

# **BMS CONSOLIDATED REPORT 2003-2004**

**Integrated Population and Coastal Resource Management (IPOPCORM)  
Behavioral Monitoring Surveys**

**November 2004**

**PATH Foundation Philippines, Inc.**



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## EXECUTIVE SUMMARY

Fifty (50) community outreach workers from 12 partner NGOs conducted two Behavioral Monitoring Survey (BMS) rounds in 14 coastal municipalities during 2003 and 2004. The NGOs interviewed 1,561 adults and 971 youth in 2003, and 1,434 adults and 953 youth in 2004, respectively. The NGOs were trained and supervised by PATH Foundation Philippines Inc. and used standardized instruments that were pretested prior to the surveys.

In all the survey sites, majority of the respondents were indigenous residents of their barangays. Majority of the adult respondents were married or partnered and more women than men were in unions across both rounds. More than 7 out of 10 adult respondents have children and one out of five parents reported more than 4 children. The average household size in all sites exceeds the national average. Average income levels are below national poverty levels. In most sites, over half the population has less than 40 pesos (US\$0.73) to spend daily per household member.

Fishers made up a substantial proportion of those surveyed with 1 out of 4 adult respondents, and 1 in 5 youth counterparts, reporting fishing as a source of livelihood in the past year prior to the interviews.

Most of the youth respondents had secondary level of schooling but generally more than 30% were out of school youth. A third of these youth have difficulty in reading comprehension exceeding the national rates for difficulties in functional literacy.

Majorities of both adult and youth respondents in both rounds know one or more family planning methods. In all sites and across the two rounds, majority of the adults with FP knowledge cited modern methods of contraception. Furthermore, awareness of modern methods generally increased among the adult respondents from 2003 to 2004. However, the levels for reported modern method use did not reach the levels of awareness.

Unmet demand for family planning was on average reduced by 10 percentage points in all sites except in the CRM-only site where no RH intervention took place. There was a universal increase in use of any FP method from 2003 to 2004 for both the adult and youth groups. Furthermore, among those who used any FP method, the proportion of modern method users increased in 2004. But despite the gains in modern method use, withdrawal was still one of the top non-modern method used by both adult and youth respondents in these surveys.

Among the youth, in all sites and for both rounds, more than 80% of the respondents reported that they have not yet had sexual intercourse and more than half know another teen that has engaged in sexual intercourse. Youth perceptions of the ideal age for first sexual intercourse averaged around 21 years old but the actual average age for sexual debut was around 16 years old. In most sites, 50% of sexual debut is unplanned and in some cases even unwanted. Aside from early sexual activity, the target youth have reported other risky behaviors at a certain level (less than 5%) such as commercial sex and same sex.

More than 70% of the adult respondents in most sites and in both rounds agreed that they were actively involved in FP matters. Majority were also positive about male involvement in FP matters. However, both adult and youth respondents in general, were less amenable to adolescent access to FP information. The respondents, both adults and youth, appreciate that having more children in the family is an economic disadvantage and this opinion was sustained across both rounds.

Comparing RH results and trends for the adults in the integrated site with those observed in the CRM-only and RH-only sites, the integrated site presented a smaller average number of children. Contraceptive awareness among the adults was highest in the RH-only site but the integrated site had the most modern method users among married respondents; as well as the greatest increase in FP acceptance and modern method use from 2003 to 2004. Among the youth, the increase in awareness in both the integrated (Culion) and the RH-only (Busuanga) sites was similar but more respondents cited a modern method in the integrated site. The RH-only site generally fared better on FP opinions than the other evaluation sites. However, trend analysis shows that overall impact on RH indicators was greater in the site where the integrated approach was applied compared to the stand-alone RH program.

At least one out of four adult respondents and one out of five youth interviewed in these surveys were fishers. Adult fishers had the lowest level of daily income share per household member but income share increased for these adult fisher respondents from 2003 to 2004. The data also show average household income increased by 21% in the integrated site whereas it declined by 28% in the CRM-only site and remained about the same in the RH-only site.

There has generally been a downward trend in fish catch and majority of the respondents was aware of the declining fish catch. Despite the decline in fish catch, majority still perceive their reefs to be in relatively good condition with plenty of fish. Fishing methods reported by fishers are mostly legal and sustainable. Illegal fishing has ceased to be reported as a prevalent practice within the surveyed populations. Less than half of respondents in all sites said that they or their partner have guarded a fish sanctuary or mangrove forest in the past twelve months. Most of the volunteers were current fishers, but only 40% of current fishers volunteered. However, the proportion of female volunteers increased from 2003 to 2004. In most sites, only a minority expressed optimism about their community's ability to protect its natural resources.

For the evaluation sites, CRM results were generally better in the integrated site (Culion) compared to the RH-only (Busuanga) and the CRM-only (Cuyo) sites. In the integrated site, average fish catch rates nearly doubled for the adult fishers from 2003 to 2004, more adult and youth respondents were positive about community empowerment in protecting coastal resources and fewer respondents knew of illegal fishers in their community. Furthermore, Culion had the most respondents reporting other non-marine sources of income and there was a decrease in those who said they lacked food. Clearly, the synergistic approach in the integrated site has had a greater impact on CRM indicators than the CRM-only approach.

More than 60% of both adult and youth groups across sites and in both survey rounds agreed that family size affects the community's coastal marine resources. Likewise, overpopulation was seen as a cause for declining fish catch by majority of the both adult and youth respondents and agreement levels increased from 2003 to 2004. Majority of the respondents from both target groups also agreed to the opinion on the possibility of a crisis in the village due to overpopulation and declining fish supply. For the three linked RH-CRM opinions, the highest agreement levels were

generally for this opinion. This concern for an impending crisis and understanding of the roles of overpopulation and declining fish supply by the target groups is an opportunity to drive home the importance of the integrated approach to RH and CRM.

To affect desired behavior change, NGOs need to intensify their risk reduction IEC so as to enable more couples to achieve their stated reproductive goals and desired family size. More information and better messages about the efficacy of modern FP methods in comparison to traditional methods are needed. The NGOs should also mobilize not only the women but also the men for RH activities and use them to sustain and expand their education efforts targeted to youth. Among the youth, the NGOs have to discuss other effective strategies that can help the youth resist pressures for early sex and provide support activities that can foster these strategies and help the youth in their attempts to postpone and refuse unwanted sex.

The challenge remains for the continued monitoring of these new FP acceptors for sustained use of modern methods. The NGOs should also find innovative ways to bring these FP messages to the sexually active youth and to find various ways to communicate not only about modern methods but also the risks of withdrawal and its ineffectiveness in preventing pregnancy.

CRM program messages can build on the P36/person/day economics to push for complementary livelihood programs. This approach allows the fishers to see the benefits of the linkages between their family and economic status to their marine resources and the future of the community. The synergy of the integrated approach can therefore be concretized from experiences and conditions in their daily lives.

NGOS should use and feedback the monitoring results of their MPAs to the community and hold discussions on the implications of these results and ways to reverse negative trends. Forty percent of adult fishers and 20% of youth fishers currently help guard MPAs and sanctuaries and the communities can use this core of volunteers to help engage others in the community for CRM efforts.

The awareness on the FP-CRM linkage can be increased by discussing family size in the context of respondent concern about food scarcity for the family. This, in turn, can be linked to resource management, which can be discussed in relation to concepts of food security. The NGOs should distinctly convey the CRM benefits in their delivery of RH services and vice versa.

## I. INTRODUCTION

The Integrated Population and Coastal Resource Management (IPOPCORM) initiative facilitates the integration of population and reproductive health (RH) management actions into coastal resource management (CRM) systems. The project, which is implemented by PATH Foundation Philippines Inc. (PFPI) and partner government and nongovernmental organizations, aims to improve quality of life of communities that depend on coastal resources while maintaining biological diversity and productivity of coastal ecosystems.

IPOPCORM offers planning, technical, and financial assistance to communities interested in working towards three desired outcomes: (1) improved reproductive health, (2) enhanced management of marine and coastal resources and (3) increased awareness and support for linked CRM-RH approaches. This integrated model was initially implemented in the coastal municipalities of El Nido in Palawan, and also in Tubigon and Candijay, both in Bohol. In 2003, the implementation sites were expanded to include San Vicente in Palawan, Mahinog in Camiguin Island, Dauin in Negros Oriental, Cordoba in Cebu, and Syquijor, Syquijor Island.

Concurrent to the implementation of IPOPCORM is the testing of the underlying hypothesis for the integrated approach. IPOPCORM's evaluation plan was designed to explore and test hypothesis about cross-sectoral program synergies between reproductive health (RH) and environment/ food security efforts in coastal areas. Its underlying assumption is that integrated strategies yield a bigger pay-off than stand-alone initiatives.

The evaluation design partitioned the project intervention into three levels of intensity that will be compared to a control site with no intervention. The research component categorized the levels of intervention into the following evaluation sites:

1. Integrated RH and CRM site (Culion, Palawan);
2. RH-only site (Busuanga, Palawan);
3. CRM-only site (Cuyo, Palawan); and
4. Control Site (Dumaran, Palawan)



## II. BACKGROUND

A monitoring system for IPOPCORM has been created to provide essential, accurate, timely and systematized information on the quantitative and qualitative performance of the individual project components, and progress toward achieving IPOPCORM objectives. Information from the monitoring system allows managers and implementors to track performance and achievements and to respond to problems and opportunities.

The Behavioral Monitoring Survey for the IPOPCORM (I-BMS) is one of the information systems for monitoring the project and tracking changes in community attitudes and behaviors over time. The I-BMS is designed to describe target groups in the community in order to monitor progress toward desired changes and to calibrate implementation strategies. The survey gathers information on knowledge, attitudes and behavior related to indicators for RH, CRM, and their integration.

The I-BMS instrument was constructed based on project indicators. Questionnaire items were translated into local dialects with the help of partner NGOs, and then pre-tested in coastal barangays near the targeted project sites. The survey was initially conducted in 2001 in IPOPCORM implementation sites specifically, El Nido, Tubigon, and Candijay. With the help of a technical advisory group, the instrument was improved to include CRM questions on fishing practices. The resulting streamlined version was used in 2002 in the Evaluation Sites – Culion, Busuanga, Cuyo, and the control site, Dumarán.

After the results of the first round were documented, the questionnaire was again revised for the second round in 2003. The questionnaire for ADULT respondents included more RH items such as number of children, desire for more children, knowledge of FP methods and information source for methods they currently use. For the YOUTH questionnaire, questions on fishing practices were included. The items for sexually transmitted disease (STD) were replaced with questions on same sex and commercial sex experience.

The 2003 survey questionnaires for both the evaluation sites and the implementation sites were made identical, except for the item on bed net use which was asked only in the Palawan areas. The survey was also conducted for the first time in the extended implementation sites of the IPOPCORM - San Vicente in Palawan, Mahinog in Camiguin Island, and Dauin in Negros Oriental, Cebu, and Syquijor.

The 2004 questionnaire was identical to the 2003 questionnaire except that fishing gears were now coded into more specific categories.

### III. SAMPLING AND DATA COLLECTION

Sampling size<sup>1</sup> was computed based on the targeted proportional change in key RH indicators of the project. Each NGO targeted 60 men and 60 women (20-49 years old) and 40 boys and 40 girls (15-19 years old) and conducted a total of 200 interviews per round. The target sample size was distributed in the NGO's coverage area in proportion to the population in each of the client barangays.

The NGOs used simple random sampling for the survey by first identifying qualified households (i.e. had members in the target age ranges) from a complete mapping of houses in all their coverage barangays. Respondents were systematically drawn from the qualified households until the target number of respondents for each barangay or sitio was completed.

The survey was conducted in 14 municipalities where 50 community health outreach workers (CHOWs) from 12 partner NGOs interviewed a total of 1,561 adults in 2003 and 1,434 adults in 2004. For 2003 the interviews took place between March 29 and June 9 and the NGOs completed their interviews in an average of 4 weeks. In 2004, the interviews were done between March 25 and July 8 and took, on average, 3 weeks to complete except in Busuanga where it took 3 months due to inclement weather.

Community volunteers or peer educators (PEs) would approach selected respondents and introduce the NGO community health outreach worker (CHOW) as interviewer. All CHOWs received prior training from PFPI in BMS sampling and interview methods. Interviewer orientations were updated and reviewed in preparation for the 2004 survey. Respondents in all rounds were interviewed in the local dialects and their answers were recorded during the interview.

The questions covered demographic and socioeconomic information such as age, civil status, migration status, occupation and income. Respondents were asked about RH matters including knowledge and actual use of contraceptive methods. Fishing practices were also covered including daily fish catch, gear used in fishing, the practice of returning small fry back to the ocean, and destructive/illegal fishing (i.e. use of cyanide, dynamite, fine mesh nets). The interviews also recorded respondent opinions on their FP involvement, on coastal resource management issues, and on linkage messages between population and CRM. (Refer to Questionnaire in the Appendix)

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<sup>1</sup> For example, to detect an increase to 50% of men supporting the use of modern FP method from an assumed base of 10%, we needed a sample of at least 51 respondents. Among women, an increase of 40% (from base of 10%) for modern FP method use needed a sampling size of at least 60 respondents.

## **IV. IPOPCORM BMS RESULTS**

The IPOPCORM initiative works towards three desired outcomes: (1) improved reproductive health, (2) enhanced management of marine and coastal resources and (3) increased awareness and support for integrated CRM-RH approaches. Aside from describing the demographic characteristics of the respondents, the survey results will also presents these outcomes for each of the eleven sites. Results for 2003 will be compared with the 2004 round to see the changes in outcomes. Also, to support the underlying assumption that integrated strategies yield a bigger pay-off than stand-alone initiatives, results from the evaluation sites will be compared in a separate analysis e.g. the integrated site (Culion) will be compared with the RH-only (Busuanga) and CRM-only (Cuyo) sites.

After presenting the survey results related to CRM outcomes and the CRM opinions, the correlation between the CRM indicators and the CRM opinions will be discussed. Also, the trends for the CRM opinions from 2002 to 2004 will be compared in the evaluation sites (for these sites, the first round was in 2002, allowing for a 3-year trending). This organization of the results will also be used for the RH outcomes and RH opinions.

The results for opinions linking population and coastal resource issues will also be presented for each site. These will be analyzed for correlations with selected demographic characteristics, with CRM indicators and RH indicators. A comparative trending from 2002 to 2004 for the evaluation sites will also be described.

### **A. CHARACTERISTICS OF ADULT RESPONDENTS**

Table 1 shows that in 2003, a total of 1,561 adults aged 20-49 years old were interviewed while 1,434 adults of the same age range were interviewed in 2004. The sample in the three municipalities of Candijay, Mabini and Anda reflects the separate rounds done by two NGOs in this site.

The number of fisher respondents varied across sites. Fisher respondents were identified when fishing was reported either as a primary (1°) or secondary (2°) source of livelihood. Current fishers are those who fished within the 12 months prior to the interview. El Nido had the highest proportion of fisher respondents in both rounds exceeding 50% of the total interviewees. Syquijor had the least fishers for both rounds, at less than 10% of its total respondents. Overall, fisher respondents increased to 33% in 2004 from 20% in 2003. Other studies also show a general increase in the population of fishers in IPOPCORM sites during the same period. Overall, few women reported fishing as a current primary or secondary source of livelihood,(8% in 2003 and 12% in 2004) except in El Nido where 33% (in 2003) and 29%(in 2004) of female respondents currently work in the fisheries sector. Conversely, based on the whole population of fisher respondents in both survey rounds, only one out of five fishers is a woman.

Table 1. Information on Sample Size by Site and Group. IPOPCORM BMS 2003-2004

2003	Implementation Sites								Evaluation Sites			Total
	Svicente	Cebu	Dauin	Camiguin	Syquijor	Candijay Mabini, Anda	Tubigon	El Nido, Taytay	Culion	Busuanga	Cuyo, Magsaysay	
ALL	120	120	128	120	120	242	117	117	113	119	120	1561
Female	60	60	63	61	60	121	58	60	54	59	60	780
Male	60	60	65	59	60	121	59	57	59	60	60	781
Fishers (1° & 2°)	39	46	38	15	10	59	25	74	35	45	37	306
Current Fishers	38	38	37	15	10	47	23	66	30	41	36	274
2004												
ALL	120	120	122	120	119	240	120	116	120	117	120	1434
Female	60	60	63	60	59	120	61	59	60	60	60	722
Male	60	60	59	60	60	120	59	57	60	57	60	712
Fishers (1° & 2°)	38	50	57	28	17	57	30	74	30	46	47	474
Current Fishers	33	44	55	28	17	50	29	60	27	42	40	425

In general, fishers comprised a substantial proportion of the BMS respondents when compared to all the other occupations combined (See Fig. 1). Focusing on the evaluation sites, more fishers were interviewed in 2004 than 2003 in both the RH-only and CRM-only site but not in the integrated site. (See Fig.2)

Fig. 1 Respondent Occupation by Site. I-BMS 2003-2004

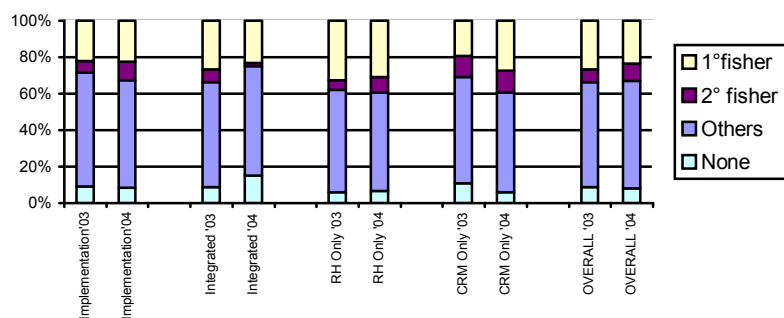
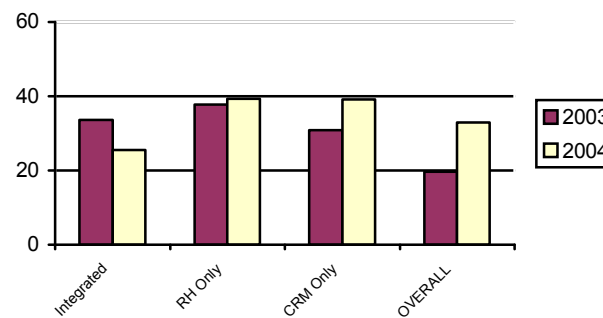


Fig. 2 Proportion of Fishers (1° & 2°) by Evaluation Site. I-BMS 2003-2004



The demographic and socio-economic characteristics of the sample respondents are summarized in Tables 2 and 3. The age range for adult target groups has been set at 20-49 years of age. The median age of respondents across sites varied from 30 to 37 years in 2003 and from 30 to

36 years in 2004. Thus, the majority of adults in the IPOPCORM sites are within the range of 20 to 35 years of age. Median age did not vary between 2003 and 2004 except for Dauin, Syquijor and Candijay. In general, the age difference between men and women was only one year.

Table 2. Demographic Characteristics of Adult Respondents by Site and Group. IPOPCORM BMS 2003-2004

		Implementation Sites								Evaluation Sites			ALL	
		Svicente	Cebu	Dauin	Camiguin	Syquijor	Candijay	Tubigon	El Nido	Culion	Busuanga	Cuyo		
03	Median Age	ALL	30	32	37	30	32.5	35	32	32	31	33	34.5	32
		Male	31	31	37	31	28	33	31	33	32	33	31.0	32
		Female	30	33.5	37	27	35	37	34	32	30	32	36.0	33
04	Median Age	ALL	30	34	33	30	36	32	33	31	30.5	32	35.5	32
		Male	32	34.5	34	31.5	38	32	33	33	31.5	33	32.5	33
		Female	29	33	31	30	33	32	33	29	30	29.5	36.5	32
03	% married or cohabiting	ALL	76.7	85.0	82.0	67.5	70.8	75.2	65.8	94.9	81.4	94.1	72.5	79.5
		Male	66.7	78.3	69.2	64.4	53.3	70.2	49.2	91.2	74.6	93.3	65.0	71.4
		Female	86.7	91.7	95.2	70.5	88.3	80.2	82.8	98.3	88.9	94.9	80.0	87.6
04	% married or cohabiting	ALL	86.7	80.0	91.0	89.2	82.4	79.2	75.0	81.0	86.7	91.5	75.8	83.1
		Male	86.7	75.0	86.4	83.3	80.0	70.0	67.8	73.7	80.0	87.7	65.0	77.1
		Female	86.7	85.0	95.2	95.0	84.7	88.3	82.0	88.1	93.3	95.0	86.7	89.1
03	<u>Migration Status</u>													
	Resident since Birth		50.0	56.7	73.4	77.5	53.3	58.7	65.8	58.1	54.0	44.5	64.2	59.7
	From w/in municipality		8.3	17.5	17.6	5.0	10.8	3.3	7.7	10.3	13.3	4.2	6.7	7.9
	From w/in province		11.7	6.7	5.9	2.5	4.2	12.0	1.7	1.7	7.1	18.5	13.3	7.7
	From other IPOP site		1.7	0	0	0	0	0.4	0	2.6	1.8	11.8	0	1.5
From outside province		21.7	14.2	38.2	15.0	27.5	23.1	22.2	19.7	18.6	19.3	15.8	19.2	
04	<u>Migration Status</u>													
	Resident since Birth		60.0	63.3	77.0	80.0	53.8	61.3	62.5	47.4	52.5	52.1	75.8	62.3
	From w/in municipality		6.7	7.5	3.3	5.0	3.4	2.9	3.3	3.4	14.2	17.1	2.5	6.0
	From w/in province		14.2	6.7	4.9	.8	20.2	10.0	7.5	9.5	5.8	11.1	5.8	8.9
	From other IPOP site		3.3	.8				.4	1.7	3.4	7.5	2.6	.8	1.7
From outside province		15.8	21.7	10.7	11.7	21.8	24.6	25.0	31.9	19.2	14.5	14.2	19.6	

Majority of the respondents were married or partnered. In all sites and in both rounds, the proportion of married/partnered females exceeded that of males. This indicates that females in coastal communities generally are married or partnered at younger ages than males. Except for Cebu, El Nido and Busuanga, a greater proportion of respondents were married or partnered in the 2004 round compared to the 2003 round.

