



Xcalak Urban Landscape Design Manual

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Xcalak

Guidelines for Development

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December 23, 1998

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Thank you to the people of Xcalak for your participation, enthusiasm, and making us feel a part of your community!



Thanks, Dana Wusinich, for your dedication, assistance, helping us fit in, and, of course, your friendship.

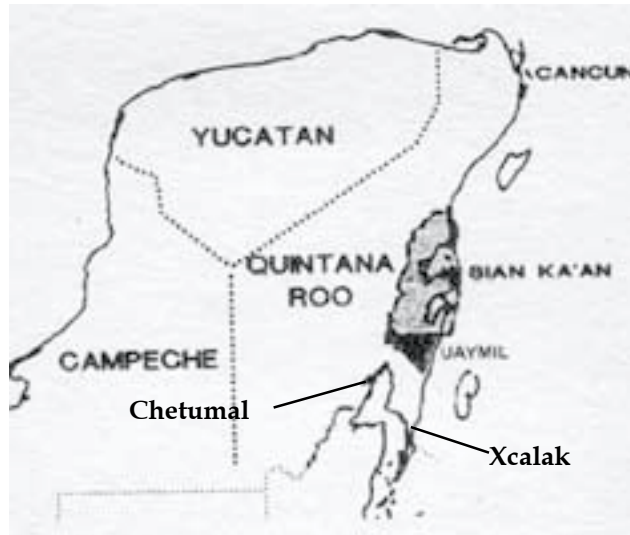


Thanks, Professor Cheryl Doble, for the continuous advice, encouragement, and understanding.



Thank you, Carlos Lopez, and Amigos de Sian Ka'an, for supporting the Xcalak planning process.

Introduction



The Yucatan Peninsula
(map courtesy of Amigos de Sian Ka'an)

Xcalak is a small fishing village on the Caribbean Coast of the Yucatan Peninsula. Despite the extensive tourism development along the Cancun-Tulum corridor to the north, Xcalak has experienced little tourism development due to its remote location.

Recently, the government of the state of Quintana Roo has turned its eye toward the coral reef and unspoiled shoreline of the southern coast as another potential tourist destination on a scale with its northern coast. In 1993, Governor Mario Villanueva sanctioned a plan for the development of this area called *The Costa Maya Plan*. This plan lays out development zones along the coast from the Sian Ka'an Biosphere Reserve south to Xcalak.

While *The Costa Maya Plan* displays a degree of sensitivity to the natural resources by calling for sustainable energy sources and limiting size of construction, it overlooks the importance of preserving existing

communities within the area. According to the complicated zoning maps accompanying the plan, Xcalak is slated for commercial tourism development, while the existing community is to be relocated to an area further inland, near the newly constructed airport.

Amigos de Sian Ka'an, a non-profit group that coordinates environmental projects in and around the Sian Ka'an Biosphere Reserve, has taken an interest in conserving both the unique ecosystems and the residential community of Xcalak. In an effort to help residents take an active role in this region's growing tourism industry, Amigos has established programs to teach English and natural history to the residents. These programs are already proving beneficial to the community. Residents are working to have their coral reef declared an officially protected area, are developing programs and activities for tourists, and are playing an active role in the development of Xcalak.

This document, *Guidelines for Development*, is the result of a collaborative effort between Amigos de Sian Ka'an and the Faculty of Landscape Architecture at the State University of New York College of Environmental Science and Forestry in Syracuse, New York, USA. Three landscape architecture students worked with Amigos' staff and the residents of Xcalak to develop a strategy for growth that protects the residents' valued resources and reflects their future vision of the community. This document records the planning process and the community's preferred development plan. The text and graphic images present the community's vision and illustrate design strategies that can be used to manage development appropriate to that vision. It is intended that this document be used to guide future planning and to facilitate discussions with local, state, and federal officials.



Meetings were held with the residents and visitors to review progress and to discuss revisions.

Community Planning Process



The people of Xcalak were the cornerstone of this project.

Working with the Amigos staff and the residents of Xcalak, the landscape architecture students facilitated a community-based process to identify local resources, to articulate a community vision for future growth, and to identify a design strategy that would fulfill that vision.

This community planning process took place in Xcalak over a three-month period from September-November of 1998. It was based on a

participatory process in which the students learned from the residents and the residents in turn evaluated design proposals developed by the students. The findings and recommendations are the result of several community-wide meetings, many individual conversations and an understanding of the community gained through the students' three-month residency in Xcalak. This document, *Guidelines for Development*, is a summary of the planning process, community vision, and proposed design strategy.

The first community-wide meetings encouraged residents to look at their town and to consider and identify what they valued about the community, as well as what makes Xcalak unique from any other place. Residents considered the physical, social, and historic character of the village, and described their images of the community.

With a clear understanding of the community, the residents then considered the issues associated with future change and listed the opportunities

and constraints that might influence the way change occurs. These issues, opportunities, and constraints then formed the framework for developing a vision for the town.

