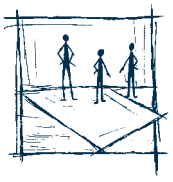
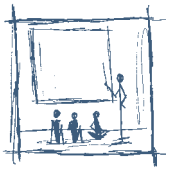
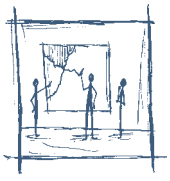
THE PROJECT SEQUENCE



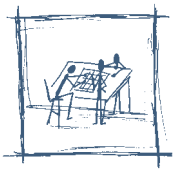
GROUND PREPARATION



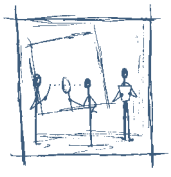
ORIENTATION AND TRAINING



GATHERING DATA AND SKETCH MAPPING



TRANSCRIPTION OF DATA ONTO NEW MAPS



VERIFICATION OF DATA

CORRECTING AND COMPLETING THE FINAL MAPS

4

STEP ONE: GROUND PREPARATION

In both countries, prior to the mapping proper, project staff prepared the ground in three areas, with incomplete success: they visited communities where the mapping was to be done to discuss the process; they made visits and formal presentations to government agencies and NGOs to explain the methodology and find points of collaboration; and they gathered together all of the available cartographic materials on the area to be mapped. The first two tasks were political, while the third was of a technical nature.

INFORMING COMMUNITIES

The purpose of visiting participating communities prior to the start of mapping activities is to explain the objectives and general methodology of the project. This is to assure that villagers' suspicions, if any, are allayed and to prepare them to collaborate with the Surveyors when they arrive.

In Honduras, the project was given some advance publicity in the communities through broadcasts of the Miskito station, Radio SAMI, "The Voice of the Mosquitia." Letters describing the project were also sent to schoolteachers, religious leaders, and political authorities. Some visits to communities were made, but this was less extensive and systematic than it should have been, for a variety of reasons. First, more than 170 communities spread out over an area of roughly 20,000 km^2 were participating in the project. There are few roads in the region, and access to all but a few of the closer communities would have been extremely time consuming and costly. Second, because of the suddenness with which the project was launched, there was little time to do much of anything.

In Panama, the difficulties of coordinating the different groups in the project team, coupled with the insecurity of funding, kept project leaders from visiting communities until everything was set up and ready to move forward with the first workshop. Another wrinkle revolved around the ethnic composition of the team. The Emberá, the majority indigenous population in the area, dominated the project by their sheer numbers. Their leaders had been involved in the earliest negotiations and, alone among all of the groups, they had a relatively clear idea of the general lines and objectives of the project, although they had little sense of the methodology to be used. The Wounaan were allied with the

Emberá in the Emberá-Wounaan Congress and were consequently semi-informed; but the Kuna, with a small population arrayed in five villages split into north and south settlement areas, were entirely excluded from the process until after the first workshop.[22] As a result, many of the Emberá and Wounaan communities had some knowledge that a project was in the offing through their informal network, but they weren't aware of the details until the Surveyors arrived in their communities to do fieldwork. The Kuna Surveyors were selected on the heels of the first workshop, and there was no advance notice of the project at all.

This lack of ground preparation caused problems in both countries, although they were more severe in Panama. Some communities were offended that they had not been informed of the project earlier. Others were not convinced of the value of the project, even with explanations and formal letters of introduction. They needed more explanation from project leaders and more time to discuss the matter internally before they would fully cooperate. In Panama, many of the Surveyors were young, and their message was not taken seriously until the Coordinators arrived and held village meetings to explain what was going on. Yet with the travel difficult in the region, the Coordinators could not visit the communities until after the mapping was well under way and precious time had been lost.

INFORMING/INVOLVING GOVERNMENT AGENCIES AND NGOS

In both Honduras and Panama, titling of indigenous lands is an issue that is certain to raise blood pressure and on occasion cause blood to flow. With this in mind, steps were taken to minimize the political aspects of the mapping and represent it as a relatively straightforward technical exercise aimed at mapping indigenous subsistence patterns. The project teams in both countries spent a substantial amount of time visiting government ministries to explain the methodology and the objectives of the project. Government officials were given an open invitation to drop by the workshops when they were in session.