Furthermore, in all sites the majority of respondents were indigenous residents of their barangays. Most of the non-native residents were from outside the province and this is true for all sites and was validated in the second survey round.

Table 3 illustrates that one out of four of the respondents interviewed in the BMS surveys were fishers; and this was true for both survey rounds. The proportion of primary fishers was similar in both rounds except for Camiguin, Tubigon and Cuyo where more primary fishers were interviewed in the second round. In Cebu, the proportion dropped considerably.

Table 3. Occupational Characteristics of Adult Respondents and Household Size and Income, by Site and Group. IPOPCORM BMS 2003-2004

		Implementation Sites								Evaluation Sites			ALL
		Svicente	Cebu	Dauin	Camiguin	Syquijor	Candijay	Tubigon	El Nido	Culion	Busuanga	Cuyo	
03	Primary Occupation												
	Fisher	32.5	34.2	17.2	10.0	8.3	14.9	17.1	49.6	23.0	32.8	19.2	<b>26.5</b>
	Farmer	8.3	0.8	20.3	8.3	6.7	19.4	2.6	13.7	0.9	8.4	10.0	<b>9.5</b>
	Others	59.2	62.5	59.4	58.4	66.7	57.4	63.2	34.1	61.9	54.6	60.0	<b>55.2</b>
04	Primary Occupation												
	Fisher	31.7	24.2	13.1	21.7	6.7	16.3	21.7	51.7	23.3	30.8	27.5	<b>23.6</b>
	Farmer	11.7	0.8	13.9	11.7	5.0	20.0	3.3	14.7	4.2	12.8	6.7	<b>10.4</b>
	Others	54.2	72.5	69.7	60.8	79.9	54.1	60.8	28.4	57.5	49.6	60.0	<b>57.5</b>
03	No source of income												
	ALL	0	2.5	3.1	23.3	18.3	8.3	17.1	2.6	14.2	4.2	10.8	<b>8.8</b>
	% of Males	0	0	4.6	23.7	35.0	8.3	18.6	1.8	5.1	3.3	13.3	<b>9.5</b>
	% of Females (% females)Housewife	0	5.0	1.6	23.0	1.7	8.3	15.5	3.3	24.1	5.1	8.3	<b>8.2</b>
04	No source of income												
	ALL	10.8	2.5	3.3	5.8	12.6	10.0	14.2	5.2	15.0	6.8	5.8	<b>8.5</b>
	% of Males	1.7	3.3	3.4	6.7	15.0	6.7	10.2	10.2	1.7	8.3	8.3	<b>5.3</b>
	% of Females (% females)Housewife	20.0	1.7	3.2	5.0	10.2	13.3	18.0	10.2	28.3	13.3	3.3	<b>11.6</b>
03	Average Household Size												
	ALL	5.62	6.34	5.23	5.83	5.28	5.49	6.08	6.15	5.83	6.01	5.66	<b>5.80</b>
	Male	5.67	6.22	4.98	6.05	5.57	5.35	5.88	6.09	6.03	5.98	6.08	<b>5.83</b>
	Female	5.58	6.47	5.48	5.62	4.98	5.64	6.22	6.22	5.61	6.03	5.25	<b>5.77</b>
04	Average Household Size												
	ALL	5.94	7.01	5.51	5.15	5.45	5.60	6.09	5.69	5.67	5.46	5.78	<b>5.75</b>
	Male	5.92	6.83	5.12	5.18	5.68	5.36	6.12	5.74	5.93	5.51	5.87	<b>5.72</b>
	Female	5.97	7.18	5.87	5.12	5.22	5.83	6.07	5.64	5.40	5.42	5.70	<b>5.77</b>
03	Estimated HH income												
	ALL	3701	2452	3169	4211	6111	3681	5926	2960	4215	4219	3920	<b>4155</b>
	Male	4280	2766	2932	4329	7872	3646	5272	2804	4300	4381	3009	<b>4395</b>
	Female	3122	2120	3406	4096	4290	3715	6591	3108	4115	4054	4830	<b>3912</b>
04	Estimated HH income												
	ALL	3730	3539	3481	4017	6537	4190	5360	3980	3980	3536	3697	<b>4189</b>
	Male	3873	3064	3491	4422	5312	3853	4749	3772	4581	3575	3856	<b>4037</b>
	Female	3590	4049	3471	3612	7763	4515	5931	4181	3398	3500	3542	<b>4335</b>

All sites had respondents who said they had no source of income. Considering that men are traditionally the breadwinners in these rural areas, Syquijor had the most men in both rounds who reported no source of income. Overall, the proportion of males without income declined in 2004, whereas it increased among females. Most noticeable was the dramatic decline in the number of income deficient females in Camiguin except among housewives. The highest percentages of housewives without income in 2004 were in Cuyo followed by Camiguin..

All the sites had an average household size higher than the national average of 5 members. The general figure for all sites is also higher than the national average and did not change for 2004. In both rounds, Cebu had the largest average household size. Cebu also had the lowest average estimated household monthly income in 2003. It continued to be among the three sites with the lowest household income in 2004.

The average household income for all sites remained at approximately P4,200 in both rounds. Syquijor had the highest average monthly household income for both rounds, the only site exceeding P6000. This is counterintuitive to the high level of unemployment reported by male respondents in Syquijor. Other information suggests that many of Syquijor's households receive remittances from family members employed abroad.

Whereas the average household income level reported by male respondents in 2003 exceeded the level reported by their female counterparts, the situation changed in 2004 when females reported higher levels. In Cebu and Syquijor, average household income levels reported by female respondents practically doubled over the two survey rounds. This could be a reflection of program inputs which target women and fishers in coastal for alternative livelihood inputs.

The National Economic Development Agency (NEDA) reported in 2000 that the poverty threshold for a family of six is a monthly income of P6,817.00. This government agency also estimates that 40% of the Philippine population earns below the poverty threshold.

The Ibon Foundation is a non-government and independent research group that has updated figures for economic indicators. It reported that as of 2002 the daily cost of living for a family of six is P416.25 in rural areas of the Philippines or a monthly equivalent of P12,487.50. Further, the daily poverty threshold is P217.63 (or P 6,528.9 monthly) but the daily minimum wage is only P168 (or P5,054.1 monthly) The I-BMS results indicate that with an overall average household size of almost 6 members, the average income levels in all sites fall below the three categories, the daily cost of living, the minimum wage and the poverty threshold. All sites, on average, have less than the daily poverty threshold amount of P36.3 for each household member.

Fig.3a Average of Daily Household Income Share Per Household Member (in Pesos).  
I-BMS 2003

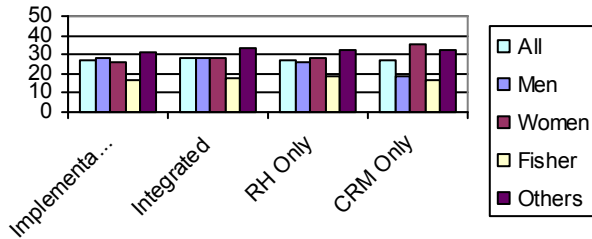
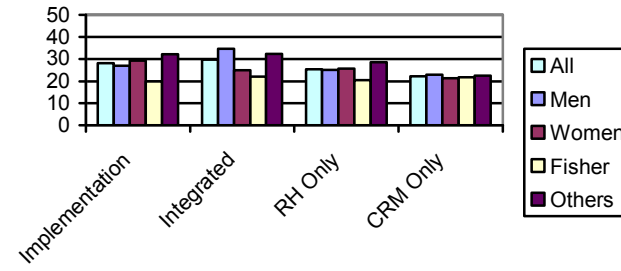
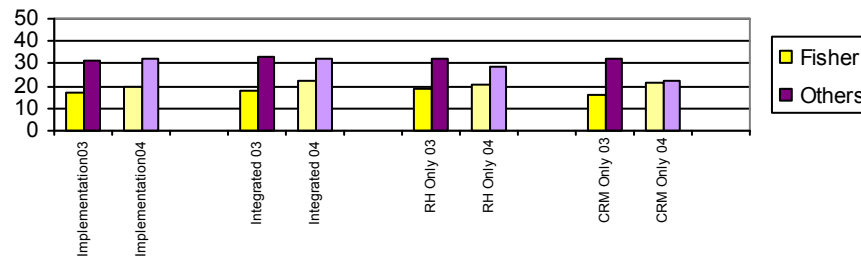


Fig. 3b Average of Daily Household Income Share Per Household Member (in Pesos).  
I-BMS 2004



Household income was divided into 30 days and per household member to get the daily income share per household member. Figures 3a and 3b show that across sites and in both rounds, fisher respondents had the lowest level of daily income share per household member. The positive note is that in general, income share increased for fisher respondents from 2003 to 2004 (see Fig. 3c.)

Fig.3c Average of Daily Household Income Share Per Household Member (in Pesos).  
I-BMS 2003-2004





## B. FISHING AND CRM BEHAVIOR

Beginning with the 2003 survey round, all fishers – both full-time (primary) and part-time (secondary), were asked if they had fished within the past 12 months to determine if they were current fishers. In Table 4, for both 2003 and 2004, nine out of ten respondents who said fishing was their source of livelihood, were current fishers. El Nido had the most current fishers while Syquijor had the fewest and this was true for both rounds.

Current fishers were in turn asked about their catch the last time they fished. The average catch for the most recent fishing effort varied across sites with a range of 10 kilos in 2003. The range of difference in fish catch was greater in 2004 at 15 kilos. Fish catch decreased in three of the implementation sites, with the greatest decline observed in Cebu. In 2003, Culion, as the integrated evaluation site, had the lowest fish catch in comparison to the aggregated implementation sites, and the other evaluation sites. In 2004, fish catch almost doubled in Culion but remained relatively similar in the other two evaluation sites. It decreased for the aggregated implementation sites. The change does not seem to be related to proportion of fishers nor fishing methods. In the next section of this report, the Culion finding on increased fish catch and the decreased catch rates observed in Cebu and Dauin will be supported by respondents' opinions on fish abundance.

Table 4. Fishing Practices of Current Fishers by Site. IPOPCORM BMS 2003 -2004

		Implementation Sites								ALL	Evaluation Sites		
		Svicente	Cebu	Dauin	Camiguin	Syquijor	Candijay	Tubigon	El Nido		Culion	Busuanga	Cuyo
03	%Fishers Primary	32.5	34.2	17.2	10	8.3	14.9	17.1	49.6	<b>22.0</b>	23.0	32.8	19.2
	Secondary	0	4.2	12.5	2.5	0	9.5	4.2	13.7	<b>6.3</b>	8.0	5.0	11.7
	Current (1°and 2°)	31.7	31.7	28.9	12.5	8.3	19.4	19.7	56.4	<b>25.3</b>	26.5	34.5	30.0
04	%Fishers Primary	31.7	24.2	13.1	21.7	6.7	16.3	21.7	51.7	<b>22.5</b>	23.3	30.8	27.5
	Secondary	0	17.5	33.6	1.7	7.6	7.5	3.3	12.1	<b>10.1</b>	1.7	8.5	11.7
	Current (1°and 2°)	27.5	36.7	45.1	23.3	14.3	20.8	24.2	51.7	<b>29.3</b>	22.5	35.9	33.3
03	Average Fish Catch (in Kilos) Last Time	10.53	8.44	9.24	8.60	3.40	3.35	6.42	12.71	<b>9.62</b>	6.03	10.70	9.54
04	Average Fish Catch (in Kilos) Last Time	11.63	2.50	4.94	8.92	3.94	3.46	4.62	13.28	<b>6.86</b>	11.92	11.12	8.75
03	Fishing Gear Hand line	42.1	15.8	13.5	13.3	10.0	15.5	21.7	54.5	<b>21.5</b>	60.0	36.6	63.9
	Net	42.1	36.8	39.5	60.0	90.0	42.6	56.5	43.9	<b>50.7</b>	10.0	36.6	13.9
04	Fishing Gear Hand line	24.2	15.9	10.9	10.7	11.8	14.0	13.8	33.3	<b>18.0</b>	55.6	50.0	17.5
	Typical Gillnet	54.5	0	12.7	0	5.9	6.0	6.9	5.0	<b>10.8</b>	7.4	14.3	27.5
	Other Nets	9.1	20.5	58.2	3.6	11.8	36.0	37.9	38.3	<b>24.3</b>	7.4	4.8	22.5
03	% fishers caught fish fry	7.9	39.5	8.1	26.7	0	23.4	21.7	4.5	<b>16.1</b>	10.0	7.3	8.3
	returned fish fry	2.6	5.3	2.7	26.7	0	6.4	0	3.0	<b>4.7</b>	10.0	7.3	2.8
04	% fishers caught fish fry	6.1	20.5	10.9	7.1	0	18.0	13.8	5.0	<b>11.1</b>	3.7	4.8	10.0
	returned fish fry	3.0	0	5.5	7.1	0	4.0	0	3.3	<b>3.2</b>	0	4.8	0

Majority of the fisher respondents used either a hand line or a typical fishing net as fishing gear. Aggregate figures show more fishers used hand lines compared to nets, except in Busuanga. Although not shown on the table, survey results reveal that secondary fishers mostly used fish net while similar proportions of primary fishers used the hand line and the net.

Current fishers were also asked whether they caught fish fry (juvenile fish); Cebu and Candijay had a substantial proportion of respondents in both rounds that said they did. Generally, fewer fishers caught fish fry in the 2004 round compared to the 2003 round. Only Busuanga and Camiguin fishers were consistent in returning captured juvenile to the sea.

All respondents (whether fishers or not) were asked about unsustainable fishing practices in their community (see Table 5). Cebu, El Nido and Culion had the most respondents that said they knew anyone who used either cyanide or dynamite. Comparing both rounds, the proportion of respondents who knew illegal fishers dropped in Culion, more than doubled in Busuanga, and remained similar for Cuyo and the aggregated implementation sites. Except for Cebu, less than 5% of fisher respondents admitted to ever using an illegal fishing method themselves. In all sites, admitting to using illegal methods for the more recent fishing effort was reduced to almost zero levels in the 2004 round.

For both 2003 and 2004, less than half of respondents in all sites said that they or their partner have guarded a fish sanctuary or mangrove forest in the past twelve months (Table 5). Although not shown in Table 5, only 18% of all women volunteered to guard a sanctuary or mangrove area in 2003 and this proportion increased to 19.4% in 2004. Most of the volunteers are current fishers but only 40% of current fishers volunteered. In the aggregated implementation sites, the proportion of volunteers did not vary from 2003 to 2004,; same with Culion (integrated evaluation site). In Busuanga (RH-only site), the proportion of volunteers declined in 2004, while they increased in Cuyo (CRM-only site).

Table 5. Fishing-related Activities of all Respondents by Site. IPOPCORM BMS 2003-2004

		Implementation Sites								ALL	Evaluation Sites		
		Svicente	Cebu	Dauin	Camiguin	Syquijor	Candijay	Tubigon	El Nido		Culion	Busuanga	Cuyo
03	Know of illegal fishers	3.3	27.5	0	1.7	0	15.7	5.1	19.7	<b>9.8</b>	26.5	8.4	12.5
	Ever Did Illegal Fishing	2.5	9.2	0	.8	0	2.1	.9	.9	<b>2.0</b>	2.7	.8	4.2
	Used dynamite last time	0	0	0	0	0	1.2	0	0	<b>0.3</b>	0	0	2.5
	Used cyanide last time	1.7	2.5	0	0	0	.4	0	0	<b>0.6</b>	0	0	1.7
04	Know of illegal fishers	14.2	28.3	0	0	0	7.1	1.7	18.1	<b>8.4</b>	16.7	17.9	11.7
	Ever Did Illegal Fishing	5.8	7.5	0	1.7	0	1.7	.8	2.6	<b>2.4</b>	.8	.9	0
	Used dynamite last time	0	0	0	0	0	0	0	0	<b>0</b>	0	0	0
	Used cyanide last time	0	1.7	0	0	0	0	0	0	<b>0.2</b>	.8	0	0
03	Volunteer to guard sanctuary /mangroves	45.0	20.8	29.7	21.7	4.2	22.7	29.7	20.5	<b>24.2</b>	25.7	42.0	39.2
	(% of ALL)	55.3	28.9	43.2	86.7	30.0	51.1	21.7	27.3	<b>40.5</b>	40.0	56.1	50.0
04	Volunteer to guard sanctuary /mangroves	11.7	14.2	23.8	36.7	22.7	22.9	38.3	10.3	<b>22.7</b>	24.2	32.5	55.8
	(% of ALL)	15.2	20.5	32.7	96.4	70.6	50.0	69.0	16.7	<b>39.9</b>	37.0	38.1	55.0

In testing the integrated approach, the hypothesis is that indicator results for environment in the integrated sites will be better than the CRM-only site. I-BMS results for both 2003 and 2004 (see tables 4 and 5) mostly show that the results for the integrated site are more positive than the CRM-only site. The average fish catch for most recent fishing effort is higher in the integrated site (Culion) than the CRM-only site (Cuyo). In the integrated site, average daily fish catch increased by over 5 kg in 2004, whereas it declined by about 1 kg in the CRM-only site. Furthermore, current fishers who knew anyone who used either cyanide or dynamite decreased in the integrated site but remained the same levels for the CRM-only site and increased in the RH-only site. The aggregated implementation sites also, generally, had better results on illegal fishing when compared to the CRM-only site.

However, more respondents in the CRM-only sites volunteered to guard a sanctuary or mangrove area than in the integrated site. A contributing factor could be the late set-up of the marine protected area (MPA) in Culion as compared to Cuyo. Returning captured juvenile fish has proven to be a more difficult indicator in any of the sites. There was neither active IEC effort nor an existing policy to support the practice. The NGOs need to further study how this behavior can be strengthened.

Table 5. Comparison of Selected Fishing Practices between Migrant and Indigenous Resident Current Fishers. IPOPCORM BMS 2003-2004

			Implementation Sites		Integrated Sites		RH Only Site		CRM Only Site	
			Resident	Migrant	Resident	Migrant	Resident	Migrant	Resident	Migrant
2003	%Fishers	Primary	22.2	21.6	16.4	30.8	39.6	27.7	18.2	20.9
		Secondary	7.1	4.5	8.2	7.7	3.8	4.6	9.1	16.3
		Current (1°and 2°)	27.0	22.6	23.0	30.8	41.5	27.7	27.3	34.9
2004	%Fishers	Primary	22.1	23.1	22.2	24.6	32.8	28.6	23.1	41.4
		Secondary	11.6	7.5	3.2	0	6.6	10.7	13.2	6.9
		Current (1°and 2°)	31.2	26.1	23.8	21.1	36.1	35.7	33.0	34.5
2003	% fishers caught fish fry	returned fish fry	12.8	22.3	0	18.8	0	16.7	9.5	6.7
			5.0	4.3	0	18.8	0	16.7	0	6.7
2004	% fishers caught fish fry	returned fish fry	11.3	10.6	6.7	0	4.5	5.0	6.7	20.0
			2.8	3.8	0	0	4.5	5.0	0	0
2003	Know of illegal fishers	Ever Experienced Illegal Fishing	15.0	22.3	28.6	43.8	9.1	16.7	19.0	26.7
		Used dynamite last time	3.3	12.8	0	12.5	0	0	4.8	13.3
		Used dynamite last time	1.1	1.1	0	0	0	0	4.8	13.3
		Used cyanide last time	1.1	3.2	0	0	0	0	0	13.3
2004	Know of illegal fishers	Ever Experienced Illegal Fishing	12.3	11.5	33.3	0	18.2	30.0	6.7	0
		Used dynamite last time	4.2	5.8	0	0	0	5.0	0	0
		Used dynamite last time	0	0	0	0	0	0	0	0
		Used cyanide last time	0.5	0	0	0	0	0	0	0
2003	Volunteer to guard sanctuary /mangroves	39.4	42.6	14.3	62.5	63.6	50.0	47.6	53.0	
2004	Volunteer to guard sanctuary /mangroves	42.9	33.7	40.0	33.3	45.5	30.0	66.7	20.0	

Fishing practices of current fishers who were indigenous residents and migrant residents were compared. Indigenous residents are respondents who were born in the barangays where they were interviewed while migrant residents were those who moved from other places into the barangay where they were interviewed. More migrant fishers returned captured fish fry and volunteered to guard sanctuaries/ mangroves than did indigenous fishers. However, fewer indigenous resident fishers reportedly engaged in illegal fishing practices. These differences, however, are not statistically significant.