Once the vision had been clearly articulated, meetings focused on how the community could move toward achieving this vision. Goals to meet the vision were established, as well as preliminary objectives. The student design team then identified five alternative development schemes and, working with the residents, measured them against the community vision, goals, and objectives. Schemes that did not meet the goals and objectives were removed from further consideration. The remaining schemes were further discussed and evaluated, and ideas in those plans were integrated into a single plan that addressed community concerns and met their desires. That plan is the basis of this booklet, *Guidelines for Development*.

Issue	Opportunity	Constraint	Challenge
<i>Access</i>	remote location has preserved Xcalak's unique, attractive character	access to and from other towns is currently limited and laborious	providing better access for visitors while retaining remote character
<i>Infrastructure</i>	existing infrastructure encourages low-impact and self-sufficient development	existing infrastructure is unreliable and somewhat random	to acquire assistance and funding to organize and construct a reliable, cohesive system
<i>Waste Management</i>	people realize it is a problem and want to fix it	none	lack of organization, expertise, and money
<i>Growth Area</i>	there is a substantial amount of vacant and undeveloped land	some lands are ecologically sensitive, thus limiting development types	a large portion of the land is owned by non-residents who may not be aware of the community vision
<i>Services</i>	opportunities to develop new businesses	none	lack of trained personnel and opportunities for them to serve once they are trained
<i>Time</i>	new development is not imminent and there is time to prepare...	however, time is limited	to have a clearly thought out strategy in place which people are prepared to implement
<i>Support</i>	ongoing and strong relationships with Amigos de Sian Ka'an, World Wildlife Federation, University of Quintana Roo, etc.	none	to take a stronger role and partner more vigorously with government and non-government organizations

Issues are matters of concern to the community as they think about the growth of Xcalak. Issues can be opportunities, constraints, and challenges. *Opportunities* are conditions that the community can capitalize on, while *constraints* are circumstances that limit change. *Challenges* are situations that are presently problematic but could be resolved.

A *vision* is a clear statement of the community's desired future--a realistic dream of what it wants to be. The community uses the vision to guide ensuing growth, development, and change. *Goals* are broad, action-oriented statements that describe what the community needs to do to move toward its vision. *Objectives* state the actual steps of how the community will achieve goals.

The community's vision for Xcalak is "to become a thriving town where the needs of both long-term residents and tourists happily coincide while retaining its character of a tranquil Caribbean fishing village." Goals were defined to achieve this vision and are listed on the next page. The objectives for these goals are stated as recommendations in the "Next Steps" section of this document.



The Vision of Xcalak

To become a thriving town where the needs of both long term residents and tourists happily coincide while retaining its character of a tranquil Caribbean fishing village.





Goals to Achieve the Vision

Maintain Centro as community center.

Maintain public access to beach.

Maintain diversified economy.

Conserve the natural environment.

Maintain sandy streets.

Continue architectural styles.

Retain public spaces (soccer field, park, beach).

Preserve history and culture.




