

Does Coastal Resources Management Help? Ask the Fishermen!

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Coastal resources management (CRM) has flourished as a management approach for coastal areas and resources in the Philippines. This is shown in the phenomenal growth of CRM and CRM-type of activities over the past two decades or so. In some cases, large-scale and public-funded activities have been continuously conducted in specific areas and so some evidence of performance may already be available. It is therefore possible and timely now to make an evaluation of the long-term impact of CRM as a management approach.

In this connection, a study was recently conducted to look into the impact of CRM in a selected site. In particular, the study investigates the long-term effect of a suc-

cession of CRM activities, namely, the Fisheries Sector Program (FSP) and Fishery Resource Management Project (FRMP), undertaken over many years in Panguil Bay in Mindanao. The study is unique in that instead of assessing impact in the eyes of technical people, it does so based on the perspectives of the intended final beneficiaries of CRM, the fishermen households.

The results of said study are summarized in this *Policy Notes*. How fishermen households perceive of the long-term impact of CRM says a lot about the political acceptability of the approach in the coastal areas and should count when government contemplates the pouring in of additional public investment into such endeavors.

Panguil Bay and CRM undertakings: a background

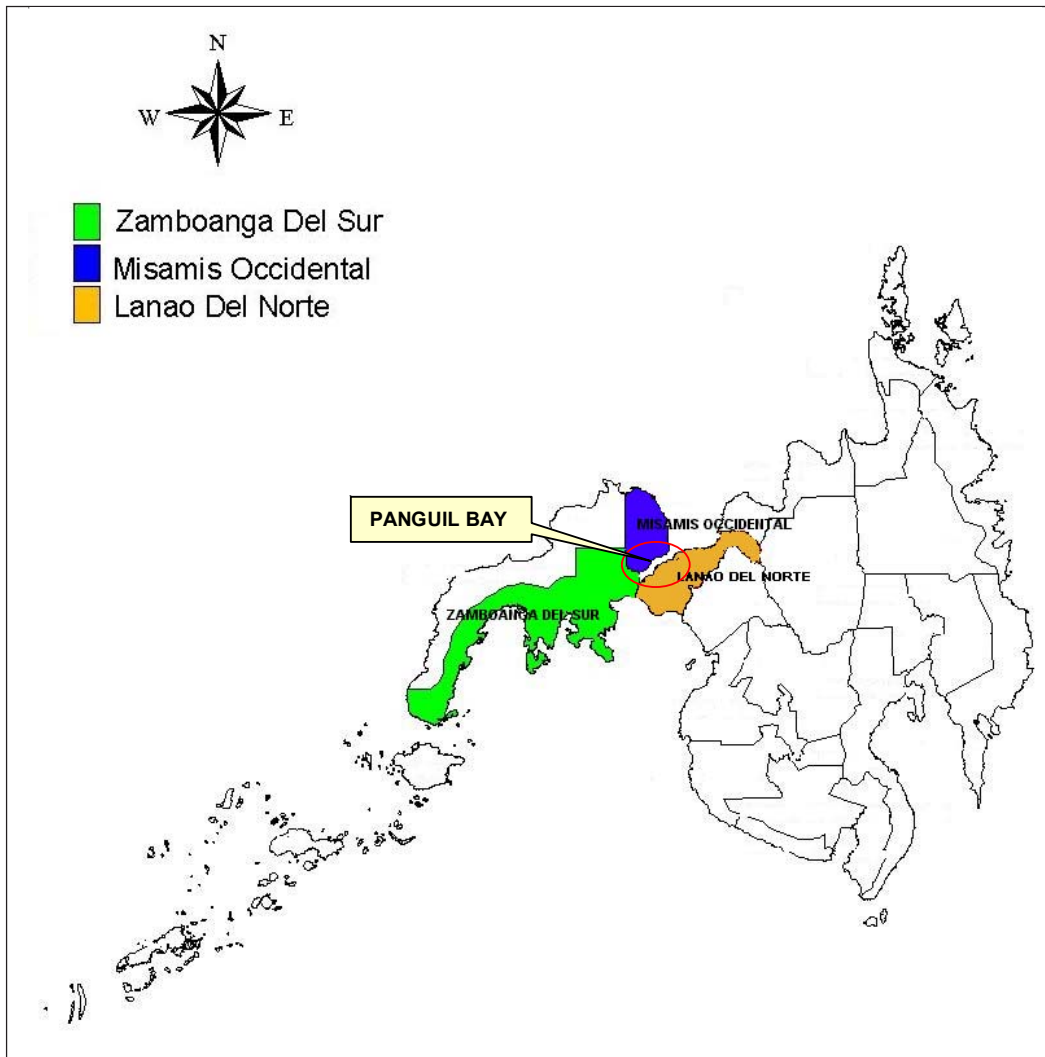
Panguil Bay is located in North Central Mindanao and bordered by the provinces of Lanao del Norte in the east and Zamboanga del Sur and Misamis Occidental in the west (Figure 1). It is shaped like a canine tooth from where it derives its name. The Bay has a water area of 18,000 hectares and a total catchment area of 309,738 hectares that is traversed by various rivers from two mountain ranges.