In both countries, project staff began communicating with government agencies and NGOs early in the process, months before the mapping began. Initial visits were made to cover general themes; then as the project came together, presentations were given with maps and other illustrative materials. If we were not expansive about political agendas, we were clear about the utility of maps for conflict resolution. Project leaders argued that maps of this sort would provide an objective basis for rational, measured discussion about natural

22 *The Emberá have a total population of around 11,000, while the Wounaan number close to 2,500 and the Kuna 1,500. Of the 82 communities in the project, 59 were Emberá, 8 Wounaan, 10 Emberá-Wounaan, and 5 Kuna.*

resource management and conservation, or for planning projects that might be considered in the region. As such, the project was presented as an alternative to the ambiguity and violence that was spreading across both the Mosquitia and the Darién.

In Honduras, MOPAWI was instrumental in making contact with the Honduran Corporation for Forestry Development (Corporación Hondureña del Desarrollo Forestal, or COHDEFOR), the National Agrarian Institute (Instituto Nacional Agrario, or INA), and the National Commission for the Environment (Comisión Nacional del Medio Ambiente, or CONAMA, which later became the Ministry of Environment). In Panama, CEASPA was the key to contacts with the National Institute for Renewable Natural Resources (Instituto Nacional de Recursos Naturales Renovables, or INRENARE), the Office of the Treasury for the Republic (Contraloría General de la República), the Ministry of Government and Justice (Ministerio de Gobierno y Justicia), the Universidad de Panamá, the National Association for the Conservation of Nature (Asociación Nacional para la Conservación de la Naturaleza, or ANCON), and the People's Center for Legal Assistance (Centro de Asistencia Legal Popular, or CEALP).

Beyond this, MOPAWI in Honduras and the project team in Panama actively sought — and achieved — a collaborative relationship with their respective IGNs, or National Geographic Institutes, the government agency responsible for mapping. This collaboration would not have materialized had the project been seen as politically sensitive. There were three primary reasons for seeking this link. First, we wanted access to the considerable resources of the IGN, which included maps and aerial photographs of the regions to be mapped, as well as cartographers. In both countries it is difficult to lay hands on these materials, vital to carrying out the project, without a close association with this institution. Second, we wanted to make the project as transparent as possible. By including IGN cartographers and draftsmen in the workshops, the process would be open for inspection, dispelling any thoughts that the project might be politically problematic. And finally, in the Honduran case, MOPAWI's Land Legalization Program had consistently sought to influence government policies through technical programs and negotiation rather than through confrontation and activism. Collaboration with government agencies was consistent with its standard operating procedure. Everyone agreed to take the same approach in Panama.

LAYING THE TECHNICAL FOUNDATION

Ideally, the technical team should gather together as much information as possible on the region to be mapped before the process begins. This should be done well before the first workshop so that the technical team will have a clear idea of what exists and where the holes are, and allow existing materials to be checked for accuracy. These materials consist

of (1) maps — any cartographic materials that exist on the area; and (2) aerial photographs and satellite images of the region. Some of these materials will be old (and often out-of-date), some newer, but all are potentially useful to the project.

In both Panama and Honduras, most of the 1:50,000 base maps covering the region to be mapped were secured beforehand from the IGN. These were tracked down and assembled relatively well in Honduras. In Panama, the process was spottier, and for the first workshop there were no maps to distribute to anyone or even to show. Aerial photographs were not assembled in any systematic fashion in either country. In Panama, the most recent photos were not assembled early enough. This developed into a serious problem during the latter part of the project, once it became evident that they were crucial for correcting the numerous errors in the government base maps of the Darién.

IGN cartographers in both Panama and Honduras said that preparatory work was not sufficiently systematic. There was no chance to evaluate the accuracy of the materials before the process began. This was due largely to the fact that the lead cartographer was in the United States until just prior to the second workshop (where individual mapping with each of the Surveyors begins) and the IGN cartographers had not been given any instruction on what needed to be done beforehand.