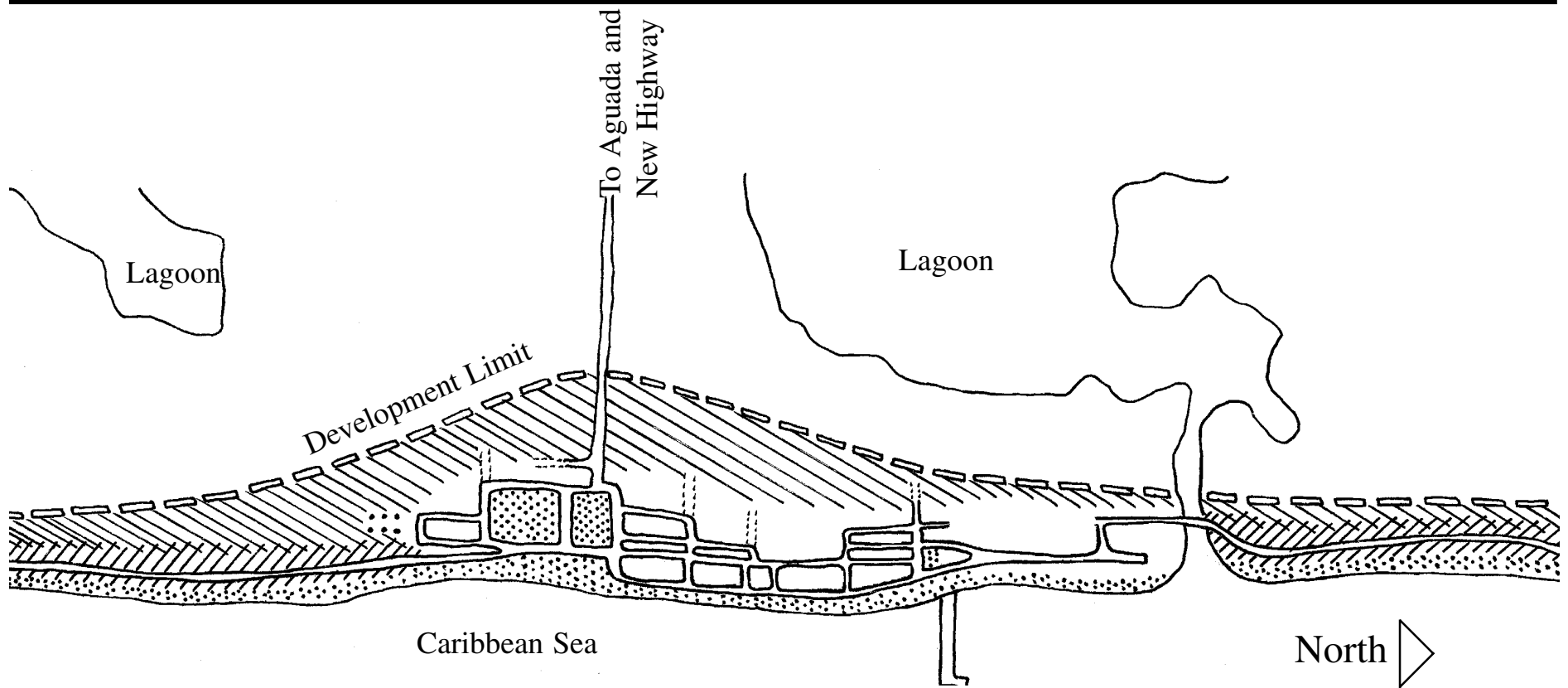
Development Districts





Residents identified three types of development that they expect to occur in and around Xcalak — residential, tourist and expanded commercial activities. Based on the proposed land uses, the students delineated three distinct development areas within the plan: Centro, Residential, and Coastal.

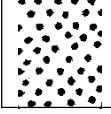
The three sections that follow describe the desired development patterns and built character of each area through text and graphic images. This information is intended to identify significant design, planning and infrastructure issues for each area and to provide a framework to guide future decision making by the community, planners and developers.

 Centro: Spanish for “downtown”, the Centro refers to the existing village. This area will continue to be the social and civic center of the community and will maintain the current mix of residential and commercial activities. Future development will occur through renovation of existing buildings, and construction on cleared and vacant lots.



 Residential: This development area is located inland from the existing village and the proposed coastal development area. This land has little appeal to developers as it does not front the coast and is therefore expected to remain available to local residents and newcomers who relocate to Xcalak seeking employment in the growing tourist market.

 Coastal: The coastal development area is located on land fronting the Caribbean Sea to the north and south of town. For the most part, this land is currently undeveloped and is owned by outside investors. It is expected that this area will be developed for tourist residences.

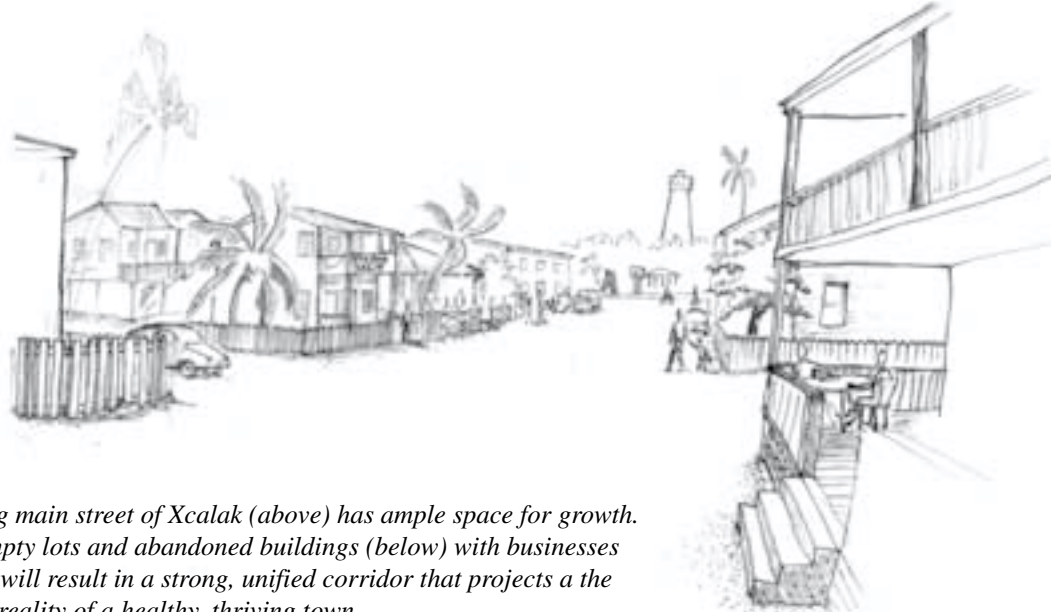
 Public Space: This area overlaps each of the other three development areas and is discussed within the respective sections. Generally, the entire length of the coast is expected to remain an area accessible by all people. Other public spaces include the park, the soccer field, and the land south of the soccer field where the potable water and electric facilities are sited.

