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Contents

ECONOMIC ANTHROPOLOGY AND INTERDISCIPLINARITY IN COSTA RICA FISHING: THE PITFALLS OF PROBLEM FORMULATION	1
<i>Yvan Breton</i>	
INSIDIOUS RATIONALITIES: THE INSTITUTIONALISATION OF SMALL BOAT FISHING AND THE RISE OF THE RAPACIOUS FISHER	13
<i>Anthony Davis</i>	
SCIENCE AND THE DESTRUCTION OF A SHRIMP FLEET	32
<i>Thomas R. McGuire</i>	
THE LIFE AND DEATH OF A SMALL-SCALE FISHERY: SURF CLAM DREDGING IN SOUTHERN MAINE	56
<i>Craig T. Palmer</i>	
MEASURING OURSELVES: ADAPTATION AND ANXIETY ABOARD A FISHING VESSEL	73
<i>Peter Knutson</i>	
DISCUSSION	91
BOOK REVIEWS	98
BOOKS RECEIVED	102

Economic Anthropology and Interdisciplinarity in Costa Rica Fishing

The Pitfalls of Problem Formulation¹

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ABSTRACT The social sciences have so far maintained a subordinate position within the realm of maritime studies. This essay seeks to understand the reasons for this situation. It first outlines the reasons that explain anthropologists' initial reluctance to engage more actively in interdisciplinary exchange. Afterwards, relying on a framework that borrows from economic anthropology, it examines the actions so far undertaken by international and national agencies in the development of artisanal fisheries in Costa Rica. The restricted results obtained in these projects lead to conclusions that show the necessity of enlarging our vision of the social dimension of fishing.

Introduction

Within the realm of maritime studies, the social sciences maintain a subordinate position. Here we seek to understand the reasons for this situation, and to identify the kinds of understandings and interpretations other disciplines should receive from the social anthropology of fishing.

Starting with a brief outline of the constraints that explain the maritime anthropologists' initial reluctance to engage more actively in interdisciplinary exchange, the essay will continue with an examination of the actions so far undertaken by international and national agencies in the development of artisanal fisheries in Costa Rica. Relying on a framework that borrows from economic anthropology, in which interdisciplinary premises form the essence of analytical questioning, we will draw some conclusions about the restricted results obtained so far in these projects. We then argue the necessity of enlarging our vision of the social dimension of fishing if we wish to render maritime anthropology a more applied subdiscipline and enhance its contribution and weight in relation to other disciplines.

Maritime Anthropology and Interdisciplinarity: A Fragile Connection

The arguments which follow amount to looking in a critical way at the internal evolution of maritime anthropology as a distinct subfield within social anthropology, seeking to explain why its practitioners did not initially engage in a more systematic collaboration with other scientists involved in the study of fisheries.

The progressive emergence of maritime anthropology on the North American academic scene in the 1960s and the 1970s paralleled a situation in which the identity of its members was not strong. As already noted by several authors,² this incipient phase was characterized by the extension of an ethnographic focus rather than the establishment of analytical devices for understanding the social dimensions of fishing. Reflecting a principle experienced in capitalist branches of production other than academics — relying upon a new product in order to expand the market and consumption spheres — the consolidation of maritime anthropology was to a large extent based on a false novelty. Even though some people questioned the usefulness of creating another subdiscipline, a majority of scholars implicitly accepted the term and generated a growing body of literature on the subject.³

Nevertheless, a lack of epistemological consistency, well illustrated by the wide variety of topics studied and the confusion prevailing between comparative studies and theoretical constructs,⁴ did not help anthropologists to undertake exchanges with colleagues involved in disciplines which were well established in the study of fisheries, and who were already using sophisticated models. This created an asymmetric situation that became reinforced by the greater visibility of the latter scientists within the state apparatus linked to fisheries.

Important also is that this process took place at a time during which the mother discipline, social anthropology, was itself characterized by a significant remodeling of its theoretical constructs. The prevailing culturalist and functionalist paradigms were progressively succeeded by renewed interests in evolutionism, transactionalism, ethnoscience, and symbolic anthropology. Economic anthropology simultaneously underwent a transition from formalism to substantivism and political economy.