## B1. Opinions Related to CRM

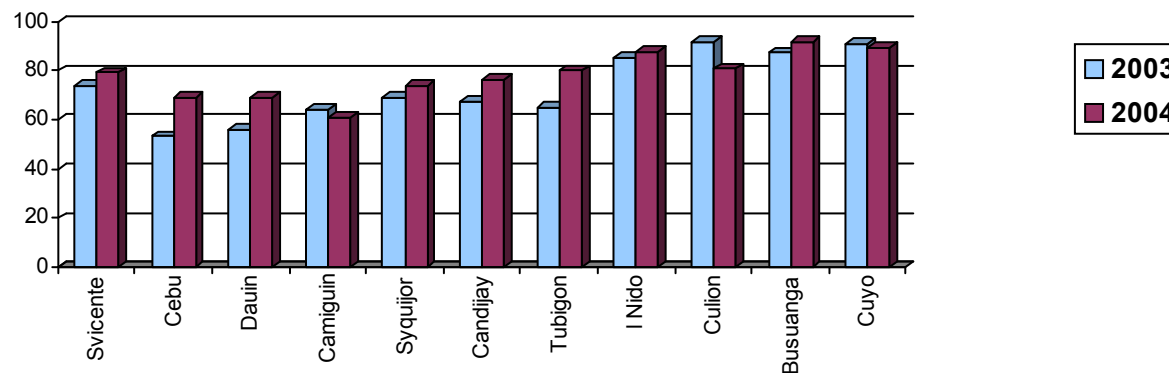
### 1. Fish Abundance.

Two opinion statements were related to fish abundance issues:

"There has been a decline in fish catch over the past few years"

"The condition of the reefs is still very good and there are still plenty of fish."

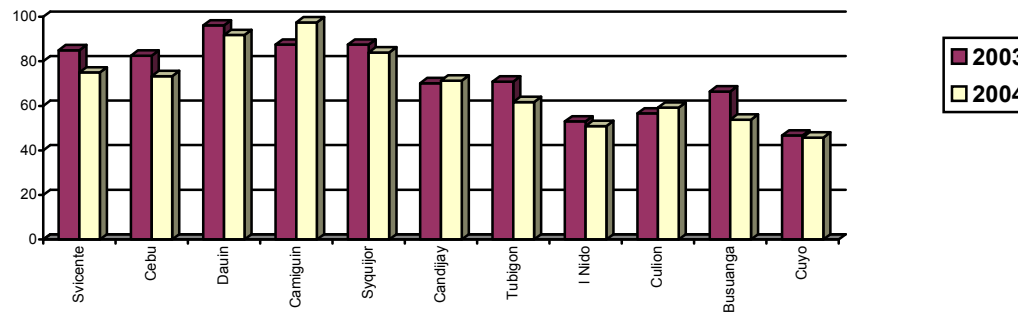
Fig. 4 Percentage Respondents Who Agreed 'There has been a decline in fish catch over the past years'.  
I-BMS 2003-2004



In general, more than half of the respondents across all sites and in both rounds agreed with the statement "There has been a decline in fish catch over the past years". All Palawan sites - San Vicente, El Nido, Culion, Busuanga, and Cuyo felt strongly about the declining fish catch. Except for Camiguin and Culion, more respondents in the 2004 round agreed about fish catch decline. The increase in agreement was highest in Cebu and Dauin where fish catch also had the greatest decline.

Comparing the integrated evaluation site with the CRM-only site, both sites reflected a decrease in agreement to fish decline. However, the decrease was greater for Culion at 11 percentage points than for Cuyo at less than 2 percentage points. This shows that respondents in the integrated site are more positive about fish catch. Although the average catch increased in Culion for 2004, the correlation between fish catch and this opinion was not statistically significant.

Fig. 5 Percentage Respondents Who Agreed "The condition of the reefs is still very good and there are still plenty of fish". I-BMS 2003-2004



Opinion on fish abundance was also measured with the statement "The condition of the reefs is still very good in this area and there are still plenty of fish". Except for San Vicente, agreement to this opinion was lowest for the Palawan and Bohol areas. Camiguin respondents were the most positive about their reef condition and even showed an increase of 10 percentage points (from 87.5% in 2003 to 97.5% in 2004). The drop was greatest for Busuanga, the RH-only site (from 66.4% to 53.8%). Comparing the integrated site to the CRM-only site, Culion respondents were more positive about their reef condition and fish abundance than Cuyo respondents. Furthermore, between 2003 and 2004, agreement with this opinion increased in Culion but decreased slightly for Cuyo.

Overall, looking at both opinions on fish catch and reef condition, Palawan sites were less positive about fish abundance than the other areas of the IPOPCORM project. However, the integrated site (Culion) comes out ahead compared to the other evaluation sites on fish abundance opinions. Combining the changes in agreement levels for the RH-only site and the CRM-only site, Culion still comes out ahead for this opinion.

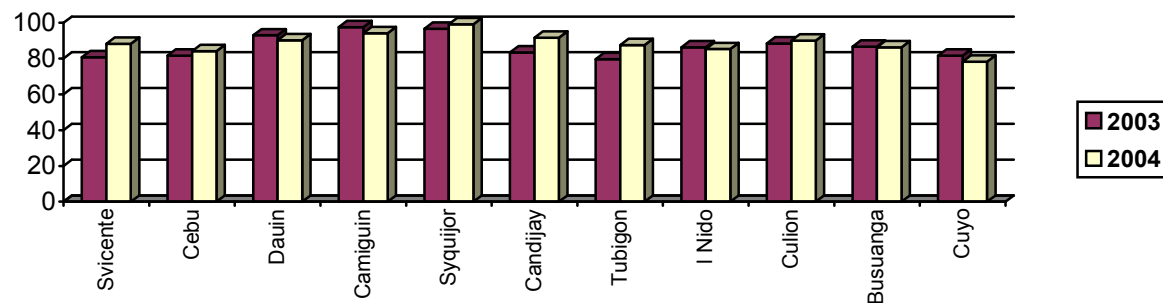
## 2. On Consumption Issues.

Two opinions related to consumption issues were:

"Aside from the sea we have other sources of income".

"Sometimes there is not enough food for the family".

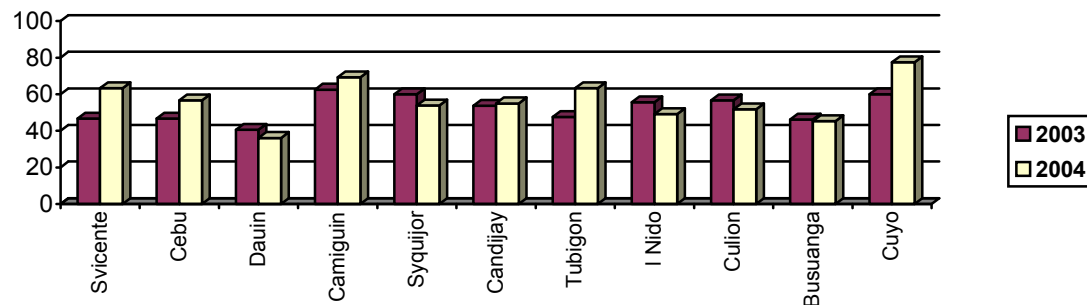
Fig. 6 Percentage Respondents Who Agreed "Aside from the sea we have other sources of income". I-BMS 2003 -2004



Majority of the respondents in all sites agreed to having other non-sea or non-marine sources of income. Agreement levels were highest for Camiguin and Syquijor but in Camiguin, the agreement levels decreased by 3 percentage points in the 2004 round. For Syquijor respondents, the high agreement levels are supported by their average household income levels, which is the highest across all sites. Also, Camiguin and Syquijor had the smallest percentage of fisher respondents. **This opinion is significantly correlated to whether the respondent is a fisher or not (p value <.05) at a likelihood ratio of 25 times.**

Both Cuyo and Cebu had the lowest levels of agreement for other sources of income and this is important given both sites have more than 30% fisher respondents. Looking at the evaluation sites, agreement with this opinion increased in the integrated site but decreased for both the RH-only site and the CRM-only site. The changes are small in all three evaluation sites but the change was a positive direction only for Culion.

Fig. 7 Percentage Respondents Who Agreed " Sometimes my family lacks for food". I-BMS 2003- 2004



Levels of agreement for the opinion on the family lacking for food varied across sites (Fig.7). Only Cuyo exceeded the 70% level for agreement to this opinion and the level increased by more than 17 percentage points (from 60% in 2003 to 77.5% in 2004). Dauin had the fewest respondents who agreed about sometimes lacking food at less than 40%. But the greatest decrease in agreement was in El Nido (from 55.6% in 2003 to 49.1% in 2004).

For the evaluation sites, the RH-only site had the lowest level of agreement with this opinion and the CRM-only site the highest. However, the integrated site had the most positive change from 2003 to 2004 (decreasing by almost 5 percentage points). Even combining the changes for both Busuanga and Cuyo, Culion still comes out more improved on this opinion.

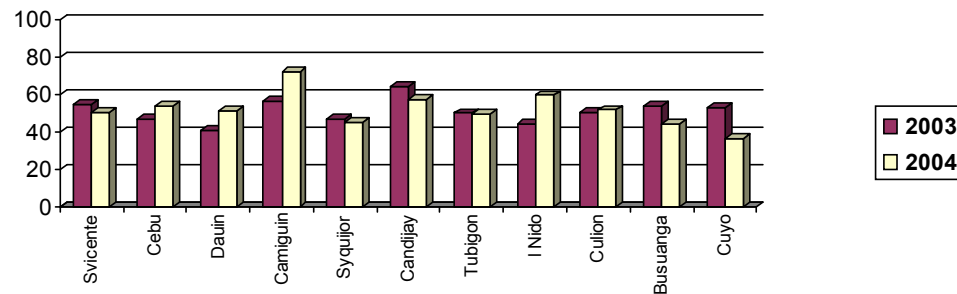
All in all, for the consumption opinions, the changes from 2003 to 2004 in the integrated site were more positive when compared to the non-integrated sites. Furthermore, even when the results are combined for both Busuanga and Cuyo, the changes in Culion still come out more positive for the consumption opinions.

**Analysis for this opinion shows that it is correlated to both average number of children and average household income (both with p values of <.05).**

### 3. On Community Empowerment

Respondents were also asked their opinions about their community being helpless in protecting its resources. In most sites, only a minority disagreed signifying a general lack of optimism about community empowerment in relation to its resources (Fig.8). Camiguin and El Nido respondents had the most positive opinion about their community. Disagreement levels increased by more than 15 percentage points in these two sites. Syquijor, Busuanga and Cuyo had the lowest levels in 2004 with less than 50% disagreeing to the helplessness of their community. Cuyo, followed by Busuanga had the greatest decrease in disagreement to this opinion exceeding 15 percentage points showing the target groups are becoming increasingly disenchanted about their community's ability to protect their environmental assets.

Fig. 8 Percentage Respondents Who Disagreed their Community is Helpless in Protecting its Resources. IBMS 2003 - 2004



In the evaluation sites, fewer respondents in both the RH-only and CRM-only disagreed to this opinion than in the integrated site. Furthermore, from 2003 to 2004 disagreement levels decreased in Busuanga and Cuyo but increased in Culion. The respondents in the integrated site became more positive in 2004 about community empowerment than their counterparts from the other evaluation sites.

**This opinion was not found to be statistically correlated to whether respondents were fishers nor to average fish catch.**

## B2. Relationship between Fishing Practices and CRM Opinions

The following bivariate analyses were performed for respondents from all sites, except Busuanga where there was no CRM intervention. Table 7 shows the analysis for responses of current fishers e.g. those who fished in the past 12 months..

Results show that those who returned fish fry were more likely to agree to fish catch decline and lack of food for the family. Returning fish fry was correlated to lack of food in both the 2003 and 2004 rounds, and the association became stronger in 2004.

Associations for admitting to having used illegal methods for fishing varied from 2003 to 2004. In 2003, illegal fishing was associated with having other sources of income but this association was no longer significant in 2004. Having ever engaged in illegal fishing was associated with both opinions on reef condition and lack of food for the family in 2004. Those who illegally fished were 6 times more likely to agree that sometimes there is not enough food for the family.

In 2003, fishers who said they have volunteered to guard a sanctuary or a mangrove area were more likely to say they have other non-marine sources of income. In 2004 however, none of the CRM related opinions were significantly correlated to helping guard a sanctuary or mangrove.

Table 7. Bivariate Analysis of CRM Opinions of Current Fishers and their selected Fishing Practices. IPOPCORM BMS 2003-2004

Opinion		Returned Fry		Ever Illegally Fished		Volunteered to guard	
		2003	2004	2003	2004	2003	2004
There has been a decline in fish catch over the past few years.	Likelihood Ratio	0.085	<b>8.890</b>	0.994	0.157	0.415	0.245
	P value	0.771	<b>0.003</b>	0.331	0.692	0.520	0.621
The condition of the reefs is still very good in this area and there are still plenty of fish.	Likelihood Ratio	0.003	0.180	0.528	<b>4.261</b>	3.203	0.415
	P value	0.960	0.671	0.468	<b>0.039</b>	0.074	0.520
Aside from the sea we have other sources of income.	Likelihood Ratio	2.286	1.348	<b>3.959</b>	1.417	<b>8.256</b>	1.536
	P value	0.131	0.246	<b>0.047</b>	0.234	<b>0.004</b>	0.215
Sometimes there is not enough food for the family.	Likelihood Ratio	<b>3.879</b>	<b>4.701</b>	0.002	<b>6.374</b>	0.418	2.947
	P value	<b>0.049</b>	<b>0.030</b>	0.964	<b>0.012</b>	0.518	0.086
Our community is helpless in protecting its resources	Likelihood Ratio	0.019	1.174	0.600	0.037	1.649	0.006
	P value	0.892	0.278	0.439	0.847	0.199	0.941



### B3. Trend Analysis of CRM Opinions and Practices in the Evaluation Sites: 2002-2004

The questionnaires were improved from 2002 to 2004 but the opinion questions remained consistent in the three annual BMS rounds conducted in the evaluation sites. This allowed for a comparison of the opinions in these sites across the three rounds.

The opinions related to CRM are shown here starting from 2002 up to 2004 and are compared across the three evaluation sites. Trends in the integrated sites can then be examined to determine if they are better than the trends observed in the CRM-only and the RH-only site as per the underlying hypothesis of the IPOPCORM intervention.

Fig. 9 "There has been a decline in fish catch over the past few years" I-BMS 2002-2004

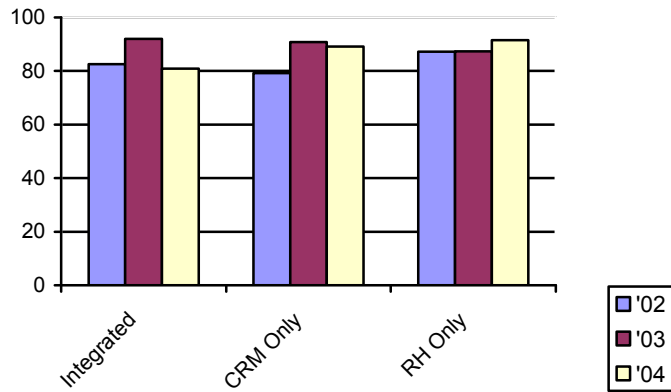
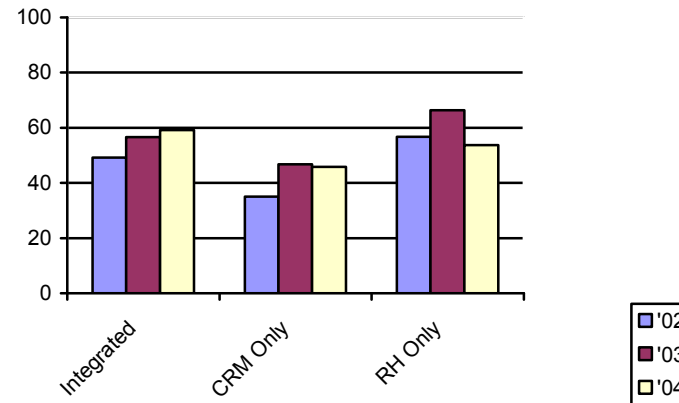


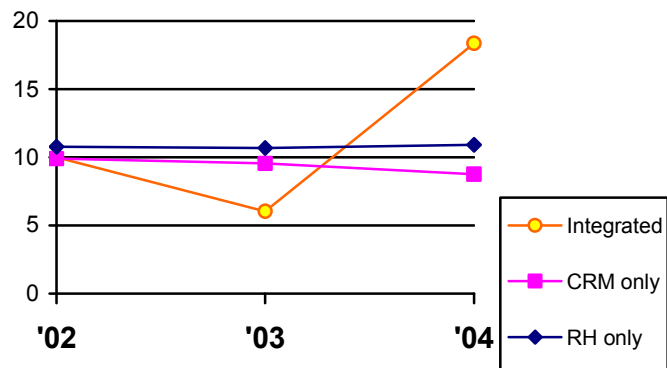
Fig. 10 "The conditions of the reefs is still very good and there are still plenty of fish." I-BMS 2002-2004



Respondents from the integrated site have increasingly become more positive in terms of fish abundance opinions. For both the CRM-only and the RH-only sites, respondents have increasingly agreed that there has been a decline in fish catch (Figure 9). Likewise, their opinions on reef condition did not improve across the years (Figure 10). Whereas, in the integrated site, there was a decrease in those who perceived a decline in fish catch and a continued increase in those who felt positive about reef conditions and fish abundance.

The trends for both opinions are reflected in the average fish catch trend analysis for the three evaluation sites as shown in Figure 11; however the correlation was not statistically significant.

Fig. 11 Average Most Recent Fish Catch (Kg)  
for 2002 to 2004. I-BMS



Trends in consumption opinions are more positive for the integrated site than the CRM-only and the RH-only sites. In the integrated site, there has been an increase in respondents with non-marine sources of income (Figure 12) and a decrease in those who sometimes lacked for food (Figure 13).

For the CRM-only site, there was an overall increase in the proportion of respondents reporting non-marine sources of livelihood in 2003, compared to 2002 but the level decreased in the 2004 survey round; whereas in the integrate site, it increased steadily from 72.5% in 2002 to 90% in 2004. There was also a dramatic upsurge in the proportion of respondents in the CRM-only site who felt they sometimes lacked food for the family compared to the integrated site where it remained the same as the level in 2001.

In the RH-only site, the trends for non-marine income sources were similar to the integrated site, but there was a slight drop of agreement levels in the last round. For the opinion on food shortage, the RH-only site remained at lower agreement levels than the integrated site. However, agreement levels regarding food shortage had an overall decrease from 2002 to 2004 in the integrated site and virtually no change in the RH-only site. These results should be interpreted with caution as they could also be a reflection of varying alternative livelihood strategies and levels of performance of NGO teams operating in the three sites. In the integrated and the RH-only sites, the field teams are managed by the same parent NGO, whereas the team operating in the CRM-only site is managed by a different NGO.

Fig. 12 "Aside from the sea we have other sources of income". I-BMS 2002-2004

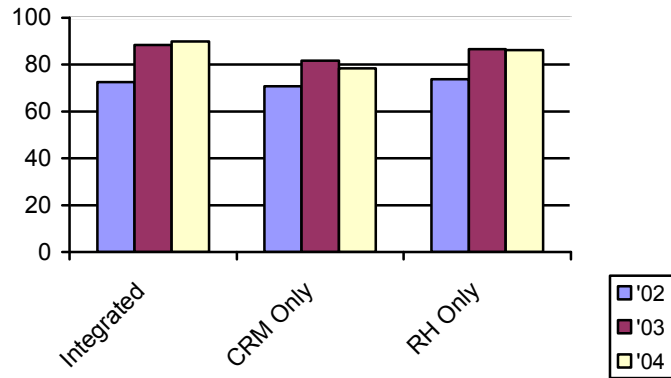
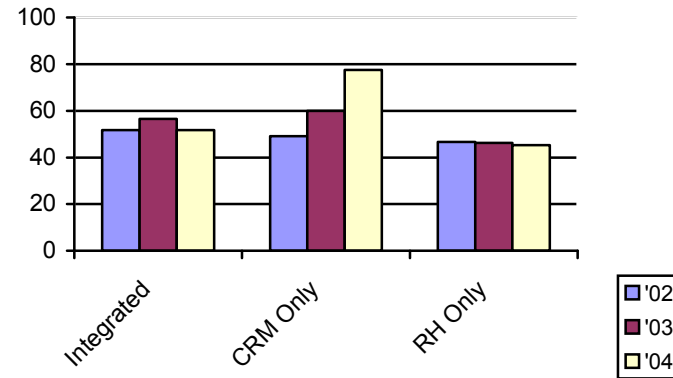


Fig. 13 " Sometimes there is not enough food for the family" I-BMS 2002-2004



The above trends in opinions are supported by the trend in income levels and number of children. Average household income increased by 21% in the integrated site but decreased dramatically (by 28%) in the CRM-only site and stayed about the same in the RH-only site (Figure 14). The integrated site started in 2002 with the lowest average level but was highest among the three sites in the 2004 round.

Fig. 14 Average Estimated Monthly Household Income (Pesos) for 2002 to 2004

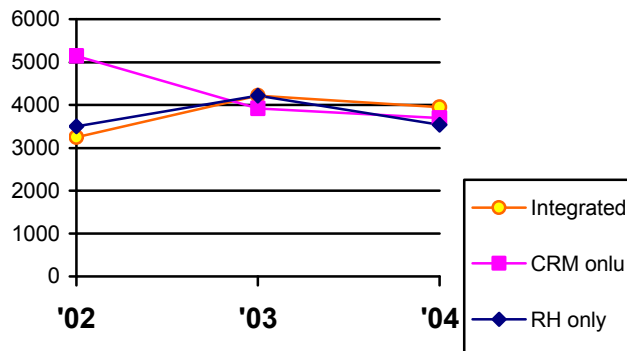
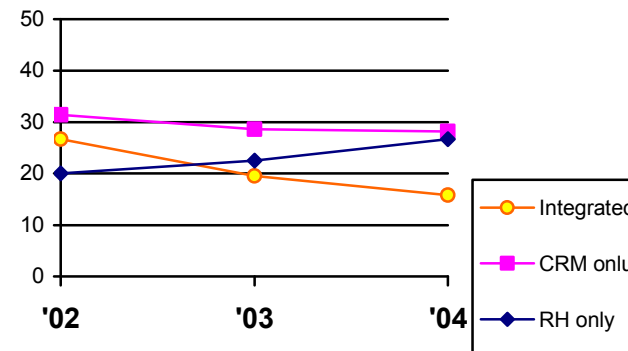


Fig. 15 Percentage of Respondents with more than 4 children for 2002 to 2004



Respondents with more than 4 children were identified (as poverty levels are computed for a family of six). There was an increase of respondents with more than 4 children in the CRM-only area. Both RH-only and integrated sites saw a decrease across the years of those with more than 4 children. But the proportions were consistently smaller in the integrated site than the RH-only site (Figure 15).