Centro District



The location of the Centro District was one of the most important issues in strategizing the development of Xcalak. Residents were adamant that the Centro remain where it is, as it is: *the geographic, social, and commercial center of the Xcalak area.* The Centro District comprises most of the existing Village of Xcalak, including stores, businesses, restaurants, public and educational services, and homes. Development in this area is welcomed, as long as it is sensitive to issues of *beach access, community character, and local history.*

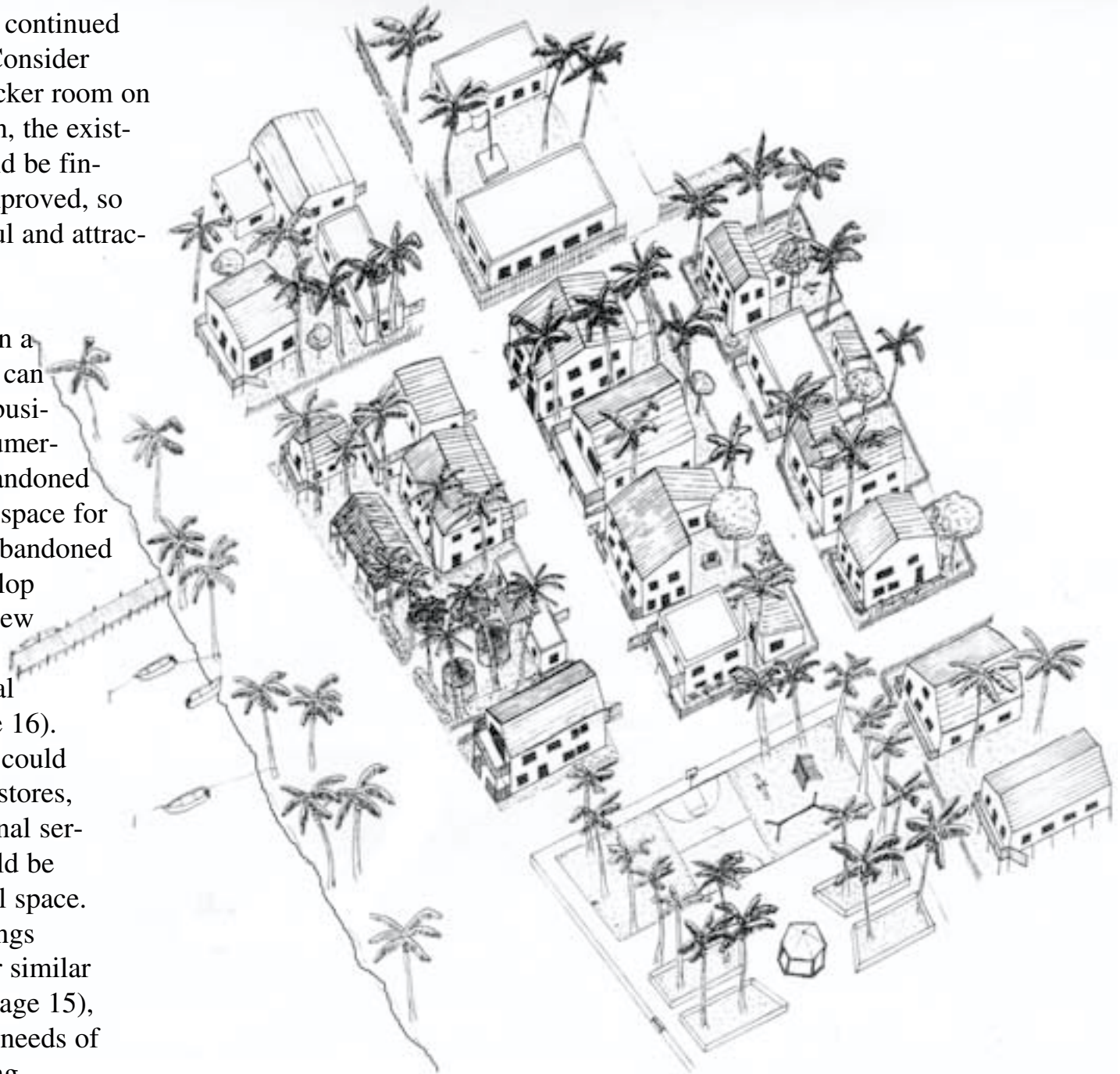
Most importantly, as new development occurs the beach must remain accessible to the public. The beach is an essential part of Xcalak, for commercial reasons—fisherman launch their boats from the beach—as well as for social activities—evening soccer games are a regular cause for gathering on the beach. Designate the coast road and the streets leading to the beach as public access routes to the beach. If the coast road is maintained, and development is restricted to the area west of the road, the road will create a buffer between the public beach and the privately owned



The existing main street of Xcalak (above) has ample space for growth. Infilling empty lots and abandoned buildings (below) with businesses and homes will result in a strong, unified corridor that projects a the image and reality of a healthy, thriving town.

adjacent properties, allowing continued public access to the beach. Consider building a public bath and locker room on or near the beach. In addition, the existing park near the beach should be finished, and the soccer field improved, so these areas will become useful and attractive public open spaces.

The Centro should remain a mixed-use area, where locals can continue to live and operate businesses. Currently there are numerous undeveloped lots and abandoned buildings that provide ample space for growth in this area. Assess abandoned buildings for reuse, and develop empty lots to accommodate new buildings. All new buildings should reflect the architectural character of Xcalak (see page 16). The lower level of structures could hold businesses, restaurants, stores, public services, and educational services, while upper levels could be used for office and residential space. The spaces around the buildings should be treated in a manner similar to the residential yards (see page 15), but adapted to the individual needs of the activity within the building.



