and barter ($n = 106$; see Table 1).¹³ While the continued importance of barter in the Mosquitia might seem indicative of the region's economic underdevelopment, data on canoe prices point instead to the economic viability and stability of barter-dominated canoe commerce. The steady returns to canoe trading are cast in

Table 1. Goods and/or Services for Which Dugout Canoes Have Been Exchanged, in Whole or in Part, by Sphere of Investment

	Mosquitia Region (1700–1930)	Río Patuca (1990s)
Consumption/ household reproduction	store provisions cloth iron cooking pot	store provisions clothing aluminum cooking pot boots rice (food)
Production	adze cattle hunting dog axe machete	hand drill cattle hunting dog rifle/shotgun rope chickens rice (seed) beans (seed) labor (unspecified) help with bean harvest cacao orchard (0.25 ha)
Luxury goods	mirrors beads	radio soccer ball digital wrist watch
Other	cancelled debt	cancelled debt mosquito net herbal medicine

Source: Varied primary historical sources household surveys (1995, 1996, 1998, 2001).

particularly sharp relief when compared against more conventional—and volatile—market activities, such as cash crop production or wage work, which Tawahka families also pursued during the recessionary 1990s. For example, calculation of the returns to labor expended by self-employed canoe carvers shows that, upon sale of the canoe, they earned some 60–80 percent more per day than had they worked for wages in agriculture.¹⁴ The attractiveness of canoe construction is compounded by the fact that it is aseasonal, and so may offer one of the only sources of market income during the low agricultural season.

Similarly, an examination of terms of trade in Tawahka villages during the 1990s points to the longer-term viability of the canoe trade, especially vis-à-vis other economic activities. As Figure 5 shows, canoe producers have consistently been able to adjust canoe prices in response to the rising cost of imported staples (vegetable oil and sugar¹⁵), most notably in the market for used river canoes (in which demand has been constant or rising). Note that the 1999 canoe price spike—reflecting heightened canoe demand following Hurricane Mitch—also suggests the responsiveness of canoe producers to sudden, as well as gradual, market signals. A further indicator of the long-term viability of canoe trading is that the barter value of a 2 1/2-foot-beam mahogany canoe has remained stable—at one adult cow—for at least a century (cf. Martin 1990[1894]). The durability of this exchange ratio is particularly significant given

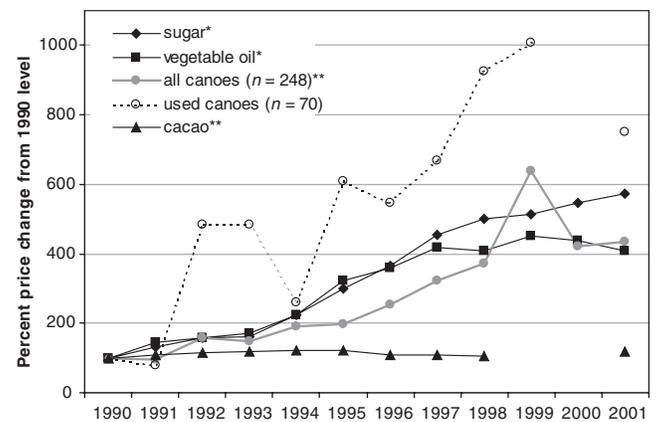


Figure 5. Price ratios for consumer goods, dugout canoes, and cacao, Honduran Mosquitia 1990–2001.

Notes: *The prices of consumer goods are national yearly averages (Source: Banco Central de Honduras, 2002).

**Average annual selling price for BTA canoes; 2001 data are for the first four months only (Source: household surveys, 1995, 1996, 1998, 2001). Cacao prices are selling prices at Krausirpi, BTA (Source: village records, 1998). The lack of cacao prices for 1999 and 2000 reflects the suspension of cacao sales following the destruction of orchards by Hurricane Mitch.

that beef and milk are among the few agricultural commodities in Honduras to have witnessed rising terms of trade over the past three decades (see López 1999).

In short, the niche market for canoes has allowed canoe producers to maintain their buying power during a decade of economic recession, and perhaps over longer economic cycles. In contrast, selling prices for national and international commodities that the Tawahka extract or produce, including gold and cacao, suggest that gold panners and cash croppers faced declining terms of trade as global commodity prices stagnated or declined, as they have worldwide (López 1999). As shown in Figure 5, the declining value of cacao, for example, meant that cacao growers in 2000 had to sell more than twice the seed that they would have at the beginning of the 1990s in order to acquire the same amount of cooking oil or sugar.