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Figure 1. Map of Mindanao showing the provinces bordering Panguil Bay



As in the case of other coastal water bodies in the country, Panguil Bay has been experiencing resource depletion over the years. In addition to this, interacting socio-economic, environmental, institutional and political pressures have been manifesting themselves in Panguil Bay. Among others, these problems include worsening environmental degradation, deepening poverty among coastal fishermen, and overall poor and ineffective coastal resources management. It was against this backdrop that the national government implemented major CRM activi-

ties in the area. Between 1990 and 1994, the FSP, a large-scale effort financed through loan assistance from the Asian Development Bank (ADB) and the Overseas Economic Cooperation Fund (OECF) of Japan, was implemented. The program aimed to attain sustainable fisheries management through a package of policy and institutional reforms and strategic interventions for the purpose of rationalizing the utilization of fisheries resources (ADB 1989). Overall, the FSP covered Panguil Bay as well as 11 other bays throughout the country.

When the FSP ended, the FRMP, another large-scale CRM undertaking with funding assistance from the ADB and Japan Bank for International Cooperation (JBIC), was implemented from 1998 to 2003 to continue and follow-up on the gains of FSP. Its objectives were to promote conservation and sustainable management of the coastal fisheries resources by reversing the trend of fisheries resource depletion in municipal fisheries and to reduce the extensive poverty of fisherfolks in coastal areas by promoting income diversification that will reduce the reliance of coastal communities on fishing and increase their incomes and living standards (FRMP 2002). In addition to the original 12 bodies of water covered by FSP, the FRMP was implemented in seven more coastal areas in the country.

Measuring the fisherfolks' perception

In analyzing the long-term performance of CRM in the eyes of fishermen, the study employed the Baseline Dependent Approach methodology that used fishermen households as the units of analysis. In this case, the long-term impact of CRM was viewed in terms of its effects on the impact indicators representing the overall well-being of both the human and nonhuman elements of the ecosystem. Said elements were represented by the household and resource well-beings. Other impact indi-

cators were also considered, including access to resources, control over resources, ability to participate in community affairs, ability to influence community affairs, community conflict, community compliance with resource management, and the amount of traditionally harvested resources in the water.

Perceptions of fishermen households, represented by the fishermen household heads, on the changes in the aforementioned impact indicators between the time before CRM activities were conducted 10 years ago (Before) and the present (Today), and between the present and the future or 10 years from now (After), were then gathered through a survey. With the use of a questionnaire, the degree of satisfaction or dissatisfaction of the fishermen households over certain propositions relating to the impact indicators was ascertained.

The study assumed that the households have the ability to make dependable judgments on the change in the impact indicators based on informed knowledge and experience on what is going on in their area related to CRM in the span of time under consideration. The specific areas covered by the survey were selected coastal barangays in Panguil Bay. The barangays were chosen on the basis of their having experienced continued CRM activities under both the FSP and FRMP from the early 1990s up to the time of the study. The actual respondents of the survey were the fishermen household heads in the barangays. In addition to perceptions, demographic data were collected on the households for background information.

In order to determine further if there was any difference in perception among the fishermen households that were beneficiaries of CRM (or households whose heads were directly employed by the FSP and/or FRMP, received benefits from the projects other than financial gains, and/or attended trainings organized by the projects), said households were disaggregated from the survey's total respondent households and the same kind of analysis was then applied on them.

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Profile of fishermen households: an advantage for CRM?

The demographic data indicate that fishermen households in Panguil Bay were mostly Catholic, Cebuano, have lived in their barangays for an average of 30 years, and have sizes of five members. The household heads were on average 39 years of age and have been fishing on average for 30 years, have elementary education, have no plans to migrate and would prefer to be a fisherman again even when given the chance to choose other livelihoods.