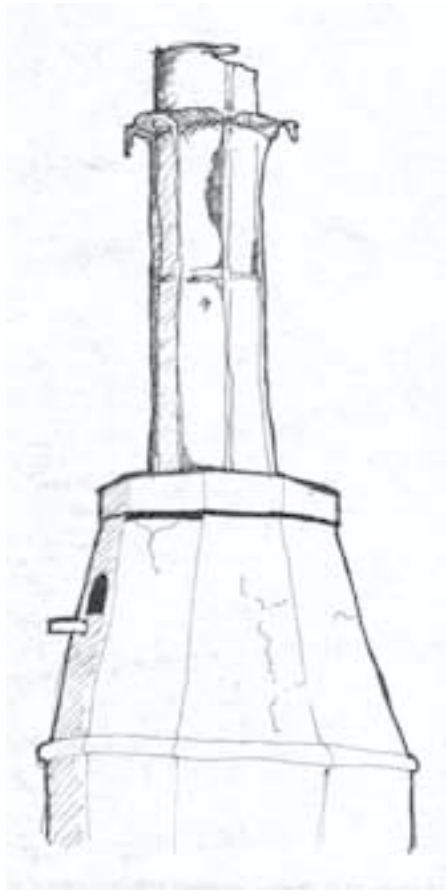


Encourage the use of golf carts within the Centro and use shuttle bus service to provide transportation between the Centro, the resorts and communities along the coast road. This will decrease vehicular traffic in the Centro, while maintaining the slower-paced, pedestrian friendly way of life that is characteristic of Xcalak. This will also encourage interaction between visitors and locals, preserve the sand streets, reduce the fuel consumption, decrease pollution, and maintain the unique character of Xcalak.



By maintaining the coast road and limiting development to the area west side of the road, the village will be able to establish a public beach and the coast road will serve as a buffer edge between “public” and “private” lands. The road could remain a vehicular route, or it could be designed as a pedestrian walkway.

Finally, there are three remaining structures, including the old lighthouse, which survived Hurricane Janet that should be preserved as a reminder Xcalak's past. These are unique resources that provide a starting point from which residents and visitors are able to interpret the rich history of Xcalak.



Residential District



Xcalak has a very close-knit community. Houses only a few feet apart, porches, narrow streets, and shared wells foster friendships. To retain the small-town, everyone-knows-everyone-else feel in Xcalak, maintain these elements in new residential development.



Tourism brings more than visitors—it also brings jobs. People will immigrate to Xcalak looking for work and a place to make a home. The residential areas of Xcalak will have to expand, and issues of location, street patterns, lot layout, and architectural scale and character must be addressed.

The first areas likely to be developed for new residential use are the empty lots within the Centro District. As this area becomes filled, residential growth will creep west toward the lagoons, and south past the windmills. The most densely populated residential areas will most likely ring the Centro District, and follow the road to the Aguada. Development should only occur on land suitable for construction. Be sure to delineate conservation easements around the lagoons and other sensitive areas *before* they are threatened by development.

The future streets of Xcalak should reflect the existing streets in scale, material, and pattern. The streets of Xcalak form an elongated grid, with the major streets running north-south, parallel to the coast, and intersected at regular intervals by cross streets, running east-

west. The main street is the widest, the coast road is not as wide, and residential streets are the narrowest. Both the main street and coast road have a sand surface, while the residential streets are practically grass, with two sand tracks.

New residential blocks should be laid out in a pattern that reflects the existing blocks, which are formed by the street grid. The existing blocks are one lot wide, and vary in length according to the spacing of the east-west streets. Individual lots are only a bit wider than their respective houses, and have access from both the front and the rear. The area behind houses, and underneath, if applicable, is used for work and play, and tends to have a variety of sheds, clotheslines, and other structures for storage and workplaces.

Houses tend to be sited on the edge of the lot closest to main street and face the direction of main street. New buildings built between the Centro District and the lagoons should follow this established pattern. Structures west of the soccer field along the road to the Aguada could either continue the pattern of facing main street, or take on a new



Future residential development should follow the existing pattern with blocks that are only one lot deep and with structures facing the main street (above).





Wooden buildings on stilts are the type of architecture residents and visitors most associate with Xcalak (above). Concrete houses can range from modest simplicity to intricate detail (bottom right and left). Some homes and businesses are built in the Mayan style, with stick and stone walls and thatched roofs.



pattern of facing the Aguada road, which would become the east-west main street of Xcalak.

The majority of properties are fenced, by wood, wire, concrete block, rope, vegetation, or shells. Whatever material is used, marking property lines seems to be an important concept and certainly adds to Xcalak's character. Maintain this pattern and encourage variety in material and treatment.

Formal street plantings are not suggested for the residential areas, and single species plantings should be avoided. Instead, residents should plant the trees, shrubs, and other types of vegetation they want or need for privacy, shade, food, and aesthetics. The variety of forms, style, color, and species created by this method helps establish a richness that a predetermined plan could not easily achieve.