Access along the Canoe Commodity Chain

Price data point to a compelling economic rationale behind the Tawahka's continued collective involvement in canoe commerce. So why do so many individual Tawahka households only engage sporadically in the trade, if at all? In fact, despite the group's reputation as specialist canoe producers, there is very little evidence of any degree of long-term household-level specialization in canoe production among the Tawahka. Instead, most households moved regularly into and out of the trade; between 1994 and 1997, for example, no family sold a canoe in all years (McSweeney 2002). This sporadic engagement demands a closer look at the factors that condition households' access along the canoe commodity chain at different times. My emphasis on access follows Ribot (1998), who envisions access as the effective ability to benefit from a good or activity, typically within the context of the social and material relations mobilized along a commodity chain. I therefore use access analysis to explore the reasons behind differential involvement in the canoe trade and, in the process, undermine the notion that indigenous trade networks are comprised of individuals participating in some structurally determined, "natural" activity. Instead, the following discussion seeks to emphasize the complex decision-making rubric and multiple constraints faced by individual producers as they gauge whether or not to participate in the trade.

Canoe Production

Access to Trees. Canoe production begins with the selection and felling of a "canoe" tree (McSweeney 1999, 2001). Between 1990 and 1998, any Tawahka

could, in theory, harvest a tree from the forest commons of the BTA. In practice, however, data on more than 400 canoe extraction sites show how actual access to trees varies with the carver's home village and his experience of forest-based activities, kin affiliation, language skills, and other forms of human and social capital (McSweeney 2000; see Figure 6). For example, although there is consensus among carvers that the best trees are found up the Río Wampú, much of this watershed now lies beyond the limits of the BTA. Further, a considerable portion of the watershed's forest cover—including portions well within the BTA—is being cleared by an advancing colonization front; it is not uncommon for colonists to charge the Tawahka considerable sums for the "right" to cut a tree. Tawahka carvers who are successful in negotiating this hostile frontier climate tend to be older men. This is in part because they benefit from site-specific knowledge gained from experience in Wampú forests as tappers and trappers during the rubber and pelt booms of the 1950s–1970s. Also, older carvers' experience of past boom-time economies has equipped them with Spanish fluency and familiarity with ladino culture that can facilitate their negotiation of tree harvest from these now-contested forests. Younger Tawahka canoe producers who lack such skills have, to date, sought alternative tree supply zones far from the colonization frontier, where they may settle for carving smaller and lesser-quality trees.

Access to Labor. The total number of labor days required to carve a canoe varies from several days to several weeks, depending on canoe size, available technology, and laborers' skill. Data I collected on the construction of 37 canoes indicate that carvers met their labor needs in three ways: by drawing on reciprocal labor arrangements (i.e., soliciting help from kin and neighbors in exchange for past or future help; 68 percent of cases); by pooling labor with two or three partners (about 11 percent of cases); or by hiring labor. Hiring workers is perceived to be the most problematic strategy for commercial canoe carvers, especially for those who have been advanced cash on a canoe commission. As one carver lamented,

If I carve a pipante, I can make 16,000 Lempiras [about \$1,400]. But what happens is that I won't earn that money. I have to bring workers . . . and if they smoke, I have to buy them cigarettes . . . it doesn't pay. When I make a pipante, the workers win, not me. (ES, Krausirpi, 1998, transl.)

Not surprisingly, then, the most commercially successful canoe carvers are those with in-house access to labor in the form of grown brothers, sons-in-law, or other close

