

# Integrated Management of Balikpapan Bay and Watershed In Indonesia

**T**HE purpose of this case study series is to familiarize Missions and Regional Bureaus with practical approaches to integrated water resources management (IWRM) that have proven to be successful in USAID field programs.

## Acknowledgments

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## Keywords

Coastal zone management; Indonesia; integrated water resources management

## Introduction

Balikpapan is the economic hub and gateway to Indonesia's richest province, East Kalimantan. Located one degree south of the equator, the city stretches along the northeastern shore of a large embayment and natural harbor. Balikpapan Bay has a surface area of some 15,000 ha within a compact total watershed area of 211,456 ha. Within the overall watershed are some 56 rivers and creeks. Much of the bay's shoreline is still forested, with some 17,000 ha of mangroves forming a key habitat for fish and birds.

The city of Balikpapan developed at the end of the 19<sup>th</sup> century following discovery of large oil and gas deposits that continue to be the mainstay of the provincial economy. The city has become the principal regional oil refining and transportation center due to its strategic location on the edge of the Straits of Makassar, which provide ready access to Java, North Asia, Singapore, and the Pacific. From its



An aerial view of the Balikpapan Bay and surrounding watershed.

beginnings as a frontier oil town, the city's economy has diversified and now acts as a magnet for migrants from Sulawesi and Java. The city's population of around 450,000 is growing by 3 percent per annum (which is well above the national average). Land use near the city and within the bay watershed is also changing rapidly. Sixty percent of the original primary forests have been cleared (and the remainder is regularly burned), large-scale oil palm and rubber plantations have been established, shrimp and fish ponds are being developed, and new settlements have been established to accommodate rural development. A network of roads and other communications infrastructure is also being developed to service ambitious long-term industrial development plans.

Most of this development has occurred without regard to the ecological or aesthetic values of the bay, the many interconnections between the watershed and the bay, or the linkages between the bay and the future development of East Kalimantan. However, these considerations have become prominent in recent debate regarding the future of Balikpapan. Residents have begun to demand more equitable and inclusive approaches to develop-

ment planning. Local governments are also seizing the opportunity to devise more responsive development programs funded with an increased share of revenues retained locally under new decentralization laws. This is, in essence, the beginning of a governance reform that presumes increasingly localized management of resources that will result in improved social, economic, and ecological outcomes for local communities. However, as with any such transition, there are very few roadmaps to aid navigation toward those outcomes, and very few that go beyond the land's edge.

## Approach

When USAID and the Government of Indonesia first agreed to include Balikpapan Bay and watershed within the coastal resources management project, known locally as *Proyek Pesisir*,





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it was the first initiative in Indonesia to overtly seek to link coastal land and water management using a bay-focused approach. Despite the lack of a roadmap to guide the process, provincial and local governments, local NGOs, communities, and selected industry partners were very enthusiastic about the prospect of developing a plan that integrates and improves land and water management practices. At initial partner meetings and subsequent formal workshops, they reported the recent siltation of waterways caused by massive erosion from denuded uplands, they expressed concern about the lack of attention given to land- and ship-sourced pollution, and they were extremely worried about the increasing incidence of conflict between non-compatible land and water uses. Even where land use plans did exist, residents were concerned that they had not been prepared with community input and that they had been implemented in a nontransparent and often corrupt manner.

In listening and responding to these concerns, Proyek Pesisir realized that the approach to development of a bay management plan must incorporate the following features.

- Development of continuous links among the many sectoral interests and among the different levels of governance, from village to national levels. This has been implemented by a raft of measures, including establishment of formal and informal working groups at the local level; provision of regular policy; and coordination of inputs to provincial and national forums. Most important has been the establishment of a “walk-in” reference and meeting center in Balikpapan to encourage interaction between stakeholders and project staff in a neutral setting.
- Capacity building to both develop a bay plan and to implement and sustain the plan concurrently (and not sequentially). Proyek Pesisir has sponsored international study tours, numerous training programs, and a wide range of technical assistance to support local partners. Of note is the long-term coupling of the Puget Sound Water Quality Action Program with the Balikpapan Bay management process (Tilley, 1999).
- Understanding and awareness of the importance of aquatic resources, including the nature of interactions between land and water use. For most East Kalimantan residents, land resources are of primary importance. Relatively few have a direct interest in marine resources and equally few have been concerned with the ecological consequences of their activities. Educating bay residents and building a constituency for improved management is thus fundamental to long-term success and is being undertaken via a range of strategies (Dutton, 2000a).
- Implementation of a plan that both has popular support and can be implemented by all parties without the need for external support. By emphasizing the importance of local ownership and the benefits of an integrated approach to land and water management, it is hoped that the political/administrative and financial support necessary to achieve the objectives of the plan will be ensured. The planning process employed thus pays continuous attention to resource requirements, rather than making this a penultimate step in the planning process.