Analysis for opinion on the food shows that it correlates with both the average number of children and the average household income (both with p values of <.05).

Fig. 16 "Disagree that our community is helpless in protecting its resources".  
I-BMS 2002-2004

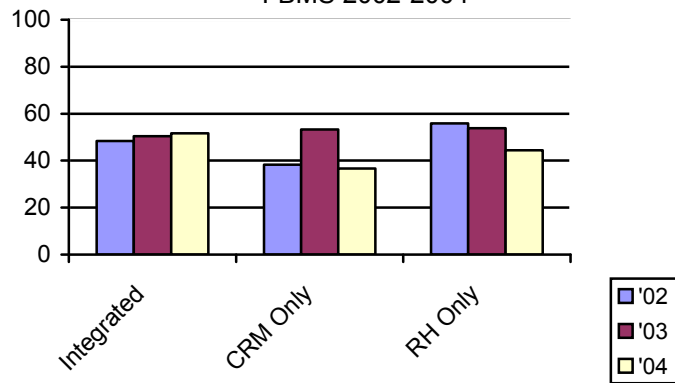
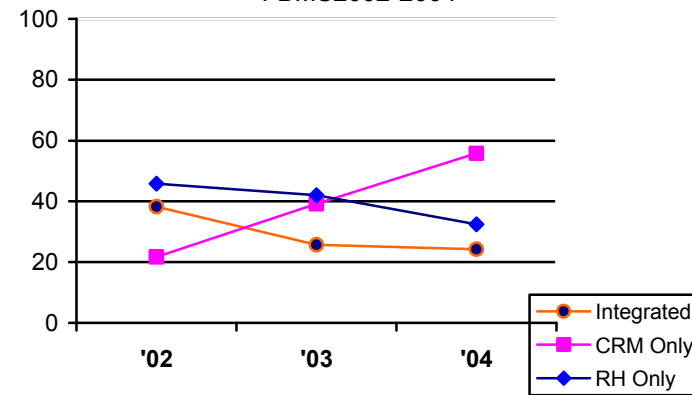


Fig. 17 Percentage of Respondents Who Volunteered to Guard a Sanctuary or Mangrove .  
I-BMS2002-2004



There was a dramatic increase in the proportion of respondents from the CRM site who volunteered to guard a sanctuary or mangrove over the three survey rounds; whereas in the integrated and RH-only sites it declined (Figure 17). However, respondents from the integrated site sites increasingly became more positive about community empowerment compared to the two other evaluation sites (Figure 16). Statistical analysis has found that this opinion was neither significantly correlated to volunteering nor to other CRM behaviors. The NGOs may need to look into policy implementation as a factor for this opinion.

## C. REPRODUCTIVE HEALTH MATTERS

### C1. Family Size

More than 7 out of 10 respondents have children. In 2003, the average number of children of parent respondents across sites varied from 2.38 to 3.78. In 2004, the range increased slightly from 2.39 to 3.82. The respondents in these surveys were asked about number of living children, which presumably is lower or at least similar to the number of children ever born (CEB). Still, in all sites, the average number of living children of the married women exceeded the national average CEB of 2.14.

Both the integrated site and the combined implementation sites had smaller numbers for average children compared to the CRM-only and the RH-only sites (Table 8). The integrated site had the fewest children although the average number increased slightly from its 2003 levels. In comparison, the average number of children decreased in the RH-only site from 2003 to 2004 but the figure stayed above 3 children. In the CRM-only site, the average increased from 3 to almost 4 in 2004.

Generally, one of five parents in these surveys had more than 4 children. For both rounds, the proportion of parents with more than 4 children was smaller in the integrated site than in the CRM-only and RH-only sites. The implementation sites combined, also had fewer respondents with over 4 children compared to the two non-integrated evaluation sites.

Table 8. Percentage of Parent Respondents and Family Size. I-BMS 2003-2004

	Implementation Sites								ALL	Evaluation Sites		
	S.Vicente	Cebu	Dauin	Camiguin	Syquijor	Candijay	Tubigon	El Nido		Culion	Busuanga	Cuyo
2003 % With Children	81.7	85.0	81.3	72.5	68.3	76.0	69.2	90.6	77.9	78.8	89.9	73.3
2004 % With Children	88.3	85.0	91.0	90.8	78.2	77.5	76.7	81.9	83.0	86.7	91.5	75.8
2003 Mean # of Children												
All parents	2.68	3.34	2.77	2.77	2.38	3.08	2.87	3.78	2.99	2.52	3.63	3.17
Married Women	3.38	3.77	3.48	3.00	2.65	3.76	3.61	4.03	3.50	2.75	3.96	3.60
2004 Mean # of Children												
All parents	3.43	3.57	2.44	2.76	2.39	3.03	2.57	3.14	2.93	2.66	3.23	3.82
Married Women	3.67	4.29	2.59	2.58	2.74	3.59	3.46	3.73	3.34	3.14	3.27	3.87
2003 % with more than 4 children	20.0	27.5	15.6	15.0	7.5	21.9	13.7	35.0	19.7	19.5	28.6	22.5
2004 % with more than 4 children	29.2	34.2	7.4	16.7	13.4	21.3	15.8	25.0	20.4	15.8	28.2	26.7

Philippine poverty thresholds are computed for a family of six – assuming a couple with 4 children.

Around 2 out of 3 parent respondents across all sites did not want to have anymore children (Table 9). Between 2003 and 2004, most sites showed an increase in the proportion of respondents not wanting any more children. The highest increase of 11.3 percentage points was observed in Syquijor, followed by Camiguin with 9 percentage points. Some sites did show a decrease, the biggest of which was in El Nido at

19% points followed by both Dauin and Candijay with more than 8 percentage points each, and Busuanga and Cuyo, with about 5 percentage points each.

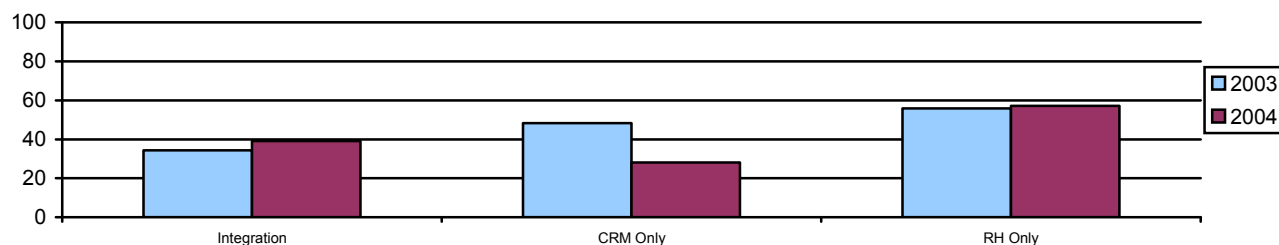
Except for San Vicente, Culion and Busuanga, more than half of those who did not want anymore children were worried about getting pregnant again. Generally, more women than men did not want additional children. Likewise more women than men were worried about another pregnancy.

Table 9. Percentage of Respondents who don't want anymore kids and their perceived risk for another pregnancy. I-BMS 2003-2004

		Implementation Sites								ALL	Evaluation Sites		
		S.Vicente	Cebu	Dauin	Camiguin	Syquijor	Candijay	Tubigon	El Nido		Culion	Busuanga	Cuyo
2003	% Don't want more kids	60.0	61.7	73.4	50.0	50.0	58.3	56.4	76.9	60.6	59.3	74.8	64.2
	Male	50.0	48.3	67.7	50.8	28.3	46.3	44.1	75.4	50.8	50.8	71.7	56.7
	Female	70.0	75.0	79.4	49.2	71.7	70.2	69.0	78.3	70.3	68.5	78.0	71.7
2004	% Don't want more kids	63.3	66.7	64.8	59.2	61.3	49.6	58.3	57.8	59.0	61.7	70.1	58.3
	Male	63.3	68.3	55.9	55.0	58.3	38.3	49.2	56.1	53.6	55.0	66.7	50.0
	Female	63.3	65.0	73.0	63.3	64.4	60.8	67.2	59.3	64.2	68.3	73.3	66.7
2003	Don't want more kids and felt at risk for pregnancy	25.0	42.5	38.3	40.0	30.8	42.1	39.3	53.0	39.2	20.4	36.1	35.8
	Male	15.0	26.7	20.0	37.3	21.7	30.6	27.1	52.6	28.8	13.6	38.3	21.7
	Female	35.0	58.3	57.1	42.6	40.0	53.7	51.7	53.3	59.9	27.8	33.9	50.0
Don't want more kids and felt at risk for pregnancy and not using modern method		2.5	5.8	6.3	5.0	8.3	5.8	3.4	6.0	5.4	2.7	5.0	13.3
2004	Don't want more kids and felt at risk for pregnancy	17.5	44.2	45.9	50.0	31.9	33.3	50.8	37.9	38.3	24.2	19.7	33.3
	Male	21.7	41.7	30.5	43.3	20.0	21.7	37.3	29.8	29.7	16.7	15.8	20.0
	Female	13.3	46.7	60.3	56.7	44.1	45.0	63.9	45.8	46.9	31.7	23.3	46.7
Don't want more kids and felt at risk for pregnancy and not using modern method		1.7	6.7	5.7	0	5.9	5.4	6.7	5.2	4.7	4.2	5.1	0.8

Comparing respondents among the evaluation sites who did not want more children, there was a decrease in self-perception of pregnancy risk in Cuyo - the CRM only site (Figure 18). Levels of risk perception were highest in the RH-only site (Busuanga) but the increase from 2003 to 2004 was greatest in the integrated site (Culion). Considering that only a small proportion of those who are worried about another pregnancy do not use modern FP methods, the anxiety may be a result of their awareness of the burden of having more children.

Fig. 18 Percentage of Respondents Who Don't want More Children that are Worried about another Pregnancy, Across Evaluation Sites. I-BMS 2003-2004



In the CRM-only site, those worried about another pregnancy had, on average, more children and smaller monthly household incomes than those reporting no worry about pregnancy, and this held true for both survey rounds (Table 10). For the RH-only site, in 2004, there was a 5.6 likelihood ratio linking income with anxiety for another pregnancy (p value .016). In the integrated sites, these factors were not linked.

Table 10. Average Number of Children and Income by Anxiety for another Pregnancy in the Evaluation Sites. I-BMS 2003

Worried about pregnancy		Integrated Site		RH Only Site		CRM Only Site	
		No	Yes	No	Yes	No	Yes
2003	Average Number of Children	3.93	3.30	4.40	4.21	3.25	4.14
	Average Monthly Household income	4310	3440	3767	4086	3967	3694
2004	Average Number of Children	3.38	3.48	4.12	3.91	4.26	4.50
	Average Monthly Household Income	3684	3790	3054	3522	4093	3375

## C2. Contraceptive Awareness

Majority of the respondents in all sites said they knew of a family planning method. Proportion of respondents aware of any method in 2003 ranged from 70% (Cuyo) to 92% (Tubigon). In the 2004 survey round, it ranged from 58% (Cuyo) to 96% (San Vicente). Except for Cuyo, all sites had more respondents in 2004 reporting knowledge of any contraceptive methods.

In all sites and across the two rounds, majority of those who knew any FP method cited modern methods (Table 11). With the exception of Cuyo and El Nido, levels of awareness of modern methods increased from 2003 to 2004. In 2004, and excluding Cuyo where no RH intervention occurred, respondents who knew of modern methods ranged from 73% (Cebu) to 92% (San Vicente and Busuanga). In general, the most commonly cited methods were the contraceptive pill and condoms mentioned together with other methods aside from the pill. (See appendix)

Table 11. Percentage of Respondents Aware of Any and Modern Contraceptive Method. I-BMS 2003- 2004.

		Implementation Sites								ALL	Evaluation Sites		
		S.Vicente	Cebu	Dauin	Camiguin	Syquijor	Candijay	Tubigon	El Nido		Culion	Busuanga	Cuyo
2003	Know any FP method	79.2	74.2	83.6	80.0	83.3	85.5	91.5	86.3	83.2	87.6	89.1	70.0
	Know Modern method	68.3	64.2	68.8	66.7	77.5	69.4	76.1	82.1	71.3	85.8	77.3	40.0
2004	Know any FP method	95.8	80.8	95.1	94.2	92.4	91.7	93.3	89.7	91.6	90.8	95.7	58.3
	Know Modern method	92.5	73.3	88.5	90.8	89.1	75.8	80.0	79.3	82.8	89.2	92.3	40.0

Comparing contraceptive awareness among the evaluation sites, Cuyo being a site with no RH intervention reflected the poorest results in both survey rounds. In 2003 the RH-only site (Busuanga) fared better than the integrated site (Culion) on contraceptive awareness but more respondents cited a modern method in the later site than the former. In the 2004 round, the RH-only site registered the highest levels of awareness on both measures, and the greatest increases from 2003 to 2004. However, in both the RH-only and the integrated site the proportion of respondents who cited a modern method relative to those who knew any FP method were similar (98% and 96% respectively)

### C3. Contraceptive Use

Table 12. Contraceptive Use of Respondents per Site. IBMS 2003 - 2004

		Implementation Sites								ALL	Evaluation Sites		
		S.Vicente	Cebu	Dauin	Camiguin	Syquijor	Candijay	Tubigon	El Nido		Culion	Busuanga	Cuyo
2003	Used any FP method	50.0	33.3	27.4	45.0	44.2	43.0	56.4	44.5	42.8	52.2	57.1	38.3
	Used Modern method	41.6	24.1	18.8	33.3	30.0	31.4	48.7	35.1	32.6	46.0	46.2	14.2
2004	Used any FP method	76.7	42.5	68.1	56.7	59.7	45.5	57.5	62.1	57.1	68.3	67.5	21.7
	Used Modern method	70.8	32.5	58.2	55.8	48.7	33.3	50.8	50.0	48.2	61.7	57.3	17.5

Non-government organizations under the IPOPCORM initiative target 40% of the WRA (15-49) for unmet demand for modern methods annually. The target of 40% is an increase from a baseline of 10.5%, the estimate proportion of WRA currently using modern methods. Thus, for this section, 50% of total married adult women (20-49 years old) will be used as a comparative point for evaluating the survey results on RH matters.

Respondents were asked if they used any the contraceptive method for their most recent sexual intercourse and what the specific method was. In 2003 only Tubigon, Culion and Busuanga had more than half of their respondents using any FP method (Table 12). Across all sites, the proportion of respondents reporting use of a modern method ranged from 14% (in Cuyo) to 49% (in Tubigon). Except for Cuyo, more than two-thirds of those who use any FP method were using a modern method.

**There was a universal increase in use of any method in 2004. Furthermore, among those who used any FP method, the proportion of modern method users also increased in 2004. However, Cebu, Syquijor, Candijay and Cuyo did not exceed the 50% benchmark for modern method use.**

**Among the evaluation sites, the integrated site (Culion) had the highest level of FP practitioners and modern method users. It also registered the greatest increase from 2003 to 2004 on both measures.**



Table 13. Method Use of Respondents per Site. IBMS 2003 - 2004

	Implementation Sites								ALL	Evaluation Sites		
	S.Vicente	Cebu	Dauin	Camiguin	Syquijor	Candijay	Tubigon	El Nido		Culion	Busuanga	Cuyo
<b>2003</b> Top methods used	Pill Rhythm Injections	Pill IUD Withdrawl	Pill Injection Withdrawl	Pill IUD	IUD Pill Ligation	Pill Rhythm Withdrawl	Pill Withdrawl	Pill Withdrawl	Pill Withdrawl	Ligation Pill	Pill Withdrawl Ligation	Withdrawl Pill
Condom Use Last Time	8.3	8.3	5.5	8.3	4.2	17.8	12.8	6.0	9.9	11.5	5.9	5.0
% of nonmodern users who felt at risk for pregnancy	40.0	90.9	81.8	71.4	52.9	85.7	44.4	63.6	69.4	42.9	84.6	48.3
<b>2004</b> Top method/s used	Pill	Pill IUD withdrawl	Pill Injection Rhythm	Pill	Pill IUD Ligation	Pill Rhythm Withdrawl	Pill IUD Ligation	Pill	Pill IUD wtdrawl	Pill Ligation	Pill Ligation Withdrawal	Pill
Condom Use Last Time	14.2	15.0	7.4	27.5	4.2	13.8	15.0	12.1	13.6	7.5	6.8	6.7
% of nonmodern users who felt at risk for pregnancy	42.9	75.0	75.0	100	69.2	89.7	80.0	85.7	78.6	50.0	66.7	80.0

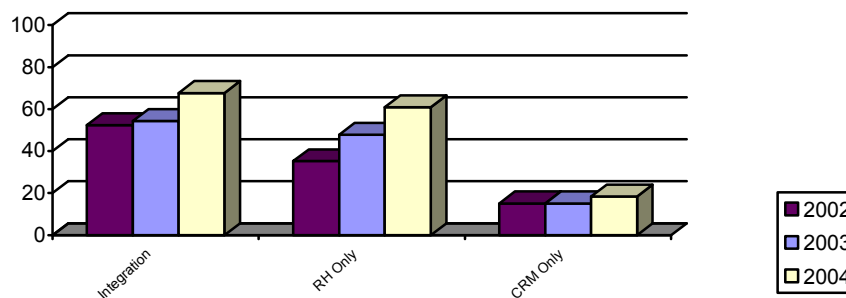
The pill was consistently one of the top reported methods used for most recent sexual intercourse in all sites and for both rounds (Table 13). The other modern methods most frequently reported were ligation and IUD. On the other hand withdrawal topped the list of non-modern methods reported by respondents that use traditional and natural FP methods. Withdrawal was the most popular method reported - in seven sites in 2003 but it declined to only three sites in 2004.

**Reported condom use for most recent sexual intercourse was generally less than 10% across sites except for Culion and the Bohol municipalities of Candijay and Tubigon. The lowest reported condom use was in Syquijor and remained at this low level for 2004. Generally, condom use increased from 2003 to 2004 but decreased in Candijay and Culion. As the integrated site, Culion had the highest level of condom use among the evaluation sites and this was true for both rounds.**

**Those who were using non-modern methods were asked if they felt at risk for pregnancy with their method and the proportions varied across sites from as little as 40% to as much as 91% in 2003. In 2004, it ranged from 43% to 100% indicating an increase in respondents' level of self perceived pregnancy risk.**

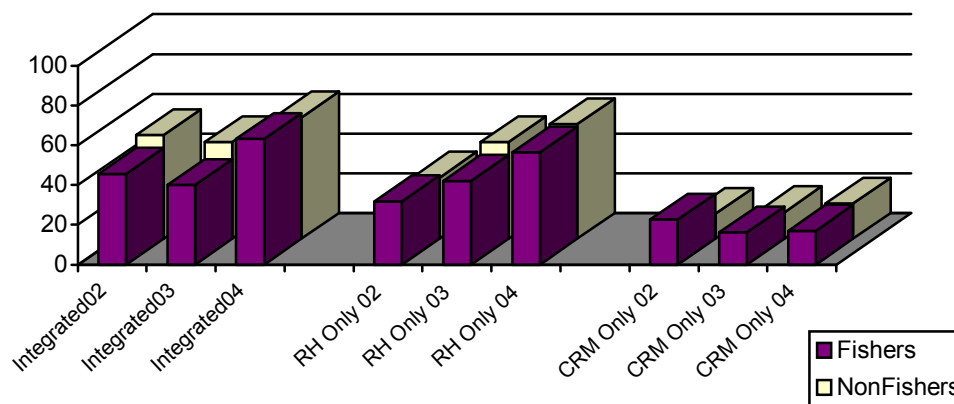
Among the evaluation sites, Cuyo reflected the largest increase in risk awareness and the highest levels for 2004. Percentages decreased in Busuanga but remained higher than Culion.

Fig. 19 Percentage of Modern Contraceptive Users among Married Respondents. I-BMS 2002 - 2004



Among married respondents and looking at the trend across the evaluation sites from 2002 to 2004, the integrated site had the highest levels of modern method use (see Figure 19). The trend was a continuous increase for both the integrated site and the RH-only site. But it was highest in 2004 for the integrated site at 67% compared to the RH-only at 60%. On the other hand levels of modern method use in Cuyo by married respondents remained below 20% across the three year period.

Fig. 20 Percentage of Modern Contraceptive Users among Fishers and Nonfishers. I-BMS 2002 - 2004



Comparing trends of modern FP use among fisher respondents and non-fishers from 2002 to 2004, modern method use increased across the years for both groups except in Cuyo. However, fewer fishers reported using modern method than their counterparts. It was only in the integrated site, and only for 2004 that there were more fishers who reported modern method use but the difference was minimal at 2 percentage points.

## C4. Opinions Related to Reproductive Health and Family Planning

### 2. On FP involvement

Three opinion statements were related to involvement in FP matters

"Family planning need not involve men"

"My partner does involve herself or himself in family planning matters."