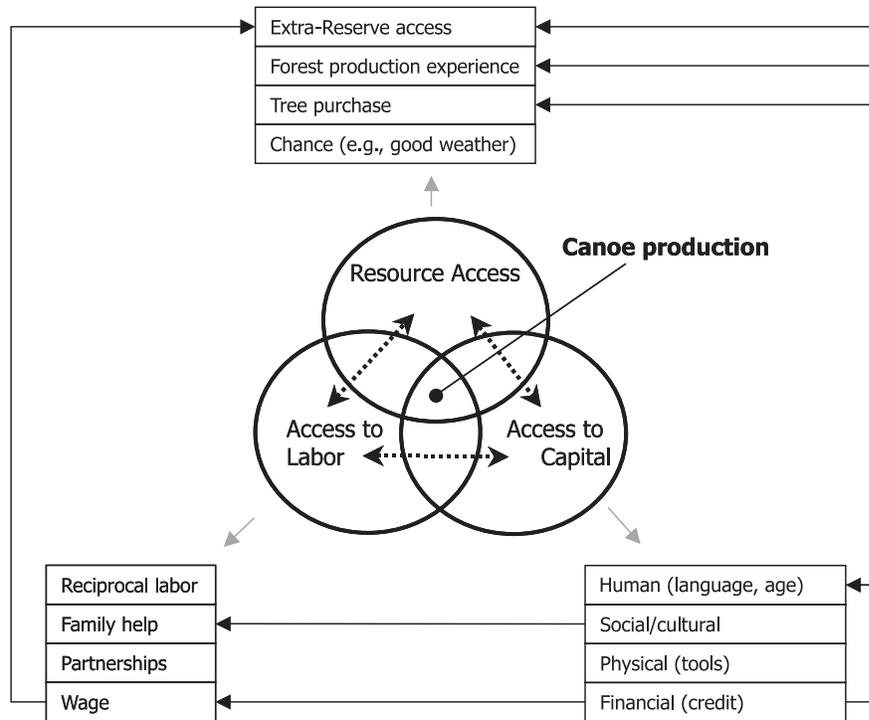


Figure 6. Three spheres of access mediating canoe production, Río Patuca, Honduras. Solid arrows give examples of interconnections between spheres (e.g., access to forests beyond the BTA is related to the financial capital that the canoe builder can summon to finance a distant trip, as well as his willingness to hire non-Tawahka carvers).

male kin with whom to trade off workloads. Essentially, the canoe making “firm” thrives on unpaid kin labor. Many households lack these proximate labor networks, including young families with few grown children, who must either self-finance their own laborers or forego canoe carving entirely. In fact, although basic canoe-making know-how is spread fairly evenly among Tawahka men, almost 20 percent of household heads interviewed in 1998 said they lacked access to sufficient help to be able to make canoes.

Access to Credit. The third key constraint on the commercial production of large canoes is access to financial capital. Credit is required to provision a canoe-making trip, to rent equipment, and, when necessary, to pay wages. Best positioned to access credit are—again—older Tawahka men who have developed—often through prior work in forest product extraction—commercial relationships with Miskito and ladino middlemen/women, who are willing to advance them about 40–48 percent on the sale price of a large canoe (field observation). Indeed, some debt-credit relationships are decades old, with debt/credit rolling over from one transaction to the next (IS). While younger carvers can sometimes turn to local Tawahka storekeepers for cred-

it, some 20 percent of households interviewed in 1998 cited financial constraints as a reason for not making a canoe. Clearly, then, interpersonal ties are vital in overcoming both labor and financial constraints during canoe production. As outlined below, they are equally important in overcoming the informational and distance constraints central to effective canoe marketing.

Canoe Marketing

Success in the market for new canoes depends on a producer’s access to price information, buyers, and on the time, timing, and skills they can bring to price negotiations. Information about the level of demand for canoes among populations along the Caribbean coast is particularly important. For example, Tawahka producers who bring canoes unsolicited to the potentially lucrative coastal market are commercially disadvantaged unless they have acquired some knowledge of going prices through prior radio contact, or are otherwise attuned to cycles of canoe demand and cash availability at the coast. Not surprisingly, it is difficult for Tawahka producers who live some three days’ travel inland to judge when this constellation of factors will align most favorably. As a result, some Tawahka canoe sellers have

returned from coastal selling trips empty-handed and indebted for the cost of their passage home (field observation).

While some young men relish the adventure of canoe-selling trips to the coast, irrespective of their losses, most canoe producers would rather await a contractual arrangement (about 10 percent of all canoes are made to order). Others opt for the less profitable business of selling canoes in the familiar markets of the mid-Patuca, often to Miskito and ladino entrepreneurs who then sell the canoes downriver themselves (some Tawahka-built canoes have even been trucked overland to Puerto Lempira). These middlemen and women stand to gain the highest profits accruable along the canoe chain, which field observation suggests can be as high as 30 percent. Which marketing route a Tawahka canoe maker ultimately chooses is more often than not determined by their motives for selling the canoe in the first place.

The Canoe's Legacy: Investment Webs

Why do Tawahka families sell canoes, and what do they do with their earnings from canoe sales? Below I complement the commodity-chain approach used so far with closer attention to how canoe sales link through investment to other sectors, how they serve to mitigate risk, and how they shape the Tawahka's ability to respond to changing livelihood opportunities.