That the fishermen households in Panguil Bay were to a significant extent homogeneous in faith and tongue is favorable for CRM. In terms of community organizing, this trait should help reduce social frictions. That the households have lived in the barangay for a long time and have no plans to migrate elsewhere should also be an advantage because of the permanence or continuity in the local people targeted by the CRM activities. Being young and dedicated to fishing are also positive traits since these provide the vigor and interest among the fishermen in the long-term development of the resources on which they depend on. Even the undereducation of the fishermen should be taken as an advantage as it provides areas for improvement under CRM. That they are educated at all at the elementary level means that they can read and write materials about CRM and can be developed through further education and training.

With the fishermen households' characteristics seen to be predisposed to making a program like the CRM succeed, how well then has the CRM affected their lives?

From the point of view of the fishermen households, including those who have been direct beneficiaries of the program through employment in the program during its implementation and participation in its training programs, has the CRM achieved its overall goal of improving the well-being of both the human and nonhuman elements of the ecosystem that it was supposed to protect and improve?

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The fishermen's perceptions

The analysis of the perceptions of fishermen households shows that for the Today and Before comparison, fishermen households in Panguil Bay perceived that household well-being, resource well-being, local income, access to resources, community conflict and harvest have deteriorated in the last 10 years. On the other hand, the households perceived that their control over resources and community compliance have improved in the last 10 years.

For the After and Today comparison, meanwhile, households in Panguil Bay perceived that household well-being, resource well-being, household income, access to resources, and harvest would also decrease in the next 10 years. In contrast, the results of the perception analysis suggest that the households believed that control over resources and community compliance would improve in the next 10 years.

For the analysis of the CRM beneficiary fishermen households' perception, the same statistical analysis done for all households was also applied for the CRM beneficiary households.

For their Today and Before comparison, Panguil Bay CRM beneficiary households also perceived that household well-being, resource well-being, local income, access to

resources, community conflict and harvest have deteriorated in the last 10 years. Similarly, like the overall fishermen households, these distinct households likewise perceived that control over resources and community compliance have improved in the last 10 years.

For their After and Today comparison, the same pattern as that for the overall fishermen households can also be seen in that the CRM beneficiary households in Panguil Bay perceived that household well-being, resource well-being, household income, access to resources, and harvest would decrease in the next 10 years.

They likewise believed that control over resources, participation in community affairs, and community compliance would improve in the next 10 years.

In summary, the statistical analysis shows some interesting results.

On the negative side, whether CRM beneficiaries or not, fishermen households in Panguil Bay perceived that their fish harvest, income and overall well-being have deteriorated in the last 10 years when CRM was in implementation and will continue to do so in the next 10 years. They further believed that the well-being of the coastal resources on which they depend on has likewise decreased and will continue to decline in the future. Furthermore,

results indicate that other impact indicators have also worsened and will continue to do so.

On the positive side, however, the fishermen households consistently asserted that their control over resources and community compliance to rules and regulations have improved in the last 10 years of CRM and will continue improving in the future. These results appear to speak well of certain aspects of CRM, particularly the legal and the monitoring and enforcement components.


Conclusions and implications for policy

In conclusion, the study asserts that assuming that the perceptions of the fishermen households are reasonably unbiased, the results indicate that although it has some positive contributions, the CRM in Panguil Bay in general has failed to attain its long-term objectives of improving the well-being of fishermen households and the coastal resources they depend on. This point is highly important for policy because the future success of CRM depends on its political acceptability and the faith in it among intended beneficiaries. Because of this, the various problems faced by the CRM in Panguil Bay (some of the most important were discussed in the full study but due to lack of space, were not included in this *Notes*) have to be seriously addressed if another large-scale publicly-funded CRM project for the bay or similarly situated coastal areas would be contemplated.

Finally, because of the phenomenal growth in CRM activities all over the country and the large amount of public investment put into them, a thorough evaluation of its impact and performance is called for. The study on which this *Notes* is based serves as a starting point in ascertaining the long-term impact of CRM. Its major limitation, though, is its use of household perceptions instead of actual data as basis for analysis. This choice was made due to the lack of reliable actual time-series data that can be utilized to assess the long-term performance of CRM.

Future activities should thus include efforts to refine impact indicators of CRM performance, develop the vari-

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ables for their measurement, and monitor and record changes in these variables over time for a more accurate evaluation. 

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