This internal diversification, while taking into account the lack of communication between anthropologists and other scientists involved in fishing, exposed some contradictions since it too was based in interdisciplinary borrowings. Thus, while cultural ecology partly relied on findings of biology, nutrition, and botanical science, political anthropology was influenced by game-theory models and economic anthropology actively participated in internal debates taking place in formal and liberal economics.⁵

Why, then, did maritime anthropologists not undertake more active interchanges with marine biologists and economists at that time? I believe that in addition to the great ethnographic diversity anthropologists were faced with, and granting the apparently new anthropological object that maritime communities represented, this paradigmatic pluralism retarded the search for a more consistent theoretical apparatus for the study of the social dimension of fishing. And, besides anthropology's idiosyncratic status within the range of scientific disciplines related to fisheries development, this eclecticism contributed to the weak identity of maritime anthropology practitioners within the contexts of fisheries management and policy, which was not propitious for scientific exchanges and joint investigations.

With time, especially due to a reappraisal of the importance of artisanal fisheries in the 1970s, maritime anthropologists, marine economists and others interested in the fisheries slowly undertook more significant interdisciplinary collaboration about the effects of modernisation in fishing. However, the distance between anthropology and biology remained. In addition to strong differences at the level of their main scientific concern (natural resources versus human beings), I believe that as social scientists, maritime anthropologists had an intrinsic aversion to biological modes of explanation. This was rooted in the previous debates and criticism over the physiological content of early positivist approaches, be it Spencerian Evolutionism or Durkheimian functionalism. Given the preeminence of the biologists' advices in the conduct of fisheries, characterized in the 1970s by their even stronger presence in the state apparatus, many anthropologists could not accept the proposition that the rules based on a 'physiological normality' should serve as guidelines for establishing social and political strategies.⁶

These distorted views were, however, slowly changed when the 'tragedy of the commons' paradigm, first used to regulate captures among foreign countries after the extension of off-shore territories at the middle of the 1970s was extended to regional and local levels, affecting directly the regulation of fishing in communities in which anthropologists were already at ease.⁷ Anthropologists then gained more credibility, possessing an expertise that scientists working at a macro and quantitative level did not have. Therefore, a stronger collaboration in both the academic and applied spheres began to grow.

Despite this improved situation, however, there remains asymmetry between social and bio-economic approaches to fisheries. The important issue here is not to engage in a sterile debate about the scientific superiority of various disciplines, but instead to understand the amplitude and range of distortions that still exist, regarding their respective operational possibilities. Without mentioning the greater political and social visibility of disciplines related to the bio-economy of fisheries, one has to admit that they have at their disposal, in terms of problem formulation, a far wider range of information and sources of funding. I have always been impressed, as an anthropologist, to see that in almost all national contexts, there exists more information on the types of fish species, their reproductive mechanisms, their migration and fragility, the types and lengths of boats, the types and sizes of fishing gear, the range of capital assets and the volume and value of the catches than there is information on the people using the gear and catching the fish. Except for few statistics on the number of fishermen, there usually exist almost no data on their age, the number of their dependents, their migration patterns, technical qualifications, access to credit, social coalitions and links with other branches of production, and sources of revenues within the larger social division of labor. Quite simply, we possess a lot more information on marine species than we do on marine producers.

It is in the reduction of these discrepancies that joint efforts should be made

in the future. This process does not necessarily imply the disappearance of disciplinary barriers. Rather, it supposes a mutual internal critique leading to a recognition of the explanatory limits with which each discipline is faced. For instance, if biologists could develop a stronger concern for the producers' ethnoscientific and practical knowledge in fisheries, economists could reduce their tendency to 'naturalize' the labor force as a factor of production, giving more importance to the producers' view of economic planning and economic ends, and also develop a more balanced emphasis between production and distribution. And for their part, anthropologists should better objectivize their own 'social trajectory' in the fisheries by extending their research interests beyond the community level, and paying greater attention to the bureaucratic sphere, thus promoting, within paradigms already existing in their discipline, better channels of communication with practitioners in neighboring academic fields. I will try to illustrate such a process with an example derived from development experiences in Costa Rica's artisanal fisheries.