One of the most common motives for selling a canoe earnings was to maintain household production and reproduction. For example, Tawahka used canoe earnings to smooth consumption. That is, earnings from about 20 percent of canoe sales ($n = 72$) between 1990 and 1998 were reportedly used to acquire food and/or clothing, or to pay for specific holiday expenses. In addition, canoe sales were used as a form of self-insurance, typically by helping to cover costs associated with unexpected cash needs such as medical treatment or to buy food following a poor harvest (see McSweeney 2004). In fact, canoe selling is a relatively popular way to cope with financial crisis, especially for young, undercapitalized households who have few alternative ways to raise a large sum quickly.¹⁶ As one Tawahka man made clear:

If I didn't make pipantes, how could I have taken my wife to [the hospital at] Ahuas? Because I sell pipantes, I didn't bother anyone, I didn't borrow, I went *tranquilo* [i.e., without worry]. The pipante always gives "big" money. (FC, Krausirpi, 1998, transl.)

But while young, undercapitalized households may be most likely to sell their canoes in times of need, they may also face the highest barriers to canoe production,

especially given their inexperience and dearth of in-house labor. There is, therefore, a marked tension between the household-level attributes that push, and those that pull, households into selling canoes.

Canoe earnings are also invested in intra- and intersectoral production activities, as they have been historically. That is, some canoe earnings are reinvested in forest-based activities, such as when canoes are bartered for hunting dogs, firearms, and other extractive tools (Table 1). Indeed, 49 percent of firearm owners in 1998 ($n = 37$) cited the sale of a canoe as factoring in the acquisition of their rifle or shotgun. More commonly, however, canoe earnings are invested in nonforest entrepreneurial and agricultural pursuits. For example, four of the five households that owned small shops in Krausirpi during the mid-1980s had obtained their start-up capital from selling canoes. Canoe earnings have also financed agricultural intensification through the purchase of herbicide applicators or through exchange of canoes for cacao orchards (Table 1).

In many cases, however, it is difficult to associate canoe production directly with specific forms of accumulation because earnings from canoe exchange are caught up in more complex webs of production and investment. For example, members of one Tawahka household used their earnings from panning gold to begin a small store in the late 1980s. Meanwhile, they drew from their modest cacao orchard to cover everyday expenses. In the 1990s, they then cancelled outstanding store debts by having debtors help them to make large freight canoes once or twice a year. With the earnings from the sale of these canoes, they then hired help to expand their cacao holdings. Similarly, one informant said he made a canoe with the intention of selling it to his neighbor, a single mother who drew a modest government salary. Family sickness sidelined his plans, however, and he used the canoe to transport his daughter to a downriver healer. He then traded the canoe in the downriver village for bean seed and other goods, some of which he used to pay the healer. Eventually, he used the subsequent season's bean harvest to acquire a used rifle.

Clearly, these webs of payment and investment need not involve canoes. But canoes—like other "big ticket" items such as cattle—are particularly significant in Tawahka investment pathways because they allow families to generate large sums of cash quickly, and aseasonally. They therefore stand in sharp contrast to agricultural surpluses, which can give large returns but are harder to store and are vulnerable to sharp seasonal price variations. As a result, canoes play a more significant—if convoluted—role in householders'

accumulation strategies than the occasional nature of their sales might suggest.

Finally, families invest canoe earnings intergenerationally, through the common practice of using canoe sales to pay for their children's secondary education in distant Miskito communities or in Honduran cities. Household survey data show that about 10 percent of canoes sold between 1997–1998 went to children's school fees and board. Tawahka canoe producers are therefore enabling a very sharp intergenerational transition in their families' production pursuits. The Tawahka prize education as a means to access employment opportunities as teachers, health workers, and nongovernmental organization (NGO) employees. Further, and as is reported among other indigenous societies, education confers Spanish-language competency, which is seen as central to successful negotiation with dominant Hispanic society (see, for example, Rubenstein 2001, 271). In fact, the Tawahka's first high school graduate (in 1998) had been supported throughout his nine years of formal education by the canoe sales of his illiterate father. The son is now a teacher and does not know how to make canoes.

On the Nature and Relevance of Rural Trade Networks

Brochures and other media promoting the Honduran Mosquitia as an ecotourism destination highlight images of natives in dugout canoes. The message is clear: here is a roadless region, a subsistence-based people untouched by modern market capitalism; here is Nature. The timeless neatness of this imaginary construction begins to break down, however, when the weather-beaten canoe is recognized to be a commodity, produced with a rented chainsaw in a contested forest some 100 km inland, and sold to finance a daughter's training as a health worker in the national capital. Further, the canoe was likely bought with the proceeds from lobster sales to U.S. markets, as it would have been acquired 250 years before with the iron goods and beads obtained through trade with European pirates. Closer inspection might also reveal that the canoe's hybrid style embodies these complexities: its hull form is a classic accommodation to navigation in choppy lagoon waters, but its transom is outfitted for a 50 horsepower Suzuki outboard motor.