"I am actively involved in family planning matters."

Except for Cebu and Cuyo, more than 70% of the respondents in all sites and in both rounds agreed that they were actively involved in FP matters (see Fig. 21). The lowest agreement levels were observed in Cebu and Cuyo – also the only sites where agreement levels decreased in 2004. The highest agreement levels in 2004 were in Busuanga and San Vicente (93 and 91 percentage points respectively) but the largest jump in levels of agreement was in Dauin (15 percentage points) and in Syquijor (14 percentage points).

Fig. 21 Percentage of Respondents who Agreed "I actively involve myself in FP matters".  
I-BMS 2003-2004

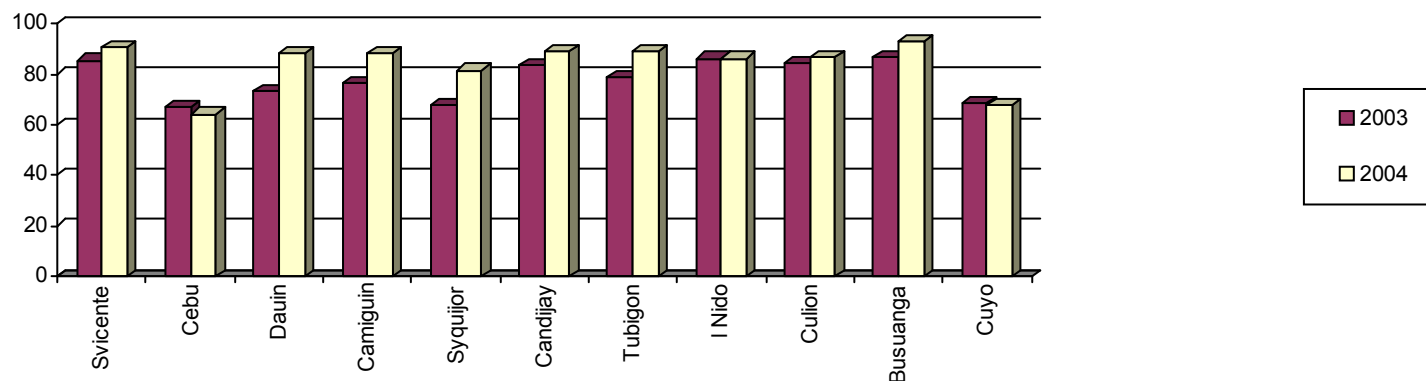
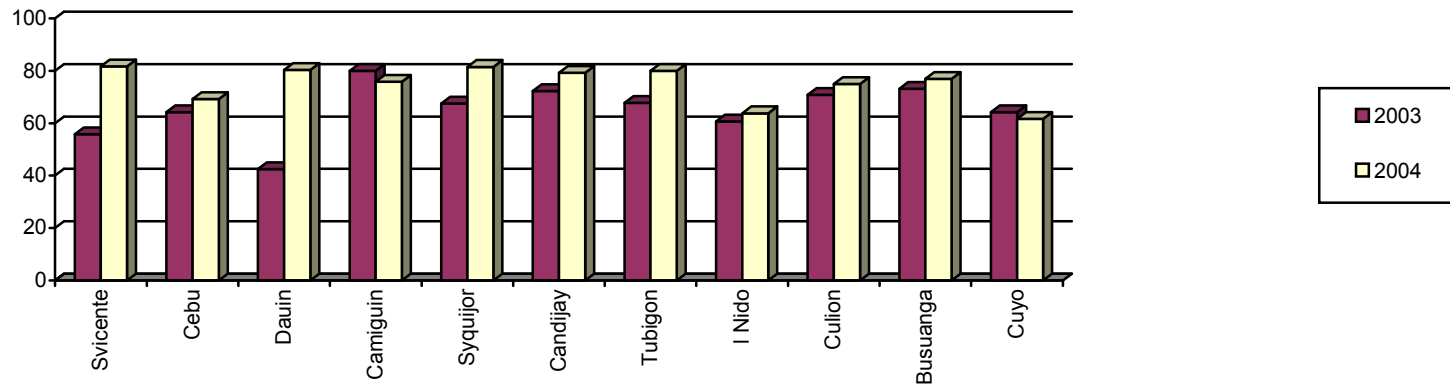


Fig. 22 Percentage of Respondents who Disagreed "My partner does not involve him/herself in FP matters". I-BMS 2003-2004.



Disagreement about partner non-involvement in FP matters barely exceeded the 80% mark (see Fig 22). However, disagreement levels were generally higher in 2004 than in 2003. The greatest increase was in Dauin and San Vicente (at 38 and 26 percentage points respectively). In 2004 the lowest disagreement levels were in El Nido and Cuyo. Generally, respondents across all sites think their partners' involvement in family planning is less than the level of participation they report for themselves.

### 3. On Male Involvement and Youth Access to FP

All respondents were asked about their opinion on the statements -  
 "Men need not be involved in family planning matters."  
 "Adolescents should not have access to family planning information".

Figure 23 shows that majority of the respondents in all sites disagreed with non-involvement of males in FP matters. As expected, in Cuyo, where there has been no RH intervention, disagreement levels are the lowest. San Vicente, Camiguin and Busuanga had the most respondents who disagreed with this opinion statement. It should be emphasized that these responses are from both men and women interviewees.

Except for Camiguin and Culion, disagreement with male non-involvement increased in all sites. The increase from 2003 to 2004 was greatest in San Vicente at 30 percentage points.

Fig. 23 Percentage Respondents Who Disagreed with Male non-involvement in FP. I-BMS 2003-2004

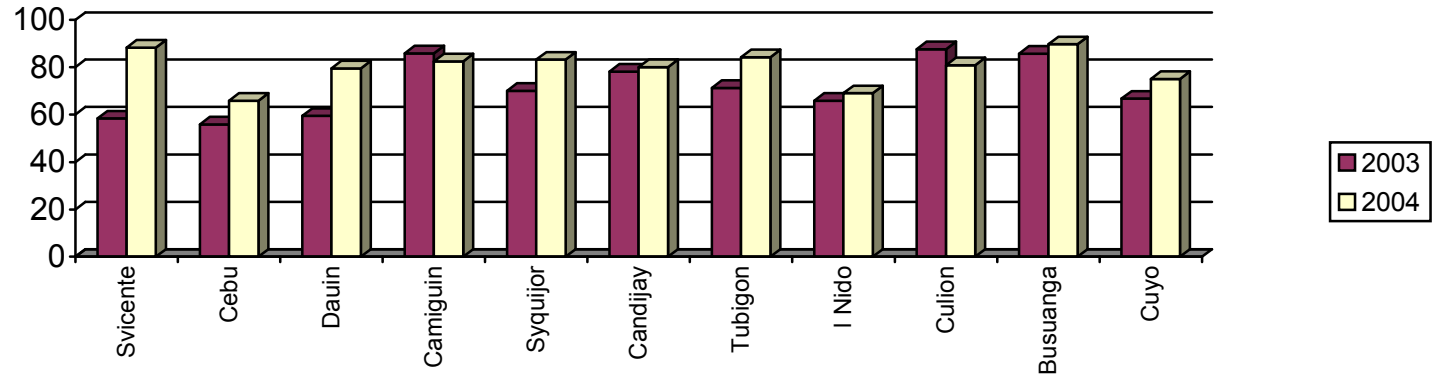
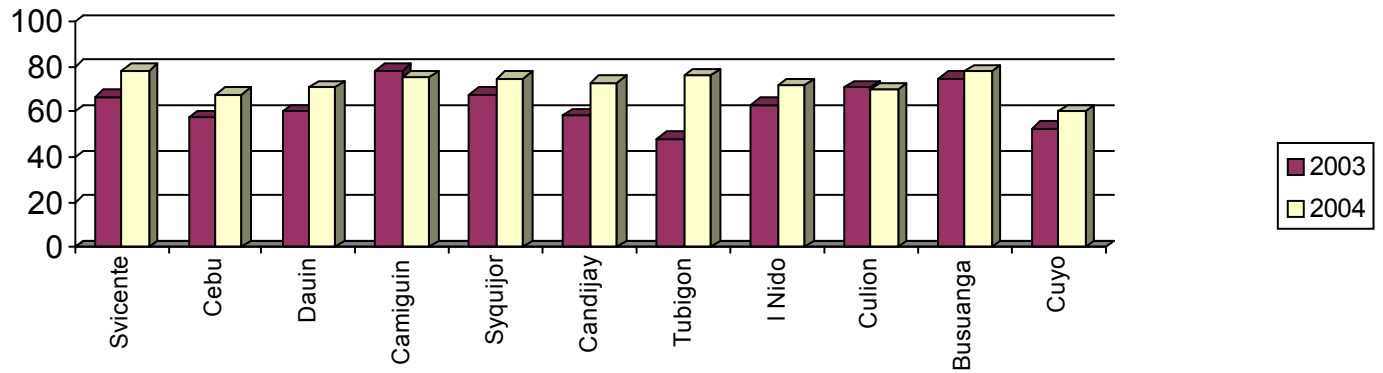


Fig. 24 Percentage Respondents Who Disagreed with Youth non-access to FP information. I-BMS 2003-2004



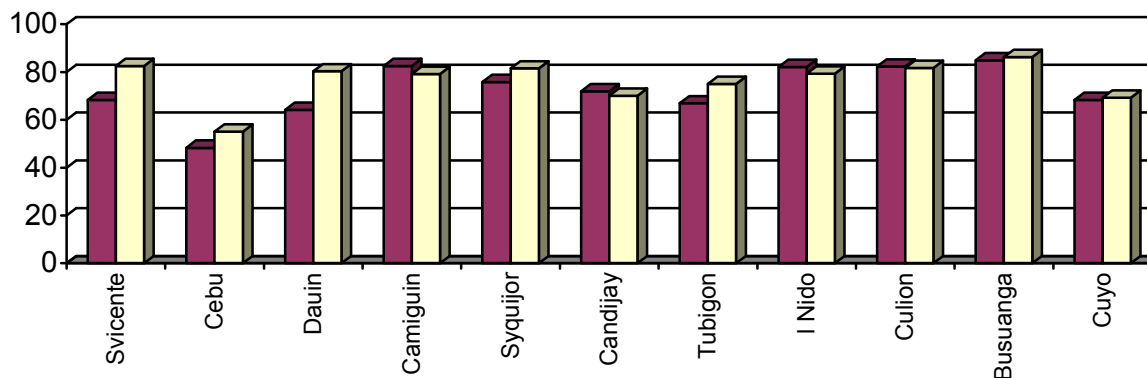
In general, fewer respondents were amenable to adolescent access to FP information (Fig 24) compared to male involvement in FP (Fig 23). None of the sites exceeded the 80 percent level for disagreeing to non-access to FP information by adolescents. Generally the highest disagreement levels were in San Vicente, Camiguin, and Busuanga. Except for Camiguin and Cullion, disagreement levels increased from 2003 to 2004 but the increase was greatest in Tubigon at 28 percentage points. Respondents were least amenable to youth FP access in Cuyo and Cebu, the same sites where respondents agreed least about active involvement in FP matters.

#### 4. On the Economic Advantages of Family Size

Respondents were also asked their opinions regarding - "Families with more children are better off economically than families with fewer children.

Except for Cebu, majority of the respondents in all sites disagreed with this opinion statement exceeding the 70% mark (Fig.25). In Cebu which had the lowest levels for both 2003 and 2004, less than half (48.3%) of the respondents in 2003 disagreed that bigger families are economically advantaged but the proportion increased to 55% in 2004. Levels of disagreement with the opinion generally stayed at similar levels for both rounds except in San Vicente and Dauin where it increased by 14 and 16 percentage points respectively.

Fig. 25 Percentage Respondents Who Disagreed with Economic Advantage of Larger Families. I-BMS 2003-2004



## C5. Relationship between Reproductive Health Opinions and Knowledge, Attitude and Practice

Bivariate analysis was performed on the opinions of respondents who were parents (regardless of civil status). Their opinions were analyzed in relation to their desire for more children, their knowledge of FP methods and actual use of modern methods. This analysis also included respondents from the sites with integrated or RH-only intervention.

Results show that for these parents, in 2003, their opinions on their own involvement were strongly associated with their knowledge and actual use of modern methods. In 2004 however, it was the opinions on male involvement and partner involvement that were linked to both knowledge and use of modern methods.

The opinion on adolescent access to FP had the strongest association to modern FP use but only for 2004. Opinion on family size was not linked to any of the selected RH indicators.

Table 15. Bivariate Analysis of RH Opinions and KAP of parents IPOPCORM BMS 2003-2004

Opinion		Know Modern FP Method		Don't want more kids		Modern FP use	
		2003	2004	2003	2004	2003	2004
Family Planning need not involve men.	Likelihood Ratio	0.578	<b>9.629</b>	0.282	2.716	2.036	<b>4.192</b>
	P value	0.447	<b>0.002</b>	0.596	0.257	0.154	<b>0.041</b>
My partner does not involve herself/himself in family planning matters.	Likelihood Ratio	0.671	<b>2.963</b>	1.315	1.119	0.508	<b>8.055</b>
	P value	0.413	<b>0.085</b>	0.251	0.571	0.476	<b>0.005</b>
I actively involve myself in family planning matters.	Likelihood Ratio	<b>6.413</b>	0.324	1.493	4.253	<b>3.755</b>	0.656
	P value	<b>0.011</b>	0.569	0.222	0.119	<b>0.044</b>	0.418
Adolescents should not have access to FP information or commodities.	Likelihood Ratio	1.511	4.806	1.653	8.100	0.419	<b>17.897</b>
	P value	0.219	0.090	0.199	0.088	0.518	<b>0.000</b>
Families with large number of children are better off economically than families with only a few children.	Likelihood Ratio	1.539	0.882	1.911	1.632	3.562	1.839
	P value	0.215	0.348	0.167	0.441	0.059	0.175

## C6. Trend Analysis of RH Opinions in the Evaluation Sites: 2002-2004

The opinions related to RH are shown here starting from 2002 up to 2004 and are compared across the three evaluation sites. Trends in the integrated sites can then be examined to determine if they are more positive than the trends observed in the RH-only and the CRM-only sites as per the underlying hypothesis of the integrated approach.

Both FP involvement opinions (self and partner) increased from 2002 to 2004 in the integrated and RH-only sites (Fig.26 and Fig 27). In 2004, the opinion levels were higher in the RH-only site compared to the integrated site. But when it comes to partner involvement, the increase in opinion level from 2002 to the 2004 was more accentuated in the integrated site.

Fig. 26 Agree with "I actively involve myself in FP matters." I-BMS 2002-2004

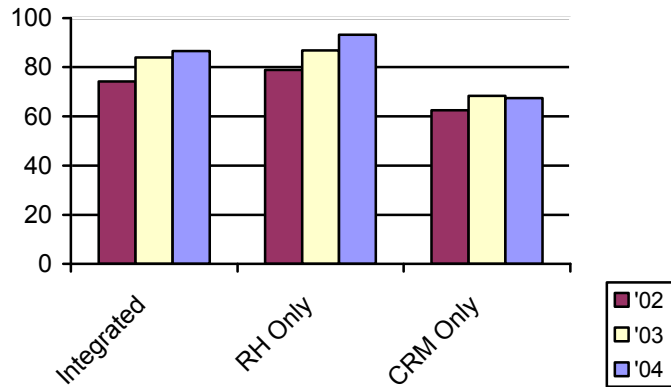
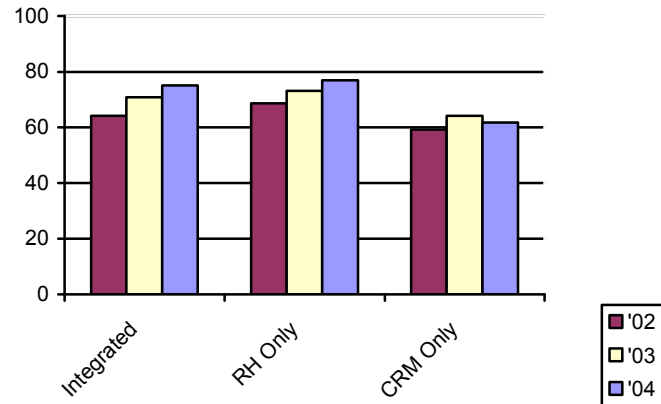


Fig. 27 Disagree with "My partner does not involve him/herself in FP matters." I-BMS 2002-2004



The opinion for male involvement in FP matters increased from 2002 to 2004 in all the evaluation sites (Fig 29). Furthermore, the 2004 opinion level for male involvement was higher in the RH-only site compared to the two other sites.

Positive opinion trends in the RH-only site were mirrored by steadily increasing trends in actual modern method use (see Fig 26). In 2004, however, the level of modern method use reached a higher level in the integrated site compared to the RH-only site (Fig 28).

Fig. 28 Percentage of ALL Respondents using Modern FP Method. I-BMS 2002-2004

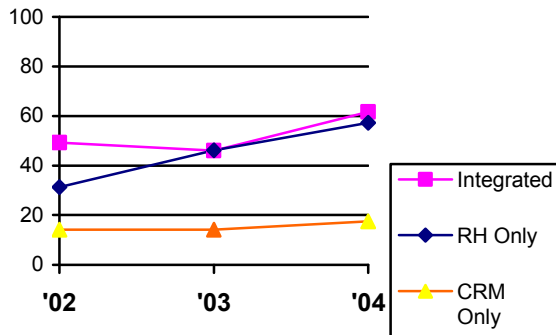
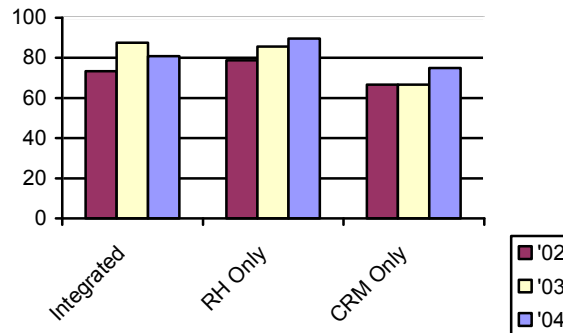


Fig. 29 Disagree with "Family Planning need not involve men" I-BMS 2002-2004





In both the integrated and RH-only sites, trend analysis show positive changes in adult attitudes about adolescents' access to FP information, whereas adults became more negative in the CRM-only site (Fig 30). The change was most pronounced in the integrated site but opinion levels were constantly higher in the RH-only site. As for the opinion on more children as an economic advantage, only the RH- site reflected a positive trend from 2002 to 2004 (Fig 31).

Fig. 30 Disagree with "Adolescents should not have access to FP information." I-BMS 2002-2004

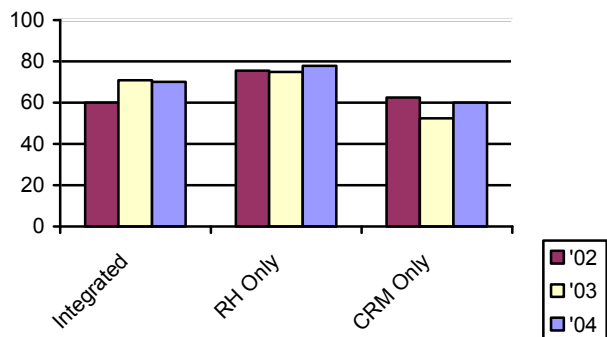
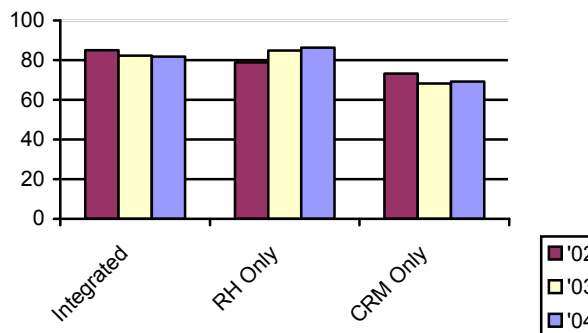


Fig. 31 Disagree with "Families with more children are better off economically than families with fewer children." I-BMS 2002-2004



## D. INTEGRATED OPINIONS

Three opinion statements pertaining to the linkage between population, coastal resource management and food security were included in the survey. Generally, except for Cebu, majority of the respondents agreed with the following linked opinions.

"Family size affects my community's coastal marine resources."

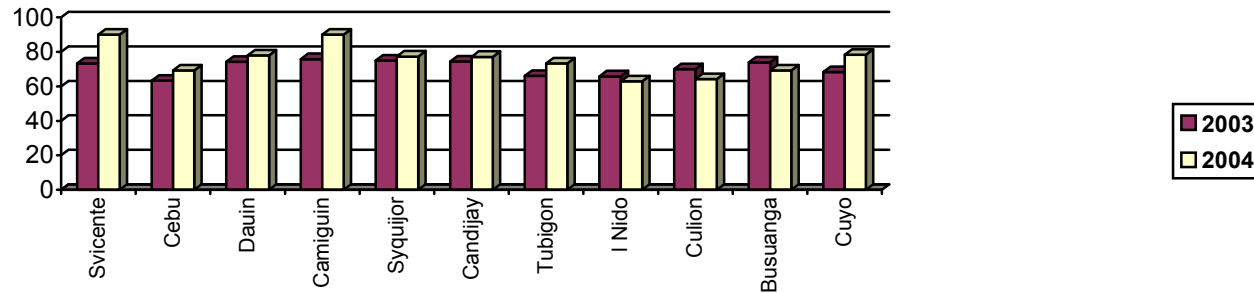
"This village may soon face a crisis because there are too many people and not enough fish to go around."

"Overpopulation is one of the causes of declining fish catch."