New homes—and in fact, all new construction—should reflect existing residential architecture in scale, materials, and detailing. This will help distinguish the physical character of Xcalak, and will employ the skills and knowledge of local craftsmen and

builders. According to residents, wooden homes built on stilts are the architectural style that most contributes to the character of Xcalak. Other types of architecture found in Xcalak include concrete block buildings, which some residents feel are most economical and durable, and Mayan wood-concrete-thatch structures, which seem to be used more for restaurants and service buildings than homes. Thus, the variety of architecture in Xcalak should be maintained, with a predominance of wooden homes on stilts.

The height of structures should also vary, from one-story buildings resting on the ground, to structures aloft on stilts that may be three-meters tall. Houses are typically rectangular in shape, but additions and porches add interesting and varied forms. The scale of homes should be similar to existing houses.

All buildings should incorporate the typical details of the Xcalak architecture: porches with patterned railings, peaked roofs, shutter or slat windows, and brightly painted surfaces.



This house has many of the common details unique to Xcalak's architecture: the shuttered window (without glass), the plank fence, the lush vegetation, wooden construction, peaked roof, and stilts. The other photos depict some variations of the architectural details: clockwise, from the right, a porch, walled with decorative cast concrete blocks; a window with a panel shutter and trim; louvered windows; and a cut-piece wooden porch railing.



Coastal District



Xcalak already has several good examples of coastal development—Marina Mike’s (above) and Costa de Cocos (right). As seen from the ocean and up close, the buildings blend beautifully into the environment due to their low height, small scale, and natural materials.



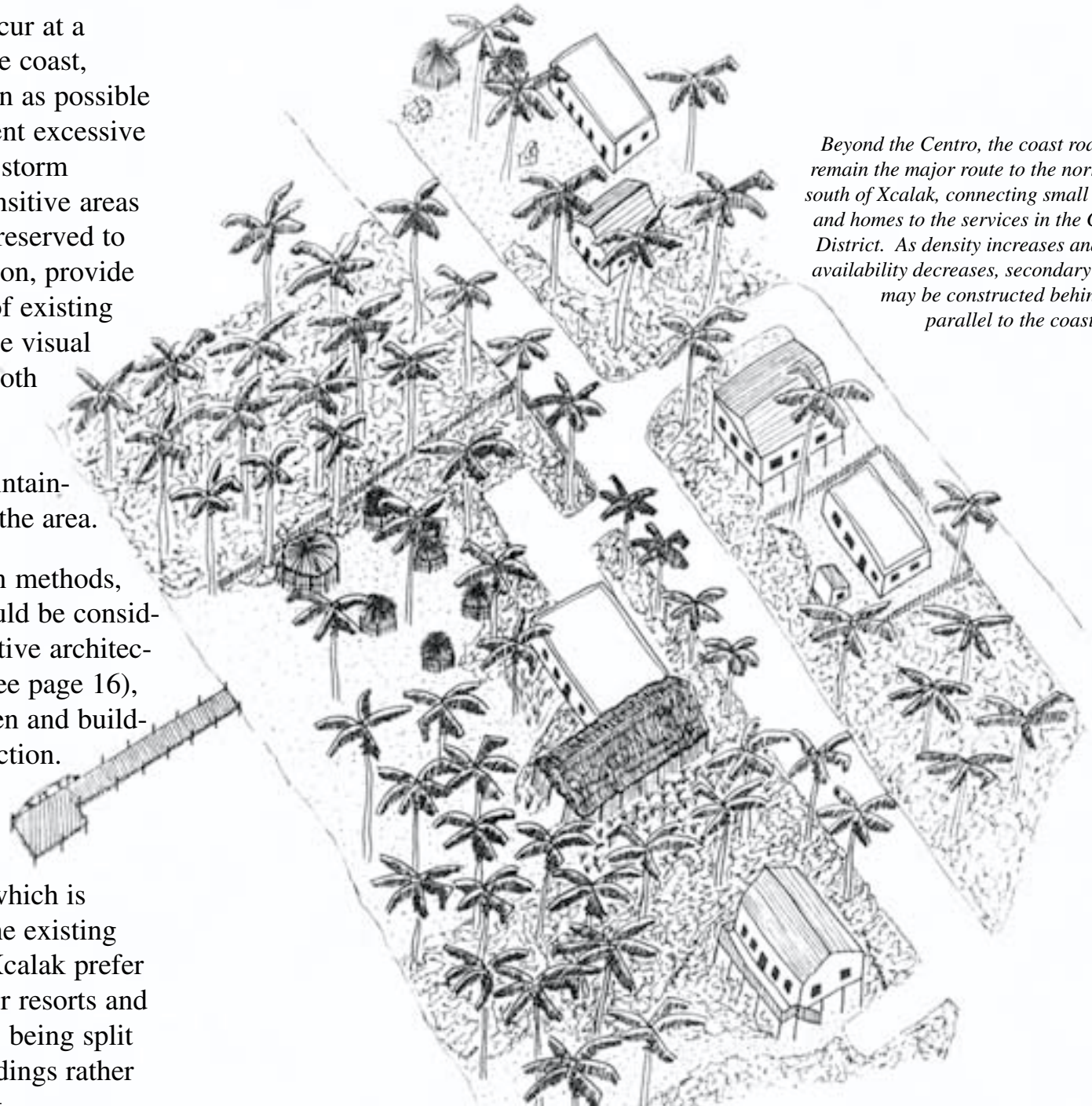
When a larger, single building is required, it should reflect Xcalak’s traditional architecture in scale, material, and details.