In Honduras, the lack of prior evaluation of the cartographic materials was of limited consequence because, as it turned out, the errors in government base maps were relatively minor and there was minimal need for revisions. In Panama, the inaccuracies in the government maps only became apparent well into the process. It was discovered that there were substantial errors and numerous corrections had to be made prior to working with the land use data. This was because the Darién is characterized by heavy rainfall (approximately 3,000 mm yearly) and nearly year-round cloud cover. This, combined with the unbroken forest canopy covering large stretches of the region, rendered much of the earlier aerial photography useless in plotting the physical features of the land. Beyond this, through the years the IGN had never attempted to check its cartographic work on the ground: the photographs upon which the base maps were made dated from the 1970s, and in a number of cases the courses of rivers had changed or settlements had been relocated. As a result, the IGN maps too frequently failed to represent the reality on the ground.

DELINEATING "ZONES"

The areas being mapped were large. The Mosquitia has a total land area of approximately 20,000 km^2 while the Darién has 16,802 km^2. The populations of the two regions, however, differ significantly: as many as 55,000 indigenous people are found in the Mosquitia, while the Darién has a

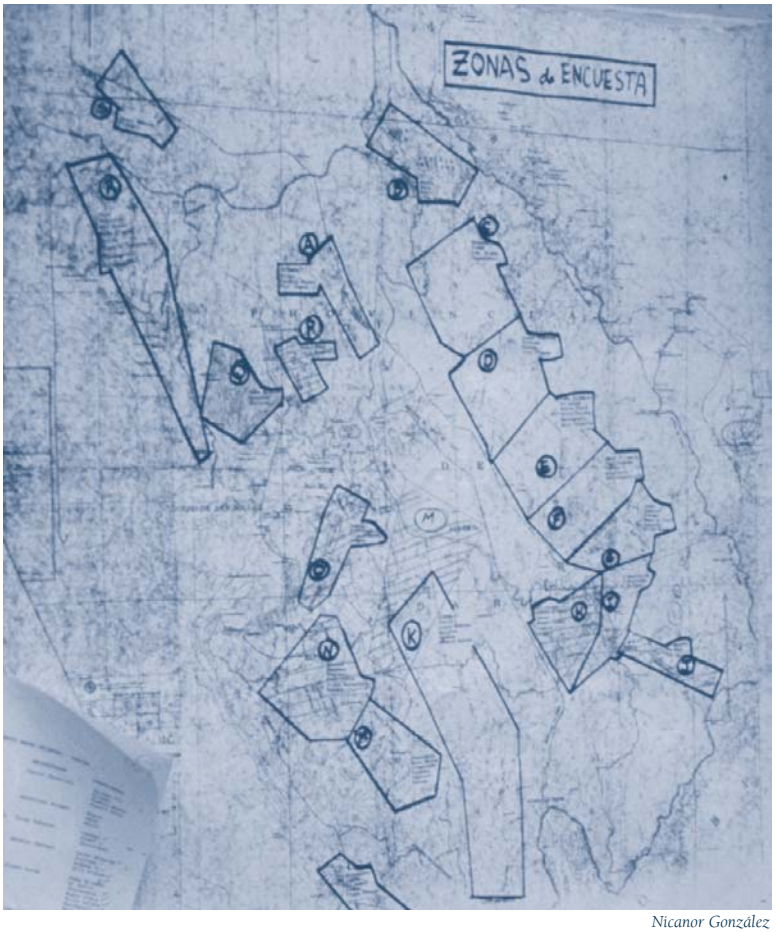
mere 14,000. In the Mosquitia, 174 communities were included in the study; in Panama there were just 82. In Honduras, the region was divided up into 17 "zones" that were worked by 22 indigenous Surveyors; in Panama, 20 zones were covered by 21 Surveyors.