More than 60% of all the respondents in all sites and in both rounds agreed that family size affects the community's coastal marine resources (Fig 32). . The level of agreement generally increased from 2003 to 2004 except in El Nido and Culion. The largest jump in agreement levels were in San Vicente (17 percentage points) and in Camiguin (14 percentage points).

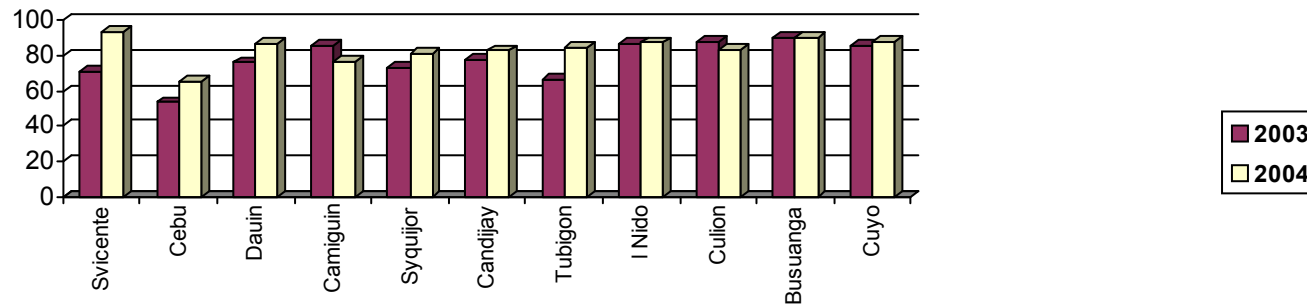
Compared to the other two linked RH-CRM opinions, respondents generally agreed least with the statement linking family size and coastal resources. It is only with Cebu and Camiguin respondents that this opinion statement rank highest in agreement.

Fig. 32 Percentage Respondents Who Agreed with "Family size affects my community's coastal marine resources. I-BMS 2003-2004



As for the statement on the possibility of a crisis in their village due to overpopulation and declining fish supply, majority of the respondents also agreed with this opinion (see Fig. 33). . Agreement levels in 2003 ranged from 53% (Cebu) to 90% (Busuanga), and in 2004 they ranged from 65% (Cebu) to 93% (San Vicente). Except for Camiguin and Culion, agreement levels increased from 2003 to 2004. The largest jump in agreement levels were in San Vicente (22 percentage points) and in Tubigon (18 percentage points). Compared to the other two RH-CRM statements, the highest agreement levels were generally observed for this opinion, except again in Cebu and Camiguin.

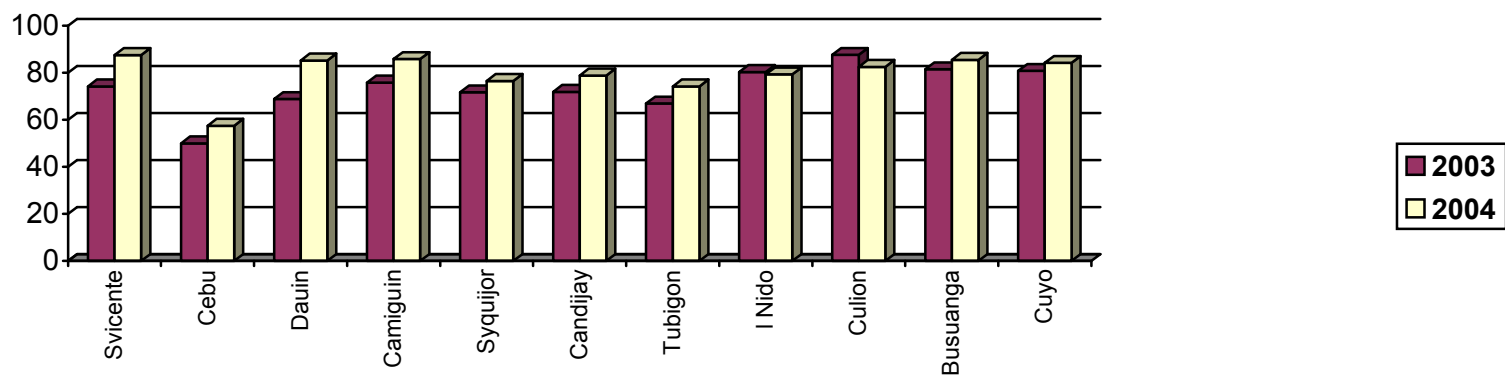
Fig. 33 Percentage Respondents Who Agreed with "This village may soon face a crisis because there are too many people and not enough fish to go around." I-BMS 2003-2004



Overpopulation was seen as a cause for declining fish catch by majority of the respondents in all sites except for Cebu (see Fig. 34). Less than 60% of the population in Cebu agreed to this opinion statement for both 2003 and 2004. The highest agreement levels were for San Vicente, Camiguin and Busuanga all exceeding 85%. Agreement levels increased from 2003 to 2004 except in El Nido and Culion. The increases were not as dramatic as for the two earlier integrated opinions but the highest jumps were registered in Dauin (16 percentage points) and San Vicente (13 percentage points).

In summary, for the three opinions linking RH and CRM, the highest agreement levels were for the opinion on the possibility of a crisis due to overpopulation and declining fish supply. Respondents generally agreed least with the opinion linking family size with coastal resources. Over all, Cebu had the lowest agreement levels for all the linked opinions. San Vicente not only had the highest levels of agreement for all three linked opinions but also reflected the greatest increases in all three from 2003 to 2004. For Culion, the integrated evaluation site, majority of respondents agreed to the linked opinions but the percentages decreased from 2003 to 2004 for all three linked opinions. The decreasing percentage of respondents concerned about a looming food security crisis in Culion is a positive sign that things may be improving there, whereas in the RH-only and CRM-only sites the situation seems to have remained the same or deteriorated. However, the latter sites fared better than the integrated site in terms of increasing awareness of population-environment linkages.

Fig. 34 Percentage Respondents Who Agreed with "Overpopulation is one of the causes of declining fish catch". I-BMS 2003-2004



### D1. Relationship between the Linked Opinions and selected Indicators.

Bivariate analysis was done for the opinions of respondents from sites with integrated interventions. The linked opinions were analyzed in relation to selected demographic characteristics, and the RH and CRM knowledge attitudes and practices.

In 2004, the opinion linking family size to the community's coastal marine resources was significantly correlated to residency status. But this opinion was not linked to any other relevant demographics.

Table 16. Bivariate Analysis of Integrated Opinions with selected Demographics. IPOPCORM BMS 2003- 2004

Opinion		Indigenous Resident		Income above group mean		Civil Status is partnered		Parents with more than 4 kids	
		2003	2004	2003	2004	2003	2004	2003	2004
Family size affects my community's coastal marine resources.	Likelihood Ratio	0.012	<b>8.619</b>	0.900	0.093	1.387	0.872	0.696	0.028
	P value	0.749	<b>0.003</b>	0.764	0.761	0.239	0.350	0.404	0.867
This village may soon face a crisis because there are too many people and not enough fish to go around.	Likelihood Ratio	0.003	2.916	2.084	<b>8.006</b>	<b>3.854</b>	<b>4.165</b>	<b>4.557</b>	1.126
	P value	0.957	0.088	0.149	<b>0.005</b>	<b>0.046</b>	<b>0.041</b>	<b>0.033</b>	0.289
Overpopulation is one of the causes of declining fish catch.	Likelihood Ratio	1.592	0.084	0.362	0.230	<b>4.053</b>	2.311	1.985	0.058
	P value	0.207	0.772	0.548	0.632	<b>0.044</b>	0.128	0.159	0.809

The opinion regarding the possibility of a crisis in the village due to overpopulation and declining fish supply was significantly linked in both rounds to the civil status of the respondents. In 2003, this opinion was found to be associated with the number of children and in 2004 with the income levels.

As for the opinion on overpopulation as one of the causes of declining fish catch, this was only significantly correlated with civil status in 2003. This association to civil status may be a result of the focus of IEC efforts on couples who are the main target for FP acceptors.

Table 17. Bivariate Analysis of Integrated Opinions with selected CRM Factors. IPOPCORM BMS 2003-2004

Opinion		Primary or secondary fisher		Fishers with catch more than group mean of 10 kilos	
		2003	2004	2003	2004
Family size affects my community's coastal marine resources.	Likelihood Ratio	2.001	1.153	0.321	3.087
	P value	0.157	0.283	0.571	0.079
This village may soon face a crisis because there are too many people and not enough fish to go around.	Likelihood Ratio	2.774	2.599	0.654	0.068
	P value	0.096	0.107	0.419	0.795
Overpopulation is one of the causes of declining fish catch.	Likelihood Ratio	0.897	<b>5.823</b>	0.209	0.055
	P value	0.344	<b>0.016</b>	0.648	0.815

The integrated opinions were analyzed in relation to fishing as a livelihood and to fish catch. In 2004, fishers were more likely to agree that overpopulation is one of the causes of declining fish catch than respondents engaged in other occupations. Fish catch was not a factor for any of the integrated opinions.

The relationship of the three opinions with selected fishing practices was also analyzed (Table 18). Illegal fishing practice was the only behavior that was strongly linked to the opinions. (See Table 18). In 2003, illegal fishing was more strongly linked to agreement on declining fish catch and looming food security crisis opinions. In 2004, fishers engaged in illegal practices were 6 times more likely to report linkages between family size and coastal resources. Returning fish fry and volunteering to guard sanctuaries or mangrove were not correlated to the linked opinion.

Table 18. Bivariate Analysis of Integrated Opinions with selected Fishing Practices. IPOPCORM BMS 2003 - 2004

Opinion		Fishers who return fry		All respondents ever did illegal fishing		All respondents volunteered guard sanctuaries or mangrove	
		2003	2004	2003	2004	2003	2004
Family size affects my community's coastal marine resources.	Likelihood Ratio	0.191	0.434	2.132	<b>5.916</b>	5.596	0.875
	P value	0.662	0.510	0.144	<b>0.015</b>	0.018	0.350
This village may soon face a crisis because there are too many people and not enough fish to go around.	Likelihood Ratio	0.788	0.359	<b>7.275</b>	0.018	3.386	1.890
	P value	0.375	0.549	<b>0.007</b>	0.894	0.066	0.169
Overpopulation is one of the causes of declining fish catch.	Likelihood Ratio	0.903	3.824	<b>7.038</b>	0.440	1.484	0.795
	P value	0.342	0.051	<b>0.008</b>	0.507	0.223	0.373

As for the relationship with selected RH variables, parent respondents who did not want to have more children were more likely to also agree with the opinion linking family size to coastal resources and to the crisis opinion (Table 19). But this relationship was statistically significant only for 2003. Parents who reported using a modern FP method for their most recent sexual activity were more likely to agree that overpopulation is one of the causes of declining fish catch and this was significant for 2004. Parents' awareness of modern methods was not linked to any of the integrated opinions.

Table 19. Bivariate Analysis of Integrated Opinions of Parents with selected RH KAP. IPOPCORM BMS 2003 - 2004

Opinion		Parents who Know modern FP Method		Parents who don't want more kids		Parents who use Modern FP	
		2003	2004	2003	2004	2003	2004
Family size affects my community's coastal marine resources.	Likelihood Ratio	0.004	2.047	<b>4.922</b>	2.933	0.149	2.722
	P value	0.948	0.153	<b>0.027</b>	0.231	0.700	0.099
This village may soon face a crisis because there are too many people and not enough fish to go around.	Likelihood Ratio	2.033	1.950	<b>5.672</b>	0.426	0.056	0.065
	P value	0.154	0.163	<b>0.017</b>	0.808	0.813	0.799
Overpopulation is one of the causes of declining fish catch.	Likelihood Ratio	0.029	1.110	0.249	3.405	3.580	<b>6.538</b>
	P value	0.864	0.292	0.617	0.182	0.058	<b>0.011</b>

## D2. Trend Analysis of Integrated Opinions in the Evaluation Sites: 2002-2004

The CRM-only site consistently had an increasing trend in agreement levels for all three linked opinions when compared to the two other evaluation sites. For the opinion linking family size and coastal resources (Fig.35), the CRM-only site ended with the highest level of agreement (78%) and the highest increase from 2002 levels (21 percentage points). Both the integrated and RH-only site decreased from the 2003 agreement levels.

For the crisis opinion the trend was erratic in the integrated site but had an overall increase of almost 7 percentage points from 2002 to 2004 (Fig. 36). In the RH-only site, the agreement level tapered off for 2003 and 2004 but remained slightly higher (89.7%) than the CRM-only site (87.5%). In the CRM-only site, the increase was steady and continuous for an over-all increase of almost 12 percentage points.

A steady and continuous increasing trend was also registered by the CRM-only site for the opinion linking overpopulation to declining fish catch (Fig 37).

In the integrated site, the trend was erratic but increased overall by 7 percentage points from 2002 to 2004. The RH-only site also registered an upward trend and had the highest agreement level for this opinion. However, the overall increase was only 7 percentage points, similar to the integrated site. The CRM-only site registered an overall increase of more than 9 percentage points.

Fig. 35 Agree with "Family size affects my community's coastal marine resources".  
I-BMS 2002-2004

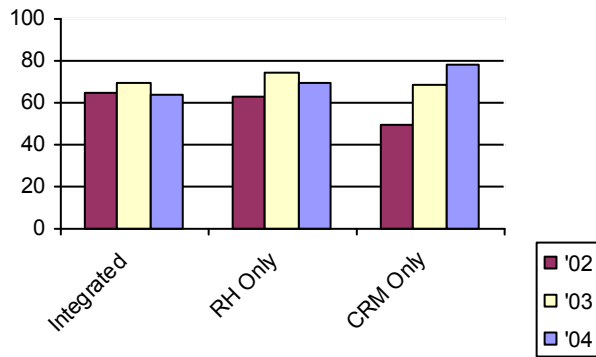


Fig. 36 Agree with "This village may soon face a crisis because there are too many people and not enough fish to go around".  
I-BMS 2002-2004

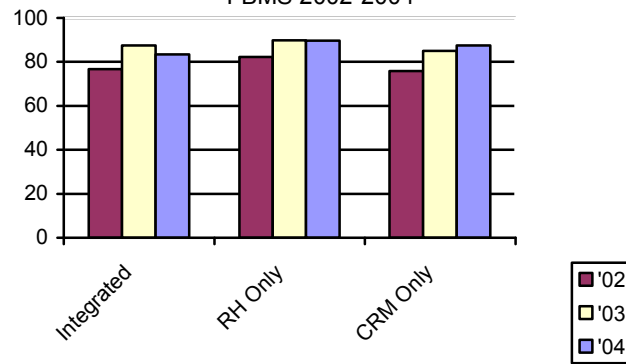
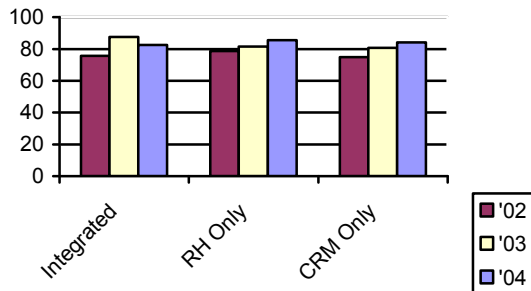


Fig. 37 Agree with "Overpopulation is one of the causes of declining fish catch".  
I-BMS 2002-2004



## V. IPOPCORM Behavioral Monitoring Surveys for YOUTH

Similar BMS surveys were conducted among youth (15-19 year) populations in the same study municipalities where adult BMS surveys were conducted. Fifty community health outreach workers (CHOWs) from 12 NGOs interviewed a total of 971 youth in 2003 and 953 youth in 2004. For 2003 the interviews took place between April 1 and June 7 and the NGOs did their interviews in an average of 4 weeks. In 2004, the interviews were done between March 3 and July 8 and took on average 3 weeks to complete.

The CHOWs used similar BMS instrument to the adults that were also revised and augmented with other questions relevant to youth concerns. In 2003 the YOUTH questionnaire, included questions on fishing practices and the items for sexually transmitted disease (STD) were replaced with questions on same sex and commercial sex experience. The results are summarized below following the same format as the adult BMS survey results.

### A. CHARACTERISTICS OF YOUTH RESPONDENTS

Table 1 shows that in 2003, a total of 971 youth aged 15-19 years old were interviewed while 953 youth of the same age range were interviewed in 2004. The sample in the three municipalities of Candijay, Mabini and Anda reflect the separate rounds done by two NGOs in this site.

The number of young fisher respondents varied across sites. Current fishers were identified when youth fishers report they have fished within the 12 months prior to the interview. El Nido had the highest proportion of fisher respondents in both rounds with 1 out of 3 of the total interviewees as fishers. Dauin had the greatest increase in proportion of fishers from 2003 to 2004. Camiguin and Tubigon had the least fishers for both rounds but Syquijor reflected the greatest decrease in proportion of fishers. Overall, fisher respondents remained at 22% of the total interviewees for both rounds.

Table 1. Information on Youth (15-19 yrs) Sample Size by Site and Group. IPOPCORM BMS 2003-2004

2003	Implementation Sites								Evaluation Sites			Total
	Svicente	Cebu	Dauin	Camiguin	Syquijor	Candijay Mabini, Anda	Tubigon	El Nido, Taytay	Culion	Busuanga	Cuyo, Magsaysay	
ALL	80	80	86	88	80	157	78	85	79	78	80	971
Female	40	40	46	48	40	78	39	43	40	40	40	494
Male	40	40	40	40	40	79	39	42	39	38	40	477
Fishers	24	20	19	5	21	27	10	30	16	21	25	218
Current Fishers	19	17	18	5	20	18	10	28	14	18	17	184
2004												
ALL	78	79	82	79	80	157	85	78	78	80	77	953
Female	39	39	41	39	40	79	43	40	39	40	38	477
Male	39	40	41	40	40	78	42	38	39	40	39	476
Fishers	15	21	35	9	5	28	5	35	14	19	25	211
Current Fishers	14	19	33	8	5	24	4	31	10	18	22	188

The age range of the youth respondents were from 15 to 19 years but the average age of those interviewed was 17 years and half of the respondents in all sites were between 15 and 17 years of age. In general, a substantial proportion of the youth respondents have a high school level of education and in all sites at least 10% had college level education (Table 2). Except for El Nido, Culion and Busuanga, less than 10% of the youth had primary level schooling only. The proportion of high school level respondents increased in most sites except Syquijor, Culion and Cuyo. However, more college respondents were interviewed in Syquijor and Cuyo in 2004 than in 2003.

Table 2. Demographic Characteristics of Youth Respondents by Site and Group. IPOPCORM BMS 2003-2004

		Implementation Sites							Evaluation Sites			ALL	
		Svicente	Cebu	Dauin	Camiguin	Syquijor	Candijay	Tubigon	El Nido	Culion	Busuanga		Cuyo
03	Mean Age	16.74	16.95	16.50	16.58	16.99	17.10	16.76	16.94	16.46	16.71	16.58	<b>16.78</b>
	Median age	17.00	17.00	16.00	16.50	17.00	17.00	17.00	17.00	16.00	16.50	16.00	<b>17.00</b>
04	Mean Age	16.44	16.73	16.43	16.75	17.06	16.89	17.04	16.87	16.71	16.98	16.81	<b>16.80</b>
	Median Age	16.00	17.00	16.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	<b>17.00</b>
03	% last completed education level												
	- Elementary	12.5	22.5	10.5	9.1	6.3	5.1	9.0	23.5	12.7	20.5	0	<b>11.4</b>
	- High School	75.0	65.0	67.4	68.2	65.0	74.5	64.1	68.2	74.7	66.7	83.8	<b>70.5</b>
	- Vocational	2.5	1.3	1.2	1.1	2.5	2.5	0	0	0	0	0	<b>1.1</b>
	- College	10.0	10.0	20.9	21.6	26.3	17.8	26.9	8.2	12.7	12.8	16.3	<b>16.8</b>
04	% last completed education level												
	- Elementary	6.4	10.1	3.7	2.5	0	7.6	8.2	14.1	17.9	13.8	1.3	<b>7.8</b>
	- High School	82.1	84.8	86.6	69.6	56.3	76.4	70.6	84.6	69.2	72.5	59.7	<b>74.1</b>
	- Vocational	1.3	0	0	0	0	1.9	1.2	0	0	0	2.6	<b>.7</b>
	- College	10.3	3.8	8.5	27.8	43.8	14.0	18.8	1.3	12.8	13.8	36.4	<b>17.1</b>
03	% Currently in School	40.0	42.5	74.4	72.7	75.0	59.9	73.1	40.0	79.7	66.7	76.3	<b>63.3</b>
04	% Currently in School	60.3	46.8	78.0	83.5	86.3	64.3	72.9	35.9	57.7	37.5	88.3	<b>64.7</b>
03	Difficulty in Reading	32.5	62.5	27.9	42.0	45.1	41.4	47.4	35.3	22.8	30.8	17.6	<b>37.2</b>
04	Difficulty in Reading	39.7	48.1	19.5	24.1	30.0	43.3	44.7	28.2	37.2	36.3	7.8	<b>33.5</b>
03	Have Radio	66.3	71.3	83.7	90.9	87.5	74.5	94.9	60.0	68.4	66.7	68.8	<b>75.7</b>
	Tune in everyday	36.3	42.5	57.0	36.4	62.5	54.8	78.2	36.5	13.9	37.2	26.3	<b>44.6</b>
04	Have Radio	62.8	84.8	91.5	83.5	95.0	78.3	69.4	62.8	51.3	72.5	63.6	<b>74.6</b>
	Tune in everyday	42.3	72.2	57.3	53.2	66.3	59.2	55.3	33.3	16.7	46.3	24.7	<b>49.0</b>

For both rounds, more than 60% of the total respondents were in-school youth but the proportions varied across sites from 36% to 88%. There was an increase of in-school respondents across the sites except for El Nido, Culion and Busuanga. The national figure for net secondary enrollment is 52.6%<sup>2</sup> and except for Cebu, El Nido and Busuanga, the proportion of in-school youth exceeds this level.