In the course of developing elements of this approach, a Life of Project

Strategy for Proyek Pesisir with an overarching goal *to integrate land and water management through locally tailored partnerships* has been implemented (Proyek Pesisir, 1999). The strategy defines, on a year-by-year basis from 1998 through 2003, each of the steps that will be undertaken to develop an Integrated Bay and Watershed Management Plan and then sustain this initiative once USAID support ends. Annual workplans that describe the investment allocation to activities undertaken within each area of an overall results framework provide the principal guiding mechanism for the program. Results are reported using indicators related to both the USAID Indonesia results framework and the framework for the CRM II Cooperative Agreement. Most of these are strictly output indicators (e.g., number of persons trained) and thus Proyek Pesisir also employs a much broader learning strategy to evaluate particular approaches and document experience in aspects of the East Kalimantan program (Lowry and Sondita, 2000). That strategy involves local and national partners and thus also serves to improve linkages between provincial and national policy.

### Summary of Results to Date

Since commencing operations in Balikpapan in October, 1998, most effort has been allocated to (a) participatory definition of bay and watershed management issues, (b) building capacity to undertake bay management, and (c) conducting research and survey activities to inform the management process. For activities related to (a), a series of major stakeholder workshops have been conducted, each involving the full spectrum of stakeholder interests. Between these meetings have been more than 20 field-based consultations with partners. For activity (b), some 35 training events have been conducted for 1,560 participants; these have been conducted by Proyek Pesisir staff and by project technical advisors in partnership with local government, local universities, and international and local NGOs, and, in some cases, via regional study tours. Related to activity (b) have been several public awareness opportunities, notably production and screening of a television documentary, monthly



newspaper reports on survey and training activities, and development of interpretive materials for bay promotion, including installation of signage in the Balikpapan International Airport. For activity (c), 15 technical studies on various aspects of Balikpapan bay are under way or completed, and some 20 technical and education reports have been published. Of particular note in activity (c) was the discovery of a residual population of Irawaddy dolphins in the bay. Known locally as *pesut*, this animal is a popular symbol of East Kalimantan and was considered to be on the verge of extinction in its primary habitat (the Mahakam River, some 200 kilometers to the north). The discovery has captured international media attention and created a unique marketing opportunity to build constituency for improved bay management.

Key results anticipated in the next 12 months (i.e., by mid 2001), include:

- release of a profile of bay management issues written as a local newspaper supplement that will attract widespread public input;
- public review and formal approval of a bay management plan that will establish a vision for the bay and outline how priority issues will be addressed;
- formalization of an institutionalization strategy for bay management, including continuation and/or hand-over of activities by the project team; and
- implementation of several early action projects that will address priority issues and build popular support for improved management.

## Outstanding Issues

There are three significant factors that constrain the planned implementation of the Balikpapan bay and watershed management initiative. All must be addressed in one way or another by natural resources management projects in Indonesia.

- Good environmental management is not yet valued or rewarded within the Indonesian governance system. Despite a high level of dependence on natural resources and a plethora of legislation, international agreements

and incentives, national strategies, and occasional local plans and well-intentioned agencies, there are strong forces that militate against effective environmental management. In East Kalimantan, development proposals have typically not been open to scrutiny from the wider range for stakeholder interests, nor have the environmental management needs of such proposals been championed. For example, in the Wain River watershed beyond Balikpapan (an internationally famous orangutan habitat), piecemeal development is continuing to destroy conservation values, despite the existence of a strategic plan for forest management (Fredriksson and de Kam, 1999). There is evidence that such issues are beginning to be addressed; however, it is likely to be some time before environmental management is “mainstreamed” in the governance reform process.

- The capacity of Indonesian civil society to demand democratic and transparent governance of natural resources, such as fisheries, minerals, and forests, is minimal compared with the capacity of regulators and investors to subvert the development process. Corruption remains rife. With decentralization of decision-making authority to the provinces, there is also evidence that “rent seeking” and other illegal levies are increasing. Advocacy groups, political opposition, and NGOs are beginning to redress these problems; however, a lack of capacity within the judicial system limits their effectiveness. These weaknesses limit the ability of mechanisms such as a bay management plan, to regulate environmentally damaging (e.g., pollution) or illegal (e.g., land conversion) activities. They do, however, also create the opportunity for such mechanisms to be “agents of change,” in which widespread and open consensus on natural resources policy becomes a powerful force to limit such damaging activities (particularly if the media plays a watchdog role as is anticipated in Balikpapan).
- Institutionalization of long-term initiatives, such as bay management, requires a strong commitment from all key stakeholder groups and a reorientation away from the “project mentality,” under which most such