Coastal lands are expected to experience the greatest tourism development, as they offer proximity to Xcalak’s greatest tourist amenity, the Caribbean Sea. Currently there are large areas of undeveloped land along the ocean north and south of the Centro District which are designated as the Coastal District in this plan. Ideally there will be a mix of tourist and residential development in this area. Tourism development will likely dominate, and residential development is most likely to occur west of the coast road.

The Coastal District would be typified by small resorts, beach areas, natural areas, and some hotel-supported services such as restaurants and dive shops. All other services would be located in the Centro District to encourage visitors to support local businesses and decrease the need for further development in the Coastal District. New development should address issues of scale and character, environmental impact, and the variety of offered services.

Construction should occur at a reasonable distance from the coast, retaining as much vegetation as possible along the shoreline to prevent excessive erosion and damage during storm surges. Environmentally sensitive areas along the coast should be preserved to protect the shore from erosion, provide space for the continuation of existing ecosystems, and improve the visual character of the area from both sea and land. These areas would also provide buffers between developments, maintaining the remote character of the area.

Building types, construction methods, and materials selection should be considered to conserve the distinctive architectural character of Xcalak (see page 16), and to enable local craftsmen and builders to participate in construction. New construction should be limited in size and no buildings should be larger than two stories in height, which is roughly a bit shorter than the existing vegetation. The people of Xcalak prefer cabana-type construction for resorts and hotels, the accommodations being split into a number of small buildings rather than a single, large building.



Beyond the Centro, the coast road will remain the major route to the north and south of Xcalak, connecting small hotels and homes to the services in the Centro District. As density increases and land availability decreases, secondary roads may be constructed behind and parallel to the coast road.



Wind mills, solar cells, and a generator provide the electric for Xcalak. Presently the power lines (above) do not extend much beyond the edge of the village. By developing individual power systems rather than extending the lines, new development will occur on a smaller scale and in a scattered pattern, which will help to retain the coast's remote character.



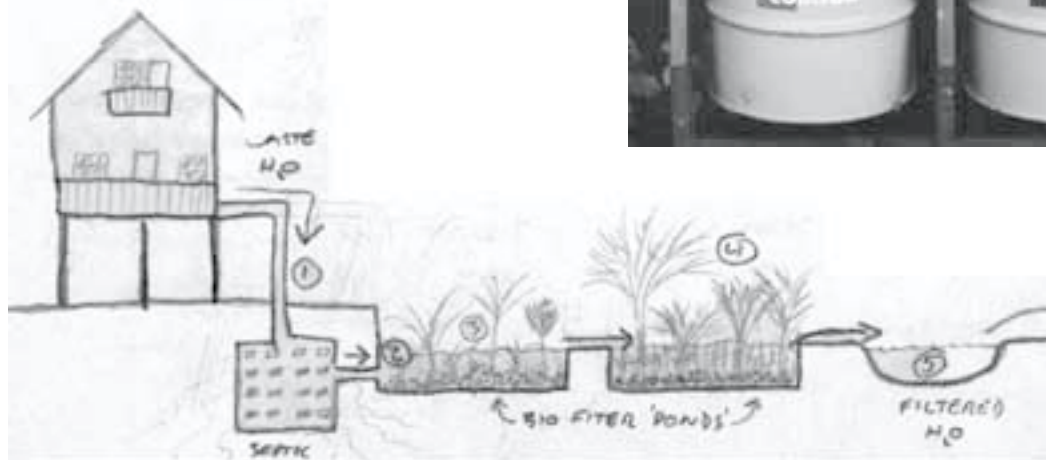
Developers in the Coastal District will find it useful to manage their own power, water, and waste programs as the existing infrastructure is extremely limited. Windmills and solar cells, combined with a diesel generator, currently provide electricity for Xcalak. Power lines carry electricity from the energy converter to homes and businesses between the bridge at the north end of town and the windmills. Residents augment the town electricity with personal solar cells and generators. Hoteliers outside of town rely on their own power systems, much like Xcalak's, but of a smaller scale. Rainwater collection can provide water for bathroom uses and "living machine" gardens can be used as effective wastewater filters doubling as an aesthetic element.

If the resort developers are responsible for power, water, and waste, there will be a de facto limit to the size of growth in the coastal area. Each of these "alternative" infrastructure systems has a limited capacity, beyond which they become either uneconomical or impractical. This practice, therefore, will discourage

unsustainable developments, protecting the natural environment. If Xcalak's power system continues to be based on sustainable energy, development will occur at a slower and more manageable pace than if powerlines are extended from Chetumal or a neighboring town. This will permit Xcalak to manage the new development more effectively. Not only will Xcalak be able to boast that it is one of few communities in the world that is truly environment-friendly, but it will be a forerunner in environmental living and ecotourism—a community the world can learn from.



Between the lack of proper disposal facilities and the amount of trash washed upon the shore, waste management is currently a problem in Xcalak. Facilities are needed for separating trash, and most importantly, people need to be educated so that they understand the effect their actions on their town and its natural environs.