<sup>2</sup> [http://hdr.undp.org/statistics/data/cty/cty\\_f\\_PHL.html](http://hdr.undp.org/statistics/data/cty/cty_f_PHL.html)



More than one- third of youth respondents reported difficulty in reading comprehension in both rounds. Cuyo, which had the most in-school youth, had the least respondents with difficulty in reading comprehension. For both 2003 and 2004, Cebu and Tubigon have the highest proportion of respondents with reading difficulties. The functional literacy rate for the country is 86.5%<sup>3</sup>, meaning 13.5% would have difficulty in functional reading, r writing and numeric abilities. Except for Cuyo, all sites exceeded this level in 2004 (range 19.5% to 48.1%).

Majority of youth respondents have access to radios and most of them tune in everyday except in Culion and Cuyo. In both 2003 and 2004, only a third of the youth with radios in Culion and Cuyo tuned in everyday.

## **B. FISHING AND CRM BEHAVIOR**

- For both 2003 and 2004, nine out of ten youth respondents who said fishing was their source of livelihood, were current fishers. The average catch for the most recent fishing effort varied across sites with a range of 5 kilos in 2003. The range of difference in fish catch was greater in 2004 at more than 6 kilos. Majority of the young fishers used either a hand line or a typical fishing net as fishing gear but net fishers generally outnumbered hand line users in both rounds.
- Culion, as the integrated evaluation site had a greater increase in average fish catch when compared to the CRM-only site. In the RH-only site and the combined implementation sites, fish catch essentially remained at the same levels. The change in Culion does not seem to be related to proportion of fishers nor fishing methods. The increased fish catch in Culion is supported by opinions on fish abundance.
- Current fishers were also asked whether they caught fish fry (juvenile fish). The proportion of respondents who did varied across the sites from 4% to 35% in 2003. Fewer sites reported catching fish fry in 2004 but generally, fewer fishers returned the fry in the 2004 round than in 2003.
- All respondents (whether fishers or not) were asked about unsustainable fishing practices in their community. In all sites, admitting to using illegal methods for the more recent fishing effort was reduced, and in most to zero levels in the 2004 round.
- For both 2003 and 2004, less than 30% of the youth in all sites said that they have helped guard a fish sanctuary or mangrove forest in the past twelve months (except in San Vicente and Cuyo where more than 30% volunteered). In the evaluation sites, volunteers increased in both Culion (integrated) and Cuyo (CRM-only) but decreased slightly for Busuanga (RH-only site).
- The Youth I-BMS results for both 2003 and 2004 mostly show that the results for the integrated site (Culion) are more positive than the CRM-only site (Cuyo). The average fish catch for most recent fishing effort is higher in the integrated site than the CRM-only site. The increase in fish catch in 2004 was likewise greater in the integrated site than in the CRM-only site. Furthermore, current fishers who knew anyone who used either cyanide or dynamite was fewer and decreased more in the integrated site than in the CRM-only site. However, more respondents in the CRM-only sites volunteered to guard a sanctuary or mangrove area than in the integrated site.

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<sup>3</sup> [http://www.cyberdyaryo.com/features/f2000\\_0831\\_01.htm](http://www.cyberdyaryo.com/features/f2000_0831_01.htm)

## B1. Trend Analysis of CRM Opinions and Practices in the Evaluation Sites: 2002 - 2004

- Respondents from the integrated site have increasingly become more positive in terms of fish abundance opinions compared to their counterparts in the other evaluation sites. For both the CRM-only and the RH-only sites, respondents have increasingly agreed that there has been a decline in fish catch. Both the CRM-only and the RH-only sites increased in agreement to fish decline by 11 percentage points from 2002 to 2004. The integrated site decreased by 9 percentage points across the three year survey.
- In 2004 the CRM-only site had the highest agreement level for food reef condition and fish abundance. However, agreement levels for this opinion in the RH-only and the CRM-only sites did not improve across the years as compared to the integrated site. Opinion levels for reef condition and fish abundance increased by almost 8 percentage points in the integrated site, and only 2 percentage points in the two other evaluation sites. Overall, the integrated site increasingly became more positive in terms of the two fish abundance opinions.

Fig. 1 "There has been a decline in fish catch over the past few years" I-BMS Youth 2002-2004

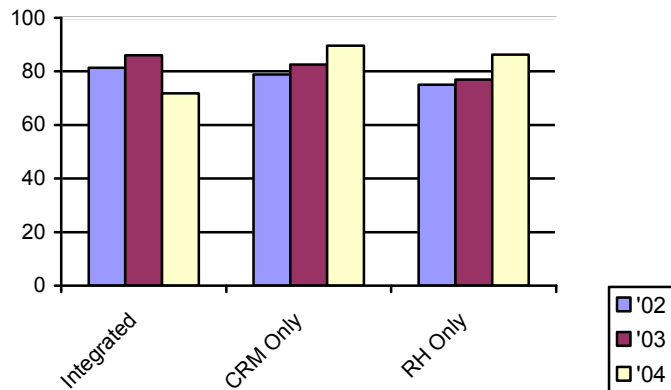
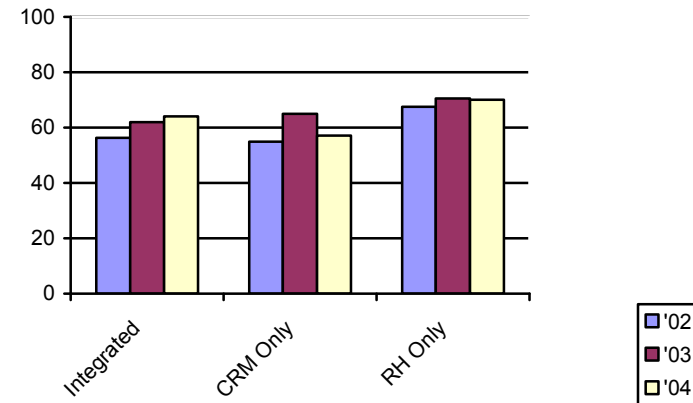


Fig. 2 "The conditions of the reefs is still very good and there are still plenty of fish." I-BMS Youth 2002-2004



- The trends for both opinions are reflected in the trend analysis of the average fish catch in the three evaluation sites from 2003 to 2004. Average fish catch increased by more than 3 kilos in the integrated site, by 2 kilos in the RH-only site and only by 0.5 kilo in the CRM-only site. However, the correlations between fish catch and the fish abundance opinions were not statistically significant.
- For the opinion on non-sea or non-marine sources of income, there was an increase in both the integrated and RH -only sites (Figure 3). However, the overall increase was greater in the RH-only site at more than 12 percentage points than in the integrated site at 5 percentage points. Respondents in the CRM-only site became more dependent on the sea and reflected an overall decrease of 3 percentage points for opinion on non-sea sources of income.

- There was an overall decrease in respondents from the integrated site who felt they sometimes lacked food for the family, with agreement levels decreasing by more than 7 percentage points (Figure 4). Also, the 2004 opinion level was lowest in the integrated site. In the two other evaluation sites, agreement levels increased and it was very dramatic in the CRM-only site where 215 more respondents from 2002 to 2004 felt they sometimes lacked food for the family.
- Overall, taking both consumption opinions in consideration, trends in the integrated site are more positive for the integrated site than the RH-only and CRM-only sites.

Fig. 3 "Aside from the sea we have other sources of income". I-BMS Youth 2002 - 2004

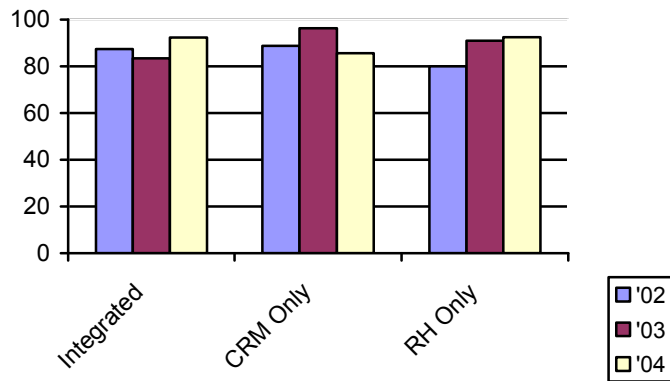


Fig. 4 " Sometimes there is not enough food for the family" I-BMS Youth 2002-2004

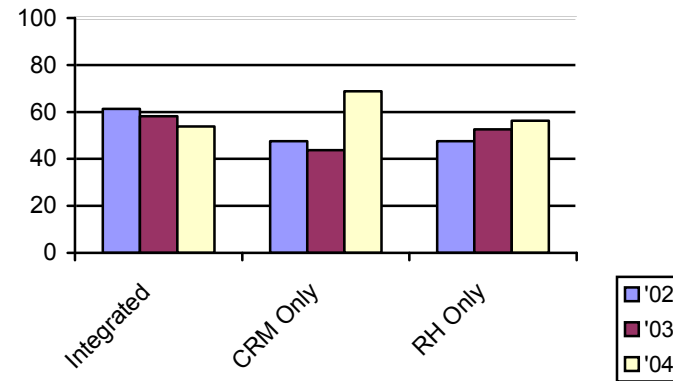


Fig. 5 "Disagree that our community is helpless in protecting its resources".  
I-BMS Youth 2002-2004

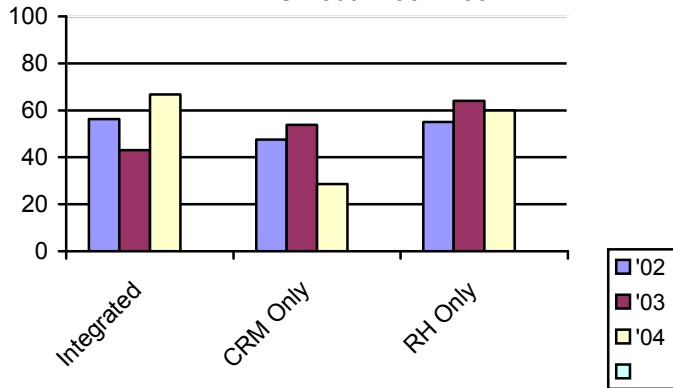
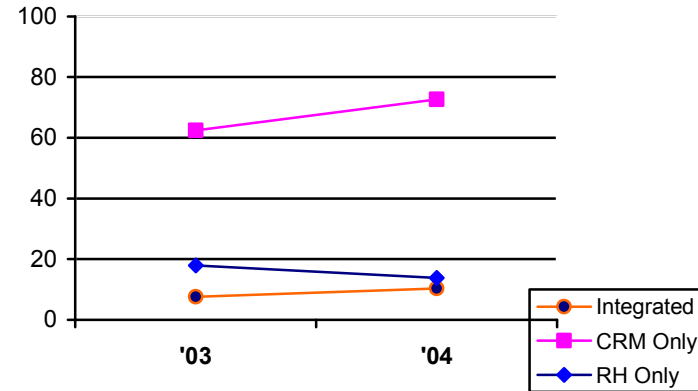


Fig. 6 Percentage of Respondents Who  
Volunteered to Guard a Sanctuary or Mangrove.  
I-BMS 2003-2004



- There was a sizeable increase (10 percentage points) in respondents from the CRM site who volunteered to guard a sanctuary or mangrove stand; whereas in the integrated site it increased by only 3 percentage point (Fig 6). Volunteers in the RH-only site decreased by 4 percentage points. However, respondents from the CRM-only site became dramatically less positive about community empowerment compared to the two other evaluation sites. Among the evaluation sites, the integrated site showed the most positive trend for opinion on community empowerment with an increase of 10 percentage points from 2002 to 2004. Indeed, analysis has found that this opinion was not significantly correlated to having volunteered to guard a sanctuary or a mangrove. The NGOs may need to look into policy implementation as a factor for this opinion.

## B2. Relationship between Fishing Practices and CRM Opinions

Bivariate analyses were done for fishing practices and CRM opinions of those who fished in the past 12 months or current fishers. Analyses were done for all sites except Busuanga where there was no CRM intervention.

- None of the CRM opinions were significantly correlated to returning fish fry and to helping guard sanctuaries or mangroves. And this was true for both rounds.
- In 2004, having ever engaged in illegal fishing was associated with both opinions on lack of food for the family and community helplessness in protecting marine resources. Those who have engaged in illegal fishing are 4 times more likely to agree to these two opinions.

## **C. REPRODUCTIVE HEALTH MATTERS**

### **C1. Attitudes about Sex**

- Young respondents were asked to cite the ideal age for first sexual intercourse. The average age they cited was around 21 years old. The average age did not vary much across sites and between rounds with a range of 20.79 - 22.24 years in 2003 and a range of 20.30 to 23.48 years in 2004.
- More than 70% of the youth in all sites disapproved of pre-marital sex (PMS) for teenagers. In 2003 a range of 71% to 91% of the youth across sites disapproved of PMS while in 2004 it ranged from 75% to 89 % of the youth. Proportions changed dramatically only in Syquijor with a drop of 15 percentage points. Syquijor also had more than 17percentage points increase in respondents who knew a sexually active teen.
- More than half of the youth respondents in these survey know another teen who has engaged in sexual intercourse. All sites exceeded the 50% mark except for Cuyo (31%) in 2003 and Dauin (45%) in 2004. For the 2004 data, correlation analysis showed that those who knew a sexually active teen were 28 times more likely to approve of pre-marital sex for teens (p value <.05).
- The top reason for the youth disapproving pre-marital sex for teenagers is age or maturity concerns and this held true for both rounds. It was only in Camiguin that the top reason for disapproving pre-marital sex was religious reasons for both 2003 and 2004.

### **C2. Fertility Management Awareness**

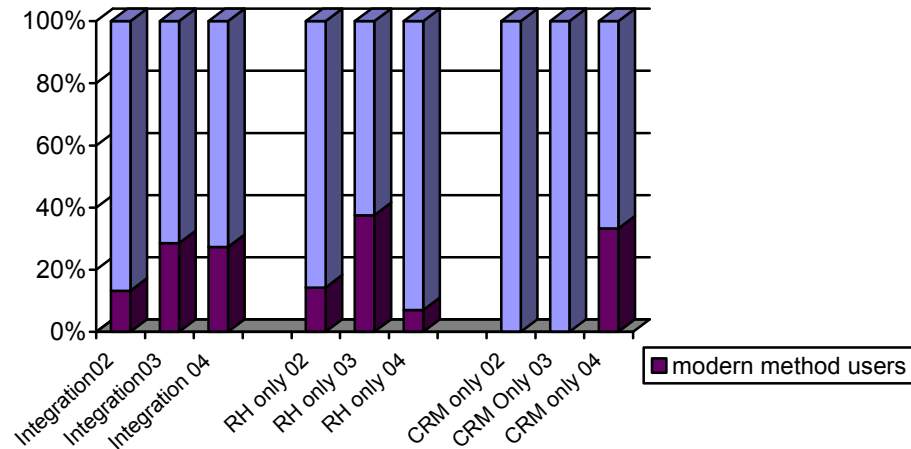
- Youth respondents were asked what they know about preventing pregnancy. For all sites youth respondents mentioned prevention methods that included actual contraceptives and also behavior strategies. For both rounds, the most commonly cited methods for avoiding pregnancy were abstinence and avoiding the opposite sex. Modern methods were top answers for both rounds in Tubigon and Culion. In general, the most commonly cited modern methods were either the contraceptive pill or condoms.
- Awareness of modern method generally increased from 2003 to 2004. In 2003 knowledge of modern methods ranged from 15% in Camiguin to 61% in El Nido. In 2004 the range was from 21% in Cuyo to 60% in Culion. Awareness of modern method did not increase in three sites - Cebu, Dauin and El Nido.
- Comparing contraceptive awareness among the evaluation sites, Cuyo being a site with no RH intervention reflected the poorest results in both survey rounds. The increase in awareness in both the integrated (Culion) and the RH-only (Busuanga) sites was similar (both at 11 percentage points). However, more respondents cited a modern method in the integrated site than the RH-only site for both rounds.

- Across all the evaluation sites, awareness of modern methods generally increased among the in-school youth from 2002 to 2004. Among the out-of school youth, the increase in awareness was greatest in the integrated site.
- Most of the youth interviewed have yet to experience sexual intercourse, although some did say they were urged, asked or coerced to have sex at some point in time. In all sites and for both rounds, more than 80% of the respondents reported that they have not yet had sexual intercourse.
- The proportion of sexually active youth varied across sites but did not exceed 20% in both rounds except for El Nido in 2003. However, El Nido reflected the greatest decrease in sexually active respondents at 7 percentage points. The largest increase in respondents who reported sexual activity was in Syquijor at more than 11 percentage points.
- In general, less than one out of three youth (sexually active) reported using any pregnancy prevention method during their sexual debut. In some sites for 2003, none of the sexually active youth used any method during their first sexual intercourse. In 2004, most of those who used any method for sexual debut, reported using a modern method.
- Less than 5% of the youth surveyed in all sites are married or have a live-in partner except for San Vicente in 2004. Clearly, many among those who are sexually active are not married nor domestically partnered.
- Young respondents, in general, report low levels of commercial sex experience (less than 4%) in both survey rounds. Same sex is more commonly reported than commercial sex but the overall level is still low (less than 5%). The exception is Cebu, where the proportion of youth reporting same sex was higher than those reporting commercial sex. Also in Cebu, the level of reported same sex practice increased from 5% in 2003 to 8.9% in 2004
- Across all sites and in both rounds, the average age for sexual debut was around 16 years old which is 4 to 5 years earlier than the average ideal age for sex that these youth reported. Figure 16 shows that indeed in most sites, 50% of sexual debut is unplanned and in some cases even unwanted.

### **C3. Contraceptive Use**

- Respondents were asked if they used any method of contraception during their most recent sexual intercourse and what the specific method was. The pill, condom and withdrawal were the top reported methods used for most recent sexual intercourse across the sites in 2003. Condom was more frequently a top method in 2004, and both pill and withdrawal were less frequently mentioned across sites. In fact condom use increased in all sites except in Candijay and El Nido.
- Among the evaluation sites, Cuyo (CRM-only site) reflected the largest increase for modern method use from a base of 0%. The integrated site (Culion) showed a steady increase in modern method use from 2002 to 2004. The RH-only site (Busuanga) had a more erratic trend with an overall decrease in modern method use among sexually active youth respondents (Figure 7).

Fig. 7 Percentage of Modern Contraceptive Users among Sexually Active Youth Respondents : Evaluation Sites I-BMS 2002 - 2004



- The youth who did not use any FP method for their most recent sexual intercourse either did not have a definite reason for non-use or did not have any knowledge of FP methods. Youth who said they had no knowledge of FP methods decreased in most sites except for Cebu and Busuanga.

#### C4. Trend Analysis of RH Opinions in the Evaluation Sites: 2002-2004

- Figures 8 and 9 show trends for opinions asked only of the sexually active youth. The 100 percent base in these two figures therefore represent only the sexually active respondents in each site and not the total sample per site. The trend in knowledge of correct condom use was erratic for both the integrated and RH-only sites. Overall, the integrated site registered a decrease in agreement to this opinion whereas the two other evaluation sites increased in agreement levels from 2002 to 2004.
- Knowledge on the risk of withdrawal increased for both the integrated and the CRM-only sites but decreased for the RH-only site from 2002 to 2004. The increase in agreement to this opinion was greater in the CRM-only site; however, the integrated site had highest overall level of agreement in 2004.

Fig. 8 Agree with "I know the correct way to use a condom." I-BMS Youth 2002-2004

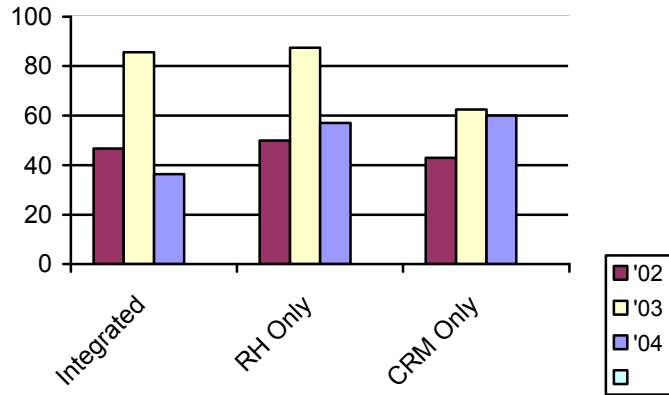
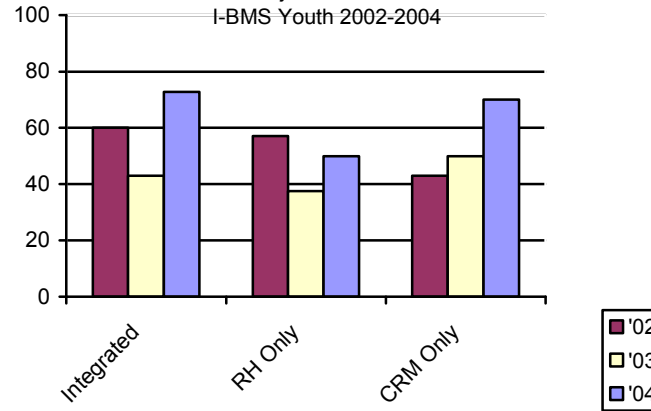


Fig. 9 Agree with "It is still possible to get a girl pregnant even when the boy withdraws before ejaculation". I-BMS Youth 2002-2004



- More than 80 percent of the virgin youth in all the evaluation sites agreed they plan to wait until marriage before having sex. There was a steady increase in the CRM-only site but the increase from 2002 to 2004 was greater in the RH-only site. Agreement levels for this opinion decreased in the integrated site.
- Youth opinion on their peers' approval of teen premarital sex was erratic across the three survey rounds. Across the evaluation sites disagreement levels in 2004 did not vary from the original 2002 levels. However, the CRM-only site consistently had the most youth who disagreed their peers approved of pre-marital sex.