Just as the dugout canoe's primitive image can be reconstructed as the embodiment of continuity and change, as a bridge between multiple places, and as one link in a complex web of economic actors, so too can the seemingly obsolete trade networks in which it circulates

be used to form a more inclusive and multifaceted conceptualization of rural livelihoods in the Mosquitia. Below, I summarize three particularly relevant insights from the Central American case study, particularly with regard to how the study can challenge the suite of binaries (e.g., traditional/modern, vulnerability/resistance, and good market/bad market) by which remote economies are too often calibrated. I then elaborate on the conceptual and methodological promise of trade networks for the study of rural livelihoods and the practice of development among remote rural peoples more generally.

Insights from the Canoe Trade

First, the canoe study undermines the persistent notion that market exchange among remote rural peoples is an unprecedented activity; that is, that engagement with markets, especially by indigenous people, is a fundamentally modern activity (see, for example, Godoy 2001, 31; Henrich 1997). Instead, the canoe trade serves as a reminder that remote peoples have been entangled with international capital circuits for centuries. For example, historical accounts make clear that the Miskito have long sought commercial relations with outsiders (e.g., E. Long 1774, 319), and even the famously retiring Sumu groups have been intimately—if indirectly—implicated in a web of transnational trade for at least 250 years. Although geographers, historians, and anthropologists have long drawn attention to such linkages, they have almost exclusively focused on local peoples' responses to the effects of exogenous capital investments, especially during boom periods (e.g., Wolf 1982; Stern 1993). In contrast, the continuity of the canoe's commercial circulation extends scrutiny from boom times into and across subsequent—and inevitable—bust periods. This study has highlighted, for example, how the regional canoe exchange system was co-constituted with international economic cycles in a dynamic process of economic syncretism, or what Arce and Long have termed “mutation” (2000b, 17). That is, as much as the canoe trade served to facilitate foreign access to the Mosquitia's resources and so contributed to “a system that harnessed the world's resources to the cause of capital accumulation” (Wolf 1982, 353), economic benefits could also flow in the other direction, as local peoples co-opted foreign credit systems for the production and exchange of locally important goods. Further, when booms turned to busts, the employment security embodied in syncretized exchange networks could ease the impact of recession. Thus, a seemingly vulnerable, spatially bounded trading system has in fact been coproduced with global

economic cycles and has repeatedly served to mitigate residents' economic vulnerability to the ebb and flow of foreign capital.

Once the persistence of rural trading systems is recognized, then the endogenous commercial capabilities of local peoples are more easily foregrounded. The canoe trade draws attention, for example, to the degree to which seemingly naïve, isolated, and economically "vulnerable" actors such as the Miskito and Sumu have, in fact, consistently adapted their trading strategies to accommodate exogenous and endogenous pressures on the factors of production, such as the shifting geographies of resource scarcity that have shaped the canoe trade since the 1840s. Since about 1700, for example, they have manipulated market mechanisms by refining credit relationships, leveraging duties on the transit of goods across ethnic "borders," using commission arrangements, jockeying for competitive advantage among middlemen, value-adding, and adjusting prices in response to national commodity market trends. These insights are not, on their own, particularly novel; the endogenous trading skills of indigenous peoples, especially in the context of colonial-era, cross-cultural trade in the Americas, are well recognized (e.g., Ray 1974; Reeve 1993; Carson 1997; Gassón 2000; Vidal 2000). This study, however, shows how historic economic capabilities continue to resonate in rural peoples' contemporary economic behaviors through such mechanisms as intergenerational credit relationships, enduring trading structures, and shared memories of past economic arrangements. Thus, while policymakers call for remote rural peoples to be "trained to handle market economy tools" (Tresierra 1999, 155), a trade network analysis can reveal the otherwise hidden economic capabilities that not only exist, but are deeply grounded in local peoples' prior experiences with a globalized market economy.