Economic Anthropology and Fisheries Development in Costa Rica: A Question of Problem Formulation

Compared to the organizational features of fisheries in many Latin American countries, those of Costa Rica are still at an incipient stage of development. Its 6,500 fishermen averaged a total annual catch of less than 20,000 metric tons over the last fifteen years, this amount including the landings of 70 draggers since 1970. With a production consisting mainly of shrimp and demersal species such as 'corvina' and 'pargo,' the activity represents 0.26% of the gross national income, and fishermen form only 0.8% of the total active labor force. In addition, Costa Rica imports about 20% of the fish sold in its internal market places.⁸

Taking into account the extension of its littoral zones, and especially the importance of its continental platform on the Pacific side, the wide variety of species encountered, and the nutritional problems which exist in several areas, no doubt production could be increased and the overall importance of fishing activity enhanced.⁹ To be sure, numerous specific actions by national and international agencies have addressed the development of the fishing sector. Why, therefore, did none of these attempts succeed in fundamentally changing the situation? We use here as a case study one of the major interventions in Costa Rica fisheries, promoted jointly between 1976 and 1983 by the Inter-American Bank for Development (BID) and the Costa Rica government.

This project, originally launched in several Latin American countries to increase production in the industrial and artisanal sectors, focused investments in fishing technology and infrastructure linked to landing and processing activities.¹⁰ A sum close to \$20 million (US), of which \$6 million came from the Costa Rica government, was to be invested. Sixty percent of the

amount was oriented towards fishing cooperatives in the artisanal sector. Most of the investments consisted of buying and constructing boats, as well as support for a fish plant in Puntarenas and sea-port facilities in Guajiniquil, with the remainder earmarked for professional training of fishermen and for administrative purposes. A group from a national bank (Banco Anglo Costaricense) and various government agencies took charge of the planning and execution of the project. The implementation phase was originally designed to last four years. Nonetheless, it lasted eight years, and, in spite of this extension, ended up with only modest results. Only 33% of the initially anticipated budget was used, the cooperative in charge of the promotion of much of the actions in the artisanal sector went into bankruptcy, and only 21 of the 51 boats planned for the artisanal fisheries were built. Because of the lack of specialized training, the fishermen could not use these boats adequately, and their fishing efforts generated increased debts and loss of revenues.

On balance, this important project, set up by international fishing experts and supported by large amounts of money, was a failure, not only at the financial level, but also at the level of fishermen's confidence in external aid and in the cooperative ideals. Now, in spite of some efforts of rectification by national and other international agents, many difficulties remain for the economic and social promotion of the sector.¹¹

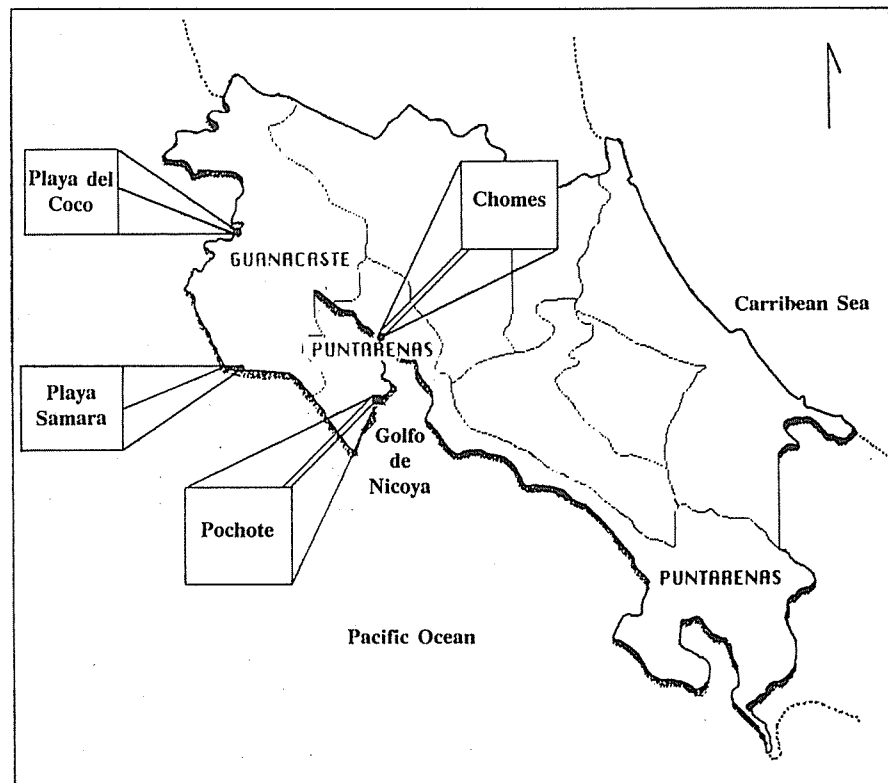
Several lessons can be derived from these development projects. Most critically, their interdisciplinary basis remained incomplete, as they relied most heavily on partial knowledge of the biological resources which was rooted in an almost unyielding faith in strict economic and administrative planning without any structured concern for the social dimension of the activity. By this, I mean not only a lack of attention to the fishermen's cultural values, forms of organization, and degree of familiarization with the cooperative formula, but, above all, a lack of knowledge about and indifference to human contexts in which the activities takes place.