The number of communities in a zone ranged from 1 (in Balsas in Panama) to as many as 22 (in Tinto-Ibans and Caratasca in Honduras). The zones consisted of communities clustered near each other; they were generally seen as "natural units" that were not only geographically close but also had socioeconomic ties, such as intermarriage, and commercial and political relations. Ethnic affiliation was a strong consideration in assigning zones. In Honduras, there was some overlap of ethnic groups: in the far northwest corner of the Mosquitia two zones contained Miskito, Garífuna, and Ladino peoples. But most of the zones were ethnically uniform, with Pech, Tawahka, and Miskito as the sole residents. In Panama, the Emberá and the Wounaan were occasionally mixed together in zones, as they were in reality; but there was no overlap of Kuna and Emberá/Wounaan communities.

In Honduras, the Tinto-Ibans zone was handled by three Surveyors while Caratasca had two Surveyors. Another zone, Recuperada, had 13 communities but was covered by a single Surveyor. In Panama, the largest load for a single Surveyor was eight, in the Sábalo-Jesús zone. The lead cartographer had wanted to limit the numbers of zones and Surveyors so the project would be "cartographically manageable." His initial proposal in Panama, for example, was to keep the number at 15, but after discussion with the Indians the number rose to 20, and there it stayed.

In both Honduras and Panama, the decision to keep the number of zones and Surveyors at a minimum caused severe strain on the community end. Many of the Surveyors were forced to dash from one community to the next, often spending little more than a few hours in each. This made it difficult if not impossible for an overtaxed Surveyor to spend time and gain the

Figure 10. Map showing the first rough cut for Surveyor zones in the Darién.



Nicanor González

rapport needed to elicit fine-grained detail and cultural information from communities outside his own. There was little chance to cross-check and compare data and resolve contradictions and other confusions. And thoughtful discussion in the communities of the broader meaning and implications of the mapping was impossible. There was simply too much ground to cover, too many communities to visit and elicit information from, and too little time. The data gathered under these conditions was spotty and weak.

SELECTING THE SURVEYORS

In both Honduras and Panama, the selection of Surveyors was made by the communities from the region, with input from tribal leaders. MOPAWI in Honduras had some say in the selection, but in Panama CEASPA was not involved. In Honduras, it was stressed at the outset that those chosen should be "...native-born and resident of their respective zone, well-known and respected community members, literate, and preferably with some professional skills" (Herlihy and Leake 1997, 715). In Panama, the criteria were roughly similar, although it was not clear how well community leaders understood them and there was no opportunity for the project team to supervise the selection process. In both countries, all of the Surveyors were male. While this was most certainly at least partially a result of male-dominated political structures, it was also argued in both countries that travel between communities was too strenuous and dangerous for women.

In Honduras, all of the Surveyors were mature adults and respected leaders in their communities. There were five teachers, two nurses, two agronomists, one pastor, and eleven farmers. All but three had completed their primary education. One consideration that came out later was that the teachers (as well as the nurses and the pastor), while respected in the region and literate, did not know the countryside as well as full-time subsistence farmers, hunters, and fishermen. They had trouble orienting themselves in the field and consequently had difficulties making sense of some of the field information, specifically that dealing with subsistence.

In Panama, several older community leaders were chosen as Surveyors; but most were young and many were not "leaders," even in the informal sense, despite their selection by the communities. In contrast to the Mosquitia, few had a high literacy level (there were no teachers or pastors). All of them were farmers and hunters with considerable experience in the forest. The younger Surveyors had minimal experience and little self-confidence with village politics. This caused difficulties for some of them because they lacked stature in the eyes of the elders and were unable to elicit the information needed for the maps; many villagers quite simply did not take them seriously, especially when they were not from their community. In one case, a Surveyor was so shy that instead of asking for information he

began filling in the map from his imagination. This was caught at the second workshop and he was set straight, but he had essentially lost the entire primary data-gathering period. When he returned to the field for the second data-gathering period, designed to answer remaining questions, he was accompanied by a Coordinator who had to explain the project in detail to the community so reliable sketches could be drawn.