Finally, the canoe trade demonstrates how rural development analyses can move beyond common either/or debates concerning whether or not, as Bebbington puts it, globalization spells "'development' or 'destruction' . . . 'success' or 'failure'" (2000, 496). They can be replaced by more productive scrutiny of the specific advantages and disadvantages that accrue to individuals and groups over time through particular forms of market exchange. For example, the Tawahka's coerced participation as enslaved canoe producers in the 18th century has, in the two centuries since, been transformed into culturally grounded competitive advantage in a regionally profitable niche market. Indeed, the Tawahka's participation in the regional canoe markets can be argued to have shaped their ethnic identity, just as cultural identities in other

rural areas have emerged in response to particular trade relations (see, for example, Lewis 1989; Reed 1995; Cleary 1997; Crow 2001). Further, among the Tawahka, the use of canoe earnings to finance children's education is paying cultural dividends as young, educated Tawahka spearhead efforts to reclaim primary education in their native tongue. In these respects, the canoe trade looks very much like the type of endogenously defined "counterdevelopment" projects endorsed by Arce and Long, which are organized to meet self-defined goals, and so "help to promote and finance further projects" (2000a, 20).

But even as the Tawahka as a group may have recently benefited from their involvement in canoe trading, for individual producers, the results are less clearly beneficial. It is clear that some producers have been able to invest their earnings in new opportunities that appear to offer a way out of rural poverty. But the accumulation pathways of others appear to be undermined, not enhanced, when they are forced to sell canoes to pay for medical treatments because they lack other means of self-insurance. Further, access to the canoe trade is so uneven that even these options are closed to many. In short, the canoe trade exemplifies and exposes the complexities and contradictions of any form of market exchange. In the process, however, it suggests that trade-centered analyses may be useful in shedding light on how, at what scale, and when, certain types of trade are—or can be—mobilized to alleviate poverty, and when they do not, or cannot.

A Trade Network Approach to Rural Livelihoods

The canoe trade study suggests that indigenous trade networks offer a promising operational and conceptual framework in which to organize and apply the contributions of different scholarly approaches to rural livelihoods toward a broader understanding of rural peoples' ongoing responses to changing economies. Below I elaborate on five specific characteristics of these systems that render them particularly attractive in this regard, applying and extending insights originating with Lewis (1989).

Ubiquity and Accessibility. Informal trading systems in rural areas have been remarkably invisible to the academic gaze. As both Lewis (1989) and Crow (2001) have noted, their awkward fit within both Marxist and neoclassical categories of production means that they have been conceptually subsumed within the "moral"

economy of subsistence, or obscured within “kinship” or “tributary” modes of production (see, for example, Plattner 1989). Yet, informal trading networks are common in remote peripheries, especially where formal credit, factor, or insurance markets are thin or nonexistent (see Reeve 1993; Cleary 1997; Pacione 1997). Further, it is likely that these networks will become more important in the future, especially as the declining viability of agriculture drives rural families to seek income from an ever-widening array of nontraditional activities (see, for example, Reardon, Berdegue, and Escobar 2001). Not only are trade networks ubiquitous and important, they are also remarkably amenable to scrutiny. A researcher seeking to identify the basic geography and structure of these systems can begin asking people how they acquire the items around them and, in the process, access how money circulates, how credit arrangements operate, the constraints and enablers of household-level participation, and important income sinks.

Temporal Elasticity. As with many aspects of “traditional” livelihoods that scholars have long relegated to obscurity (see Chimère Diaw 1998), indigenous trade networks have proven remarkably resilient. As Lewis (1989) demonstrated, their constancy offers a means to access forest peoples’ economies diachronically, both in the short (decadal, lifecycle) and long (epochal) term. Whereas standard boom/bust analyses of rural development often represent peripheral economies discontinuously, an approach that prioritizes local exchange networks conceptualizes local livelihoods *processually*. For example, informal trading structures can link contemporary economic behavior to the past through enduring credit-labor relationships. They can also link to the future, as local peoples’ investment choices project future economic activity. In this way, trade network analysis responds to the calls by several scholars for greater attention to how rural livelihoods are shaped by the dynamics of recessionary periods as much as by booms (Coomes 1995; Coomes and Barham 1997; Stoian 2000).

Spatial Elasticity. Recognition of the geographical dynamics of regional trade networks offers a straightforward means to collapse “global” and “local” distinctions in the assessment of rural economies. As the canoe trade shows, livelihoods that can appear spatially bounded are often reproduced precisely through the extralocal mobilization of resources (e.g., canoe sales along a coast used to finance agricultural expansion in a village more than 100 km inland). For geographers and others who are increasingly interested in the spatiality of rural livelihoods

(e.g., Raffles 1999; Bebbington 2001), trade networks offer a useful means to access their multi-sited character, in two ways. First, the incorporation of commodity-chain analysis traces the mobilization of goods beyond sites of production and into distant spaces. Thus, the production of rural livelihoods in one place is more clearly linked to those in others. Second, attention to investment pathways acknowledges the extrasectoral ways in which the effects of regional trade can resonate through space, extending “rural” livelihoods into urban and transnational spheres. In the case of the Tawahka, the investments that canoe carvers made in their children’s education shows how local trade circuits can catalyze a process whereby the remittances and political activism of urban Tawahka play an increasingly important role in sustaining and defending livelihoods at home. Recognition of the multi-sited nature of indigenous livelihoods is particularly significant in rural landscapes where conservation and development discourses have reified the notion that indigenous livelihoods are produced solely within specific physical spaces. In fact, as the Tawahka case shows, the success of conservation projects may lie precisely in the spatial mobility and subsequently multi-sited livelihood strategies of their supposedly bounded inhabitants.