The majority of the development programs that have been implemented in Costa Rica fisheries thus far share the following common characteristics. First, they were based on interventions that international institutions wished to export to underdeveloped countries in order to enhance their political visibility. Second, they were filtered through a national bureaucracy or internal agencies whose members have never thought about fishermen's values, since most staff members in these institutions are trained in academic fields dominated by formalist approaches that inevitably lead to the 'naturalization' of the producer as an economic variable. Third, they constantly sought to promote a cooperative model, itself stereotyped without verifying whether it was the most appropriate avenue in a given regional or community context. Even more dangerous was the concurrent establishment of fictitious cooperatives that functioned as bureaucratic offices, without significant administrative capacity but presumably representing the voice of the fishermen.¹²

Maritime social anthropologists, given their training and expertise in the social aspects of fisheries, could play a more active and positive role in the development of projects in this sector. I will illustrate this position by referring to a research project that a Université Laval team is presently conducting on artisanal fisheries in the Gulf of Nicoya and the Peninsula of Guanacaste. Previous analysis of the failure of several development projects in Costa Rica, added to former research experiences in different cultural contexts, led us to rely on a framework aimed at examining the social diversity of artisanal fisheries in these regions.

Diversification in Costa Rica Fisheries: Implications

We were aware that the economic crisis at the beginning of the 1980s had caused major structural modifications which had destabilized the existing division of labor and encouraged agricultural producers to engage in artisanal fishing. Thus we aimed first at reconstructing the social trajectory of fishing



Map 1. Costa Rica: Communities Selected for Study.

as economic activity. Taking into account the nature the resources, equipment, labor force and the institutions in charge of the promotion of the activity, we reached a first level of comprehension that rendered us more familiar with the macro-evolutionary context of the fisheries sector.¹³ This effort was useful not only to better objectivize the present-day situation but to understand the structural marginality of the sector, a feature that remains a key variable for the elaboration of future interventions.

Contrary to the rationale sustaining many development programs, we came to the conclusion that the evolution of fishing was more conditioned by external than internal factors. Its marginality at the economic and political levels led to a situation in which national policies were oriented towards the promotion of other activities, the conduct of which greatly affected the fishing industry. Agricultural fertilizers and industrial wastes increased pollution in the major fishing areas, namely in the Gulf of Nicoya. Access to credit became more difficult for the fishermen. Moreover, given the fragility of an agricultural production oriented towards external markets and the land concentration process that followed the economic crisis, primarily in the cattle-raising sector, many producers without former experience in fishing were drawn into the activity. So our initial effort to characterize the Costa Rica fisheries as a production process, with an approach derived from economic anthropology, greatly enriched our vision of the diversity existing among producers. At the analytical level, it was not helpful to simply distinguish artisanal from industrial fishermen or even to try to classify them according to the species captured. Of utmost significance in terms of practical interventions was the analysis of the depth of their involvement in the activity and consequently of the historical basis of their human capital.

A second level of diversification, in addition to the identification of various productive cycles according to the labor processes in fishing, lay in the relative importance of fishing within the total occupational structure of the communities themselves. In some communities, fishing represents the main occupation; in others, it has an ancillary character. Furthermore, this relativeness is itself embedded in a differentiated occupational structure, with the conduct of fishing varying according to the presence of agricultural, industrial, or tourist activities. From an anthropological point of view, this articulation would drastically change the economic planning attached to the activity, since it influences the availability of the pool of labor force at given periods and affects the channels of commercialization of the product. The presence or absence of a fishing cooperative in the community, in light of these elements, is of secondary importance.¹⁴

A third level of diversification consists in the internal features of the domestic units involved in fishing. While in some communities, especially those with long involvement in fishing, the majority of producers belong to families in which fishing appeals to most of the male members, in others, only one member of the unit actively participates in fishing. This situation creates discrepancies and variations in the accumulation process and greatly affects

planning and work continuity in the activity. With the increase in the total number of producers recently, in some communities we see the involvement of women in the acquisitive phases of the fishing activity, a situation that destabilizes former cultural patterns of gender relationships.