DISCUSSION

Solid ground preparation before mapping activities begin is essential. The project must be explained clearly and in detail to the communities, and their concerns must be addressed so they will be motivated to undertake a time-consuming, arduous process. Government agencies in a position to support or oppose the project must be briefed thoroughly on the methodology so that they will collaborate in, or at least not block, project activities. Technical preparatory work must be thorough; a failure to gather all existing cartographic materials (government base maps, aerial photographs, satellite images, and so on) and evaluate them carefully before work with the Surveyors begins will cause holes in the data and costly delays.

Informing communities: Preparation in the communities was deficient in both Honduras and especially Panama. The large number of communities over a large and logistically challenging territory, the lack of prior planning, and the limited lead time all converged to diminish this phase of the projects in both countries. In Panama, this situation was exacerbated by the project's organizational confusions. Although the poor ground preparation is understandable given the contexts of the two projects, it had a ripple effect that limited what could be accomplished later on given the tight time frame of the project methodology. Rather than getting down to work immediately, some of the Surveyors were at a loss as to what to do. Communities demanded explanations, and the Coordinators had to visit the communities to explain what was going on. Everyone had to take time out of an already tight schedule to run through the basics, field questions, and enter into back-and-forth discussion of objectives, benefits, and implications. Undoubtedly, falling behind the time curve helped ratchet up the tensions in Panama. Along the way, several communities in both countries were reluctant to participate in the project before they were persuaded that it was in their interest.

Informing/involving government agencies and NGOs: Communication with government authorities, especially, was critical. Because land tenure is a sensitive issue in both Honduras and Panama — each in its own way — it was necessary to emphasize project transparency and present government officials with a thorough account of the methodology and objectives of the mapping. This went well in both Honduras and Panama. Valuable collaboration with the government mapping agencies was secured, and this lent credibility to the finished product. The fact that the two IGNs printed the maps made them invaluable tools for

indigenous peoples in negotiating land tenure issues in both countries.

Laying a technical foundation: In Honduras and Panama complete sets of 1:50,000 base maps covering the region to be mapped were found, together with a spotty collection of aerial photographs; but these were not assembled in timely fashion. The lead cartographer had arrived in the countries at the start of the second workshop (when the cartographic work with the Surveyors began), too late to do a thorough evaluation of the available cartographic materials, and the in-country members of the technical team had not been instructed on what to do beforehand. This caused unnecessary delays and increased the pressure on all of the participants in the workshops. The negative consequences of poor preparation of the technical materials were more severe in Panama.

Had the technical team begun to assemble and analyze available maps, aerial photographs, and satellite images several months before the process got under way, the cartographers would have gained a better sense of the resources at their disposal and their strengths and weaknesses. They would have been in position to determine whether or not extensive revisions were warranted, and adjusted their schedule accordingly; and they would have brushed up on their knowledge of the region.

Delineation of zones, size of mapping area, and selection of Surveyors: The key elements here are the size of the area being mapped, the number of communities involved, and the number of Surveyors gathering information. What is a manageable territory to take on and how many Surveyors will be necessary to cover it adequately? In Honduras, the area was large and there were too many communities (174) for too few Surveyors (22) to adequately cover the ground given the short time period. In Panama, with a slightly smaller territory, there were fewer communities (82) with roughly the same number of Surveyors (21); but the need to do additional, unanticipated work in a tight time frame helped turn the project into a pressure cooker. The social aspects of the mapping — discussions in the communities, local involvement, training in the rudiments of cartography for the Surveyors — were diminished by the push to gather the basic cartographic data quickly.

Selection of the Surveyors is critical since the quality of the data depends preponderantly on their skills. Mistakes were made in both countries. In Honduras, a number of teachers and pastors were selected because they were respected in the community and were literate; yet they had very little experience with subsistence activities and had trouble describing the areas they were supposed to map. In Panama, the communities simply didn't have a good sense of what the project demanded, so they selected too many Surveyors who were too young and unseasoned. Although the Surveyors knew the forest relatively well, they had no stature with village elders and had trouble eliciting information from them.