Reconciliation of Structure and Producer Agency. Trade networks offer a framework that accommodates the extent to which local livelihoods are constituted within structural constraints (e.g., international commodity prices), and gives due weight to the role of knowing agents to resist and even shape larger economic forces. The canoe trade’s resilience, for example, relies as much on the continued demand for canoes, given the lack of terrestrial infrastructure in the Mosquitia, as it does on the activity choices made by discerning producers.

Accessing Everyday Life. Finally, by placing analytical priority on the trade in seemingly inconsequential goods, a rural trade network approach comes closer to exploring native economies on their own terms, rather than through the constrictive and highly problematic lens of some exogenous and ethnocentrically conceived “market” (Dilley 1992; Overing 1992; Ribot 1998). As Bebbington (2000) argues, the economic viability of these systems also appears to offer a promising template for rural economic development, especially as policymakers and scholars increasingly advocate regionally focused niche marketing as a more stable avenue for poverty alleviation in remote landscapes than

export-oriented models (e.g., Byron and Arnold 1999; Sayer 2000; Pinedo-Vasquez et al. 2001).

Conclusions

This article has described in detail the four-century development and contemporary expression of canoe trading in a remote, thinly inhabited part of Central America. Although the specifics of canoe trading are of limited applicability beyond the neotropical lowlands, the trade network approach that this study has demonstrated can be argued to represent a preliminary and partial move toward the type of methodological and conceptual reimagining of rural development that Bebbington and others have recently advocated. As an empirically grounded research method, trade-based analysis can synthesize aspects of livelihoods long engaged in isolation. That is, they simultaneously access some of the social, cultural, and political strands with which livelihoods are historically woven, while paying close attention to those elements with which development practitioners are traditionally most concerned, such as income generation, credit provisioning, and investment strategies. In this respect, trade network insights appear particularly amenable to incorporation in development praxis. For example, “rapid rural appraisals” are a common strategy used by donors and development agencies to shape and target development interventions (e.g., Takasaki, Barham, and Coomes 2000). By adding questions about the circulation of local goods to the standard questions about income and wealth in these appraisals, practitioners could access basic information about the dynamics of informal debt, credit, and insurance in a given place. Such information could feed into the design of development interventions—such as micro credit lending programs—in ways that mimic known systems. By tailoring aid to endogenous conditions in this way, practitioners are more likely to avert the failures that have dogged credit programs and other development efforts that apply formulaic aid packages to diverse rural regions (see, for example, Chibnik 1990; Coomes 1996).

Conceptually, a trade network approach also moves towards a more endogenous “take” on rural livelihoods. By focusing on material items of everyday life, and their production, mobilization, and transformation through space and time, the approach accesses the dynamics and motives of peoples’ engagement in self-defined projects. While prioritizing the “here-and-now” materialities of rural life (Arce and Long 2000, 2), a trade-based analysis can also take seriously the way in which material con-

cerns are inseparable from the reproduction of culture, values, and the meaning of life in place.

This study points to three avenues for future research into rural trade networks. First, future research could incorporate nonmaterial forms of exchange—such as information flows—to a much greater extent than did the current study, and so more profoundly tap into the social and political struggles in which material livelihood concerns are inevitably bound up. Second, recent research in economic anthropology has drawn attention to the crucial role of women in rural markets (e.g., Seligmann 2001); there is a corresponding need to extend this scholarship into the geography of rural trade networks, where women’s roles may be particularly hidden but presumably no less vital. Finally, Pacione’s (1997) study of “local exchange trading systems” in rural Scotland suggests the potential for future research to assess the generalizability of the basic insights of rural trade analysis beyond exclusively Southern, agrarian settings.

Ultimately, this article has sought to argue how closer attention to how rural peoples acquire and mobilize goods that they value—be they dugout canoes, firewood, seeds, or cattle—offers a particularly parsimonious way to assess rural livelihoods in a way that has eluded development researchers to date. The method requires close ethnographic engagement, but can yield surprising and much-needed insights into the dynamic constitution of rural livelihoods.