A fourth level lies in the presence or absence of structured coalitions at the community or regional level through which producers' aspirations and claims are channeled. Let me mention here that I refer not only to cooperative but likewise to other types of group relations such as the existence, in several Costa Rica regions, of an Association for Development (*Asociación para el Desarrollo*) whose members actively participate in the municipal political sphere or on local committees of fishermen. Rarely referred to in the development projects, they nevertheless constitute significant social entities which are often characterized by a stronger stability and efficiency than their counterparts in the cooperatives. Concerning the latter form of organization, cooperatives, we have been impressed by its structural weakness, its negative history of implantation in some areas, its fictive character in others, and, in the overall, its promotion by resort to an 'agrarian model' that fails to take into account the unique character of fishing as a social and economic activity in a given communal setting. There exists, therefore, a great diversity and an unequal understanding of the social coalitions at work in Costa Rica fishing communities.

A fifth level of differentiation derives from the communities' historical degree of familiarization with national and international institutions. Greatly influenced by the geographical location of the communities and the existing transport facilities – which, for example, affect the supply of equipment and the marketing of the product – this situation gives rise to a context in which some communities have already experienced various 'external' or 'directed' interventions while others have been consistently neglected. In either context, given the failure of several projects, greater attention should be paid to the people's cultural schemes and conceptions of bureaucratic actions. This demands a more careful examination of the social and ideological setting in which the promotion of a project can be done and a better identification of the cultural channels through which initial information can be transmitted.¹⁵

Finally, in Costa Rica fisheries, especially on the Pacific side, a strict correspondence between politico-administrative and ethnic boundaries does not exist. The people living in the Guanacaste Peninsula share a remote but otherwise common affiliation with the indigenous Chorotegan culture. Even though this affiliation was somewhat attenuated by the integration of this area into the Costa Rica nation during the last century, it remains, at some ideological and referential levels, an important factor explaining the fishermen's reluctance to engage in regional coalitions which crosscut their former cultural boundaries.¹⁶

Summary and Conclusions

This brief suggestion of the social diversity of artisanal fishing communities in Costa Rica shows that, depending upon the variables taken into account, problem formulation within development projects can lead to very different hypotheses and concrete solutions. On the one hand, the communities can be thought of as relatively identical and homogeneous social groupings in which there is no need for comprehending their internal components. In these cases, a few statistics on the demographic and occupational structures might be judged a sufficient basis for grasping social dynamics. On the other hand, efforts can be made to deepen our knowledge of this dimension and to increase one's control of variables that play a key role in accepting or rejecting interventions.

Rooted in an economic-anthropology framework, our vision of interdisciplinarity in fishing implies the existence of strong interactions between the technical and social aspects of production, while emphasizing the need to understand the genesis of present-day situations and the ideological setting that moulds them. At the operational level, this orientation does not mean the reliance on research efforts that would last almost indefinitely or which would constitute a form of pure, ongoing ethnography. Rather, it suggests the need for more middle-range and controlled comparisons suited to the identification of the structural variables at work in a given regional context, a procedure with which social scientists involved in fishing are familiar.

Without meaning to put forward too strong an analogy, the reproduction of the 'social biomass' also responds to certain rules, the content of which varies according to such things as the 'social climate,' 'population pressure,' 'individuals' migration patterns,' and the extent to which authorities are aware of their preservation needs. In this regard, the action of social scientists would be useful for establishing 'quotas' for certain types of development projects in fishing.

Notes

1. The research in Costa Rica was supported by a grant from the Social and Humanities Council of Canada for the period between June 1989 until May 1992 (Nr: 410-89-1370). I express my gratitude to the team members (E. Lopez, E. Houde, C. Benazera, M. Chavez, D. Roy and E. Breton) for their support and comments.

2. For the syntheses of the history of maritime anthropology, see Acheson (1981); Breton (1981); Diaw (1983); Galvan (1984); Fernandez (1988); Breton and Lopez (1989).

3. Bernard (1976) criticized the term 'maritime anthropology,' arguing that there was no need for an additional subdiscipline within social anthropology, but he was not followed by many people. Others advocated establishing this new field of studies, insisting on the unique character of maritime adaptations and the great specificity of maritime cultures. For example, see Smith (1977).