initiatives are initiated. Part of the immediate challenge for the Balikpapan bay project team and partners is to facilitate the transition of the management process into the governance mainstream. This will mean developing some type(s) of interagency coordinating body/stakeholder forum and securing ongoing funding for the body; but clearly the resources required to manage the bay are beyond the means of government alone. Finding innovative and ongoing sources of funding and securing a sustained commitment by all stakeholders is thus a key challenge and pivotal to the future of all bay and natural resources management programs in Indonesia.

## Additional Information

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## Internet Web Sites

Additional limited information in English is available on the Balikpapan Bay initiative on the following Web sites (most Web-based material is available in Indonesian only; however, English language updates will be produced occasionally):

Bogor Agricultural University  
 (<http://www.indomarine.or.id>)

USAID NRM program  
 (<http://www.nrm.or.id>)

Coastal Resources Center of the  
 University of Rhode Island  
 (<http://www.crc.uri.edu>)

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## Lessons Learned

The Balikpapan bay and watershed management process is a work in progress and it is thus premature to draw definitive "lessons." From experience to date in initiating this project in the dynamic environment of Indonesia in the post-Soeharto era, we offer the following guidelines.

- Begin with an end in mind. Unless projects are able to clearly communicate the kinds of outputs and outcomes envisaged in ways that prospective partners can understand, communication will be difficult. Additionally, by having a reference framework for the project, it is easier to incorporate partner suggestions to adapt the initial project concept to local circumstances.
- Have adequate management systems and capability in place before commencing technical activities. The Balikpapan program benefited by having experienced staff reassigned from other programs and by having in place comprehensive administration and budget management systems. These enabled "fast tracking" of startup and partner engagement.
- Recognize that building capacity in partner organizations must occur simultaneously with building capacity within the project team. This takes a dedicated effort and resources that will initially slow progress toward higher-level project goals .
- Define, meet, and listen to prospective partners early in the process and agree on mechanisms/protocols and channels for future/ongoing communication that are mutually convenient and not an imposition.
- Employ a multipronged approach to partner identification and engagement that recognizes the many different kinds of partners that may be important to an integrated management effort at different stages. Do not assume that you will necessarily meet all important players early in the process or that they will necessarily "volunteer" to be involved.
- Develop and document a consistent lexicon of project terminology that has an agreed, defined, and consistent meaning.
- Do not make any assumptions about partner capacity that are critical to project implementation unless there is clear evidence that such capacity exists and will continue to exist as and when you need to need it. A baseline assessment of capacity and training needs is a valuable inception tool for projects and a useful point of reference for performance monitoring.
- Avoid the temptation of the "quick fix." Hold back on funding project interventions (early actions) until a full understanding of their local context and significance is gained. In this manner, a safe course can be navigated through local minefields that if triggered could irrevocably damage project credibility.
- Work at multiple levels and with multiple sectors simultaneously so that coordination is maximized and the potential for miscommunication is minimized. By focusing effort only at the watershed scale (or lower), it is easy to miss key initiatives at higher levels that have considerable bearing on the future of the project effort (e.g., decentralization reforms that create new governance opportunities) and vice versa.
- Be prepared to both lead and take a backseat role in the planning process. While the project team has tried to be a catalyst for the management process, different styles of engagement with different partners at different times have been required. In some cases, a leadership role is essential and it is important not to shy away from that role; however, as with any such process, there is a need to constantly review progress and be prepared to play a much lower profile role, especially when partners emerge to become "champions" of the process.
- Take advantage of new opportunities, especially those that enable your resources to leverage investment by others. By being flexible in relation to activity selection, or with minor variation in planned activity, it has been possible to engage previously inaccessible or unknown partners to mutual benefit (e.g., creating resources or an output that is greater than the sum of the parts).

While this is already quite an extensive list, perhaps one of the most enduring lessons of Proyek Pesisir has been the importance of developing a capacity and space for learning. All too often, the "busy" nature of project work limits opportunities for reflection and constrains documentation of experience until the typical "end of project report avalanche." Within all Proyek Pesisir field programs, staff and partners are encouraged to document continuously and communicate this experience contemporaneously. This has resulted in increased interest in bay management well outside East Kalimantan; for example, the Jakarta municipal government has requested information to guide development of a Jakarta bay management program (Dutton, 2000b).