A living machine garden is a septic system turned garden (right). Wastewater is collected in a septic tank, released into a plant biofilter where the water is cleaned of waste, and then returns to the environment. The process is chemical-free and could be a nice visual element.

Recommendations



Until recently, Xcalak has been at the end of a long jostling road, and only the few who knew what was there made the journey. Now the construction of a new highway and other improvements have brought new development pressure and the community is at a critical turning point. The residents are aware that they have a valuable commodity in the unique natural resources of their location and they would like to benefit from this without losing what they value. The people of Xcalak have seen what has happened along the Caribbean coast to the north, at places like Playa del Carmen and Cancun, and know how

those communities have been displaced and forgotten. Some in Xcalak think this might be their destiny as well. However, others in the community have considered new directions and have a different vision for Xcalak; they see an alternative, an opportunity to manage change in a way that will benefit the community rather than eliminate it.

The new road may lead to Xcalak, but the tour buses haven't arrived yet. Instead, Xcalak has allied with various non-profit organizations and has received assistance that in-



tended to help them plan for and manage future change. Residents in Xcalak are preparing for their future by participating in educational and planning programs. Through this project, the residents of Xcalak considered future growth alternatives and began to develop a strategy to guide that development. They clarified their image of the town and described their desired vision for its future. Issues, opportunities, and constraints were identified. A preliminary strategy for development was proposed suggesting where different development activities might occur and describing the desired



character of that development. Within this plan are several recommendations that set the foundation for community growth in a manner desired by residents.

All new development should be considered in light of the following recommendations:

1 Do not relocate the existing community. Maintain the present location and character of the Centro District. The Centro should remain the commercial and civic center of Xcalak. This area can grow to accommodate new develop-

ment by building on vacant lots. The current mix of uses should be continued and “sacred places”—like the beach, the main street, the tiendas, and the ruins of Hurricane Janet—should be preserved.

2 Maintain the beach road and ensure public access along the length of the beach.

3 Due to the relatively limited land area on the peninsula, maintain the scale and pattern of existing development in all new construction.

4 Require new and existing development to use renewable resources and follow sustainable development practices.

5 The government should continue to request and encourage the public’s involvement in planning and decision-making. The public should fulfill the government’s request as strong, motivated partners.

Next Steps



Secure the futures of your children.

Planning is an on-going process; it is never done. *Guidelines for Development* looks specifically at the physical development of the community—how and where it might grow. The following actions are suggested as the next steps in this process. In some cases they suggest the continuation of ongoing activities and in other cases they suggest additional studies that are needed to provide the detailed information necessary to make responsible decisions.

1 Because of the dense settlement patterns in the Centro, it will be necessary to carefully manage solid waste, septic and water systems. Hire a professional to study and develop a proposal for infrastructure in Xcalak. The study should explore different alternatives, provide cost estimates, and suggest funding strategies. Seek financial assistance from appropriate institutions to assist in the implementation.

2 Organize a committee to explore solutions for handling waste and to obtain professional help. While the committee searches for a

final strategy, *all* the people of Xcalak should get in the habit of separating organic from inorganic waste, collecting waste rather than throwing it out the window, and organizing periodic community clean-ups. Most importantly, *educate* the community about trash—what happens to it, what can be done with it, and how it affects Xcalak's image and the world's environment.

3 The community has carefully studied environmental issues and concerns in earlier planning studies and developed the *Normas Practicas* to guide appropriate planning and development activities. The findings and recommendations of *Guidelines for Development* plan need to be considered in relationship to the earlier studies and either coordinated or integrated to assure that a consistent and comprehensive approach to planning is maintained.

4 Strengthen relationships with government and non-government organizations that have political and legal standing, such as Amigos de Sian Ka'an, World Wild-

life Federation, etc. They have provided valuable assistance in the past and their support will be important as Xcalak begins to move forward with planning initiatives. Xcalak will have to work for what Xcalak wants—these groups will help.

5 Prepare review procedures and guidelines for new development within the town. These guidelines should complement or be incorporated in the *Normas Practicas*.

6 Continue to develop and offer tourist services. Identify strategies to provide the services and acquire/build necessary resources. Begin with small projects, such as building a trail or boardwalk so the nature guides have a place to offer their program. Small projects are easier-to-handle, less expensive, and can often be accomplished with local resources. Help service providers gain experience now, while there are only a few tourists, to prepare for the future, when there will be many more.

7 Continue to offer educational training programs to town

residents to help them prepare for and deliver tourist services. In addition to the courses in English and Field Biology offer courses in business management, marketing and service provision.

8 Identify funding sources to support planning and community development projects and seek assistance to prepare applications for these funds.

From all of Xcalak's efforts to preserve the coral reef, to develop relationships with supportive organizations, and to participate in this planning process, it seems the community has made its decision as to which way it will go along this new road of change. Following the recommendations within *Guidelines for Development* will help Xcalak to put its best foot forward on the journey to achieving its goals and its vision:

“to become a thriving town where the needs of both long-term residents and tourists happily coincide while retaining its character of a tranquil Caribbean fishing village.”