4. As it frequently happens in the expansion of the 'academic market,' the consolidation of maritime anthropology gave rise to a proliferation of collections, which incorporated a wide

range of ethnographic facts but without introductions or conclusions that would specify the conceptual issues at work. See, for instance, Casteel and Quimby (1975); Smith (1980). This greatly contrasts with more recent studies which include discussions of the conceptual basis upon which the contributors rely (e.g., *Journal of Canadian Studies* (1984); Marchack and Guppy (1987) and Pinkerton (1989).

5. The diversity is found, for instance, in the work of Davenport (1960), using game-theory analysis for the study of Jamaican fishermen, Charest (1979), discussing the political organization of marine producers located on the Lower North Shore of the St-Lawrence, and Bourgoignie (1972), relying on an ethnoscientific approach in his study of the Dahomey fishermen. These examples could be greatly multiplied, and are characterized by approaches that, even though they are influenced by paradigms at work in other disciplines, barely refer to the need for interdisciplinarity in the social study of fishing.

6. One can ask to what extent B.J. McCay, an anthropologist who did intensive field work in American fisheries, was influenced by this premise when, within the cultural ecology paradigm, she promoted the use of the term 'people ecology' (1978).

7. Many references now illustrate adequately this changed situation. For instance, see Kearney (1984); Lamson and Hanson (1984); McCay and Acheson (1987); Pinkerton (1989); Davis and Jentoft (forthcoming). It is also worthwhile to mention that as early as 1977 R. Andersen wrote a seminal essay aiming at promoting dialogue between social scientists and applied researchers in fisheries.

8. Bermudez and Pacheco have published various statistical and economic studies on the Costa Rica fisheries (cf. 1987, 1983, 1981).

9. Close to 90% of the national production is concentrated on the Pacific side, in the area of the Gulf of Nicoya, where there exist about 60 fishing communities.

10. At the beginning of the 1970s, Latin American countries produced between 10% and 15% of the world total fish catch. The BID (Inter-American Bank for Development) intended to promote fisheries development in 19 countries, with a total estimated budget of \$530 million US, of which \$218 million would come from external aid. The global project aimed at increasing by 46,000 the number of new jobs in fishing and the volume of production of the 2,000,000 Latin American fishermen from 3 to 18 metric tons a year (Pacheco and Bermudez 1984).

11. In addition to this extended project, Costa Rica fisheries have been the object of several interventions. Given the relative political stability of the country, international institutions are omnipresent in rural areas. In fishing, international projects were conducted by Japan, China, Spain, and more recently Canada (CIDA: Canadian International Development Agency and IDRC: International Development and Research Center). A Canadian NGO (Non Governmental Organization) is presently engaged in a \$2 million project in the Gulf of Nicoya.

12. Of about 25 fishing cooperatives created since the mid-seventies, a dozen or so still exist, some of them operating with great difficulties.

13. Seven months of individual research have been done by the team members during the first phase in the summer of 1989. They produced a preliminary report distributed afterwards among various Costa Rica institutions.

14. Our research includes the study of four communities (Pochote, Chomes, Playa del Coco, and Nosara), each characterized by specific types of fishing (mangrove, coastal, and aquaculture), with populations ranging from 150 to 2,000 individuals which in turn are embedded in diversified occupational structures.

15. The negative trajectory linked to the development of fishing cooperatives in Costa Rica strongly effects the fishermen's response to external aid. If the promoters are ready to provide them with money or equipment, they will not hesitate to engage in the cooperative formula, well aware, however, that it will not drastically modify their habits and thinking. More effective seems

to be the recently established fishermen's committees set up by the Ministry of Agriculture through which the producers can benefit from discounts on the price of gas and have more say in the management of their local resources. (COLOPES: comites locales de pesca).

16. The case is very obvious in the southern part of the Guanacaste Peninsula, an area which, at the politico-administrative level, depends upon the Province of Puntarenas. Several informants could not explain the rationale for such a delimitation without mentioning the political weight of a mercantile bourgeoisie in the town of Puntarenas which wished to take advantage of a rich and close territory, largely unexploited at the time administrative limits were defined. But culturally speaking, several inhabitants mentioned their Chorotegan roots and consider the town of Nicoya, located at the center of the Peninsula, more representative of their former culture.

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