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Lerch was kind enough to translate German sources. I also appreciate the comments and suggestions of five anonymous reviewers. Any errors or omissions, of course, remain my own. This article is dedicated to the memory of Theo L. Hills.

Notes

- 1 For an example of an assessment of economic life in the Mosquitia as either autarkic or market integrated, see Godoy (2001). For discussion of how the livelihoods of the Mosquitia's residents have fit poorly within ever-changing standards for classifying the indigenous rural poor, see Helms (1971), Hale (1994), and Nietschmann (1997).
2. The combined Nicaraguan and Honduran Miskito population was estimated to be between 96,000 and 150,000 in the early 1990s (Dodds 1994).
3. I refer here to the distinction between Sambo and Tawira groups, on which Offen's (2002) recent research has shed light. Although both groups spoke Miskitu, Tawira and Sambo differ in their degree of Amerindian and African admixture. Use of "Miskito" throughout the article is, then, a generic name to refer to Miskitu-speakers, as well as others who, whatever their ethnic make-up, have self-identified or currently self-identify as Miskito.
4. Eric Wolf was to make a similar argument, without reference to Helms's book, almost a decade later, in his famous *Europe and the People without History* (see Wolf 1982, 353).
5. Particularly revealing is that an English merchant seaman even offered the English/Miskito residents of Cabo Cameron, Honduras, his *own* canoe when they were without transportation. (Uring 1928[1726]). Further, Bell (1962, 252) listed "rough canoes" among the goods "the Mosquito Indians . . . cannot produce themselves."
6. This association would fade over time as Miskito settled increasingly upriver and as their engagement with mahogany lumber operations put them in direct contact with hardwood resources. By the time this happened, however, the rigidity of the Mosquitia's ethnic hierarchy meant that the Miskito shunned woodworking tasks, which they had come to associate with "straight-haired" Sumu groups, whom they considered ethnically inferior (Bell 1862; Conzeminus 1932; Harrison 1990[1895–6]; Green 1999).
7. For example, Delson shows how Portuguese administrators in Brazil were keenly aware of the vital role of canoes in colonial transportation systems in the Amazon (Delson 1995).
8. Some canoe production was also required to offset the loss of canoes through the widespread indigenous custom of burying the dead in their canoes or burning the canoe of the deceased (see, for example: Roberts 1827, 68; Bell 1862, 255; Fluery et al. 1938 [1905], 178).
9. Indeed, the Sumu had several means of financial recourse in the face of mistreatment by creditors. For example, Sumu of both the Río Coco and the Patuca adulterated rubber exports with lesser-quality latex (Parsons 1955; Offen 1998), and frequently defaulted on debt by a strategy of acquiring goods on credit, then fleeing (HM). Helms (1971, 31–32) found comparable evidence in her study of the Miskito village of Asang, concluding that there was "considerable

leeway for maneuvering on the part of local populations in many credit systems . . . [which were] . . . basically symmetrical arrangements for exchange."

10. Based on the author's observations of canoe transactions from 1998 to 2000 along the Patuca and Coco rivers, at Ibans and Barra Patuca on the Honduran coast, and at Sandy Bay, Bilwi, Pearl Lagoon, and Tasbapauni on the Nicaragua coast.
11. The term "market income" is used in place of "cash income" to denote the important role of barter in regional commercial activities.
12. The Tawahka and the Tawahka Asangni Biosphere Reserve are described in detail elsewhere (see Cruz and Benítez 1994; Herlihy 1997; McSweeney 2000).
13. Cash did not appear to be at a premium, however. Canoe selling prices did not vary significantly by type of exchange: those wholly bartered for goods and/or services (about 20 percent of canoe sales) cost no more or less than those exchanged wholly for cash (about 27 percent); see McSweeney (2000).
14. Based on 32 cases from 1996–1998 in which labor data and sale price were available. Returns averaged \$7.10 for an eight-hour day (median: \$6.50; range: \$1–17.40). Hired carvers, by contrast, earn about \$4.50 per day, and agricultural workers, about \$3.60 (McSweeney 2000).
15. Prices for staples are based on yearly averages for two cities in Honduras (Banco Central de Honduras 2002). Data from village shopkeepers in Krausirpi indicate that the prices for sugar and vegetable oil were considerably higher on the Patuca River, but varied consistently with national prices.
16. According to household survey data, borrowing money from shopkeepers, kin, and river traders is actually the most common way for Tawahka to meet the costs associated with sudden household shocks (see McSweeney 2004).

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