Fig. 10 Agree with "I plan to wait until marriage before having sex". I-BMS Youth 2002-2004

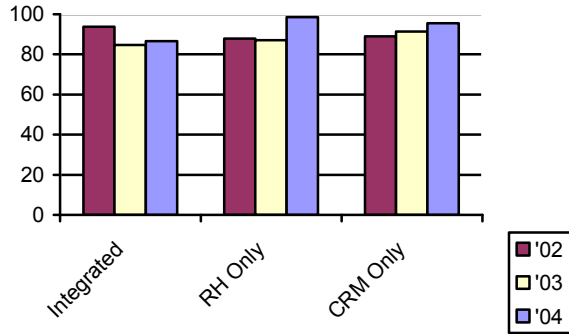
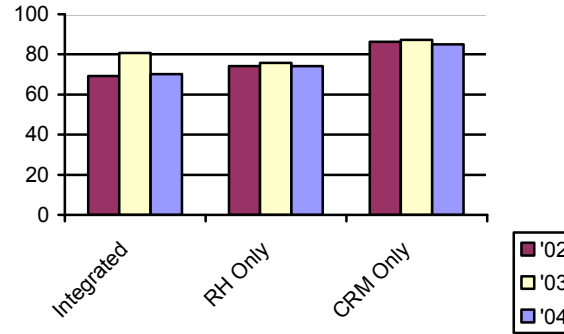


Fig. 11 Disagree with "My friends think it is OK for teens to have sex before marriage". I-BMS Youth 2002-2004



- Generally, more than 80% of the youth across the three rounds and in all evaluation sites agreed that youth should postpone sex (Figure 12). The level of agreement increased overall in the CRM-only site and stayed the same level for both the integrated and the RH-only sites. In 2004, the integrated site had the lowest level of agreement among the evaluation sites.
- The trend in the adolescent access opinion is positive for all the evaluation sites with levels of disagreement with the opinion on non-access increasing from 2002 to 2004. (Figure 13). The greatest increase was in the RH-only site but the integrated site had the greatest proportion of youth who disagreed with youth non-access to FP in 2004.

Fig. 12 Agree with "Teenagers should postpone sex". I-BMS Youth 2002-2004

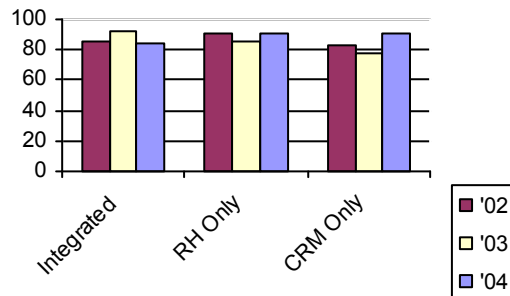
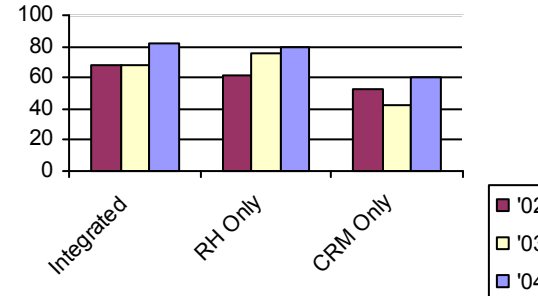
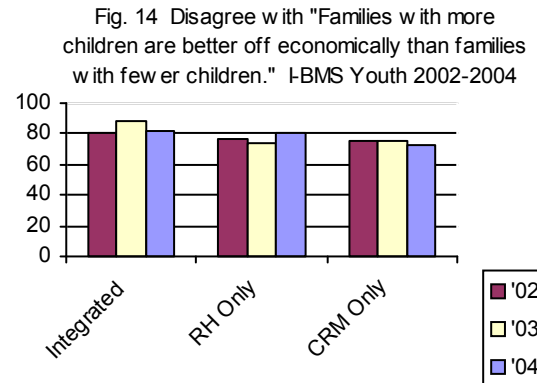


Fig. 13 Disagree with "Adolescents should not have access to FP information." I-BMS Youth 2002-2004



- As for the opinion on more children as an economic advantage, both the integrated and RH-only sites reflected a positive increasing trend from 2002 to 2004. The overall increase was slightly greater in the RH-only site but disagreement to this opinion was highest in the integrated site across all three rounds.



- For the reproductive health opinions, the youth from the integrated site generally had less positive opinions related to postponement of sex as compared to the other evaluation sites. Youth opinion on their knowledge of correct condom use was also poorest in the integrated site, but these youth knew most about the risk of withdrawal. They did have more positive opinions on adolescent access to FP information and on the economic disadvantage of more children in the family when compared to their counterparts in the other evaluation sites.

## C5. Relationship between Reproductive Health Opinions and Knowledge Attitudes and Practice

Bivariate analysis was done for the opinions of youth respondents from the sites with the RH intervention. Youth opinions were analyzed in relation to knowledge of modern methods, and attitude towards teen pre-marital sex.

- Results show that none of the opinions asked of the sexually active youth were associated to knowledge of FP methods nor to attitudes towards sex.
- Knowledge of modern methods is statistically linked to opinions of the virgin respondents. Those who know modern methods were 5 times more likely to agree to wait until marriage for sex, and 15 times more likely to have peers who approve of pre-marital sex
- For all youth, regardless of sexual experience, their opinion on youth access to FP was statistically associated with knowledge of modern FP methods.

- Attitudes towards pre-marital sex were supported statistically with strong associations to opinions related to postponing sex. In addition, attitudes towards teen pre-marital sex were correlated to youth opinion on larger families being an economic disadvantage.

## D. INTEGRATED OPINIONS

### D1.Trend Analysis of the Integrated Opinions: 2002 - 2004

- For the opinion linking family size to coastal marine resources (Figure 15), agreement among the respondents from integrated size remained at the same level. It increased in 2003 for the RH-only site but dropped in the final round at the same level as the integrated site (59%). In the CRM-only site, agreement level was highest in 2004 at 70%, with an increase of more than 7 percentage points from its 2002 level. Agreement levels across the years were lowest for this opinion compared to the two other linked opinions.
- For the crisis opinion (Figure 16), there was a downward trend in the integrated site with a decrease in agreement from 80% to 74%. The trend was erratic for the RH-only site, and ended at the same agreement level as in 2002 at 75% level. In the CRM-only site, the increase in agreement regarding the crisis on food security was steady and continuous with an over-all increase of 20 percentage points.

Fig. 15 Agree with "Family size affects my community's coastal marine resources".  
I-BMS Youth 2002-2004

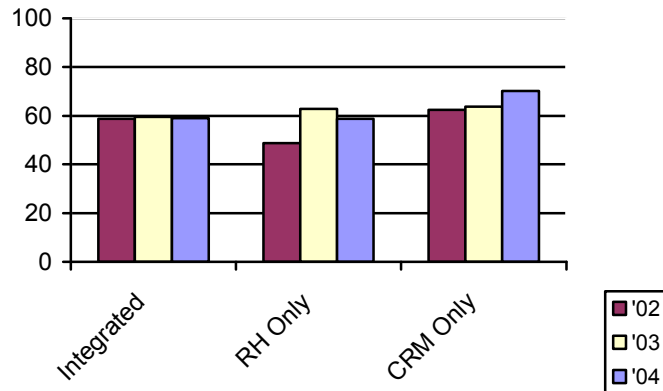
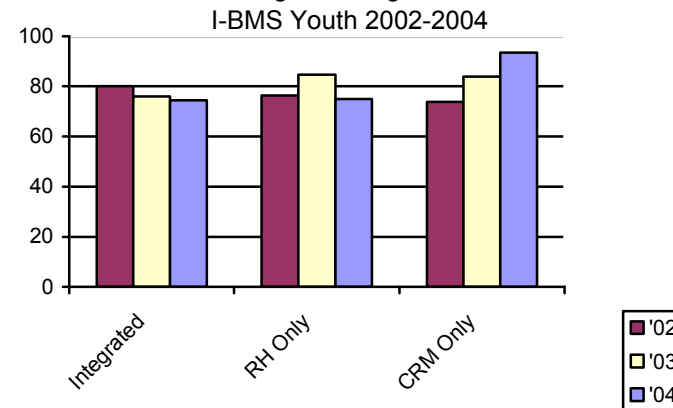
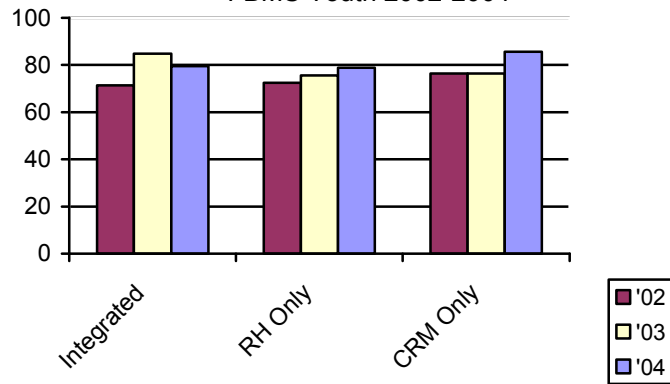


Fig. 16 Agree with "This village may soon face a crisis because there are too many people and not enough fish to go around".  
I-BMS Youth 2002-2004



- The CRM-only site registered the highest agreement level in 2004 for the opinion linking overpopulation to declining fish catch, with an overall increase of 9 percentage points from its 2002 level (see Figure 17). The RH-only site reflected a consistent increasing trend but only increased by 6 percentage points to reach an agreement level of 79%. The trend was more erratic in the integrated site but there was an overall increase of 8 percentage points to reach an agreement level of 80% in 2004. Among the three linked opinions, agreement levels increased for all three sites only with this opinion linking overpopulation to declining fish catch.
- For all the three opinions, the CRM-only site consistently had an increasing trend in agreement levels compared to the two other evaluation sites. And across all three opinions, the CRM-only site ended with the highest level of agreement in 2004. Trends in both the integrated and RH-only sites were erratic in the three year rounds.

Fig. 17 Agree with "Overpopulation is one of the causes of declining fish catch".  
I-BMS Youth 2002-2004



## D2. Relationship between the Linked Opinions and selected Indicators.

Bivariate analysis was done for the opinions of respondents from sites with integrated interventions. The linked opinions were analyzed in relation to selected demographic characteristics, and the RH and CRM knowledge attitudes and practices.

- In 2004, the opinion linking family size to the community's coastal marine resources was significantly correlated to schooling status. But this opinion was not linked to the other analyzed demographics.

- Schooling status was also significantly linked in 2003 to the opinion regarding the possibility of a crisis in the village due to overpopulation and declining fish supply. For both rounds, youth with better reading abilities were 10 times as likely to agree to this opinion regarding a looming food security crisis. Better reading abilities were also strongly linked in both rounds to the opinion on overpopulation as one of the causes of declining fish catch.
- In 2003, those who disapproved of teen sex were 6 times as likely to be concerned about the food security crisis. While in 2004 this opinion was significantly correlated to the opinion linking overpopulation and declining fish catch.

## VI. SUMMARY OF RESULTS AND RECOMMENDATIONS

Fifty (50) community outreach workers from 12 partner NGOs conducted two Behavioral Monitoring Survey (BMS) rounds in 14 coastal municipalities during 2003 and 2004. The NGOs interviewed 1,561 adults and 971 youth in 2003, and 1,434 adults and 953 youth in 2004, respectively.

In all the survey sites, majority of the adult and youth respondents were indigenous residents of their barangays. Fishers made up a substantial proportion of those surveyed with 1 out of 4 adult respondents, and 1 in 5 youth counterparts, reporting fishing as a source of livelihood in the past year prior to the interviews. Overall, adult fisher respondents increased from 20% in 2003 to 33% in 2004, while the proportion for youth fishers remained at 22% across both survey rounds.

Majority of the adult respondents were married or partnered and more women than men were in unions across both rounds. More than 7 out of 10 adult respondents have children and one out of five parents reported more than 4 children. Two out of three parent respondents across all sites said they did not want more children. The number of household members for adult respondents averaged about 6 across the sites, which exceeds the national average of 5 members per household. The average household income across all sites remained at around P4,200 per month for both survey rounds, which is equivalent to P36.3 per person per day (based on a household of six members). Fisher respondents had the lowest level of daily income share per household member at P20. Both are lower than the government daily poverty threshold amount of P39.

Most of the youth respondents had secondary level of schooling but generally more than 30% were out of school youth. A third of these youth have difficulty in reading comprehension exceeding the national rates for difficulties in functional literacy.

With the exception of the RH-only site (Busuanga), community awareness of illegal fishing declined during 2003-2004 among both adult and youth. In seven of the 14 survey sites, adult and youth fishers also reported higher average rates of daily fish catch in 2004 than in 2003. Trends in adult opinions regarding food shortage declined or remained stable across the sites. The exception was Cuyo (CRM-only site) where a two-fold increase was observed in the proportion of respondents agreeing "sometimes there is not enough food for the family." This site also registered a decline in average daily fish catch and the lowest levels of agreement on community empowerment opinions. The youth were less positive about food shortage with 6 out of the 14 sites presenting increasing trends of respondent agreement with the opinion "sometimes there is not enough food for the family." In both survey rounds, the majority of youth agreed with the opinion statement about impending food security crisis because of overpopulation and fish decline. .

The above demographic profile for adults and youth reflects a fair representation of the groups prioritized for assistance under the IPOPCORM Initiative. It also shows that the 14 survey municipalities are appropriate targets for food security and RH interventions as well as conservation effort.

### Improving RH Knowledge Attitudes and Practice.

1. More than half of the youth (15-19 yr) respondents in these survey know another teen who has engaged in sexual intercourse. For the 2004 data, correlation analysis showed that those who knew a sexually active teen were more likely to approve of pre-marital sex for teens. However, more than 70% of the youth in all sites disapproved of pre-marital sex for teenagers mostly due to age or maturity concerns. In all sites and for both rounds, more than 80% of the respondents reported that they have not yet had sexual intercourse, although between 5% to 30% of youth across the sites admittedly were urged or tempted to have sex at some point in time. Youth perceptions of the ideal age for first sexual intercourse averaged around 21 years old but the actual average age for sexual debut was around 16 years old. Indeed in most sites, 50% of sexual debut is unplanned and in some cases even unwanted. These youth are currently at risk because of increasing pressures to engage in sex and peer pressure is an added factor. To make program messages more effective, the NGOs have to discuss with the youth other effective strategies that can help the youth resist pressure and provide support activities that can foster these strategies and help the youth in their attempts to postpone and refuse unwanted sex. Experience from other countries point to the efficacy of role playing in developing resistance skills among youth, particularly when role playing skits are based on factual cases of how youth successfully resisted unwanted sex in ways that were appropriate to their culture.
2. Between 2003 and 2004, most sites showed an increase in the proportion of adult respondents not wanting any more children. However, levels of pregnancy risk perception among those not wanting more children and not currently using modern FP methods increased in only 4 sites (Cebu, Tubigon, Culion and Busuanga). Other studies have shown that behavior change occurs along a continuum starting with increased awareness of what makes a certain behavior risky and improved understanding of how the risk can be mitigated or prevented, followed by increased self-perception of risk leading to improved attitude and practice for prevention. To affect desired behavior change, NGOs need to intensify their risk reduction IEC so as to enable more couples to achieve their stated reproductive goals and desired family size. Secondly, NGOs should provide “relative risk” information to couples – particularly those concerned about potential side effects of hormonal contraceptive methods. It is a known fact that the risk of pregnancy far exceeds any potential risk or side effect of modern contraceptive use in developing country settings. NGO outreach workers and community volunteers could benefit from a Job Aid designed to improve IEC performance in this regard.
3. Majorities of both adult and youth respondents in both rounds know one or more family planning methods. In all sites and across the two rounds, majority of the adults with FP knowledge cited modern methods of contraception. Furthermore, awareness of modern methods generally increased among the adult respondents from 2003 to 2004. However, the levels for reported modern method use did not reach the levels of awareness. This is true among the youth respondents as well. For both rounds the most commonly cited methods by the youth for avoiding pregnancy were abstinence and avoiding the opposite sex. Modern contraceptive methods that were also most commonly cited were either the contraceptive pill or condoms and awareness of any modern method generally increased from 2003 to 2004. However, this awareness does not always translated to actual use. In general, less than one out of the three sexually active youth reported using any method during their sexual debut and less than one in five youth used a modern method for their most recent sex. The NGO's should take time during outreach work to explore and address possible obstacles to actual use. Community distribution points are addressing access and availability constraints in the target barangays. A more likely deterrent is misinformation on modern methods of contraception, which still prevails in the project sites – even among government barangay health workers. NGO programs must incorporate more information and better messages about the efficacy of modern FP methods in comparison to traditional methods.

4. There was a universal increase in use of any FP method from 2003 to 2004 for both the adult and youth groups. Furthermore, among those who used any FP method, the proportion of modern method users increased in 2004. Among the youth condom was more frequently a top method in 2004 and condom use increased in all but two sites. Most of the NGOs have contributed to this universal increase in FP practice, as evidenced by the large numbers of new FP acceptors and referrals for sterilization services documented in their quarterly output reports. The challenge remains for the continued monitoring of these new FP acceptors for sustained use of modern methods. These FP acceptors can, in turn, be mobilized to deliver testimonials among their peers, which could help to dispel misconceptions about modern FP methods. To further improve couples' knowledge, attitude and practice about fertility management, NGOs should find various ways to communicate not only about the safety of these methods but also their ease of use and their efficacy in preventing unwanted pregnancy. The NGOs should also find innovative ways to bring these FP messages to the sexually active youth.
5. Couples who do not desire more children but are not currently using any pregnancy prevention method reflect the level of "unmet demand" for FP in the survey sites. Unmet demand was on average reduced by 10 percentage points in all sites except Cuyo where no RH intervention took place and unmet demand increased by 28 percentage points from 2003 to 2004. While unmet demand has been significantly reduced, NGOs have to sustain their efforts to meet the program target of reducing unmet demand by 40 percentage points.
6. Despite the gains in modern method use, withdrawal was still one of the top non-modern method used by both adult and youth respondents in these surveys. It was a top method for seven sites in 2003, but its popularity did go down to only three sites in 2004. To further improve these target groups' knowledge, attitude and practice about fertility management, NGOs should find various ways to communicate not only about modern methods but also the risks of withdrawal and its ineffectiveness in preventing pregnancy.
7. Aside from early sexual activity, the target youth have reported other risky behaviors that warrant some attention from the NGOs. Commercial sex is reported at a certain level (less than 5%) and is highest in Busuanga for both rounds. Same sex is more commonly reported than commercial sex, also at less than 5% except in Cebu where the highest proportion of respondents reported same sex experience in both rounds. The NGOs should provide venues for the youth to tackle these issues, discuss the risks of unprotected sex especially for sexually transmitted diseases and the importance of being prepared with correct knowledge in condom use.
8. More than 70% of the adult respondents in most sites and in both rounds agreed that they were actively involved in FP matters. Majorities also were positive about male involvement in FP matters. The NGOs should find ways to mobilize not only the women but also the men for RH activities. Male participation is important so they can access more reliable information on FP methods and the couples can more easily adapt a modern contraceptive method. Especially since partner involvement has been found to be highly associated with modern contraceptive method use.
9. Both adult and youth respondents in general, were less amenable to adolescent access to FP information. However, youth opinion improved from 2003 to 2004. Furthermore, adult respondents who use modern methods are 18 times more likely to agree to adolescent access to FP information and services. Likewise, youth who were aware of modern methods were 4 times more likely to agree to FP access. Outreach efforts to increase FP acceptance, therefore, have not only benefited couples but the youth have also benefited from improved parental attitudes about adolescent fertility control. This builds a strong support base for the reproductive programs for youth



that IPOPCORM promotes. It helps couples understand the importance and benefits of timely information for the youth. The NGOs should mobilize these enlightened adults and use them to sustain and expand their education efforts targeted to youth.

10. Most of the respondents, both adults and youth, appreciate that having more children in the family is an economic disadvantage and this opinion was sustained across both rounds. FP messages can easily be strengthened using the objective conditions of the BMS respondents. The average household size in all sites exceeds the national average. Average income levels are below national poverty levels. In most sites, over half the population has less than 40 pesos (US\$0.73) to spend daily per household member. FP messages can be based not only on the limited capacity of the family to afford another child but also on the benefits that existing children are deprived of –when there is another pregnancy. Messages for the youth should use this opinion and emphasize that those who start families at an early age are likely to have more children and therefore be economically disadvantaged.
11. Comparing results and trends for the adults in the integrated site with those observed in the CRM-only and RH-only sites, the integrated site presented a smaller average number of children. Contraceptive awareness among the adults was highest in the RH-only site but the integrated site had the most modern method users among married respondents; as well as the greatest increase in FP acceptance and modern method use from 2003 to 2004. Among the youth the increase in awareness in both the integrated (Culion) and the RH-only (Busuanga) sites was similar but more respondents cited a modern method in the integrated site than the RH-only site for both rounds. The integrated site showed a steady increase in modern method use among its youth from 2002 to 2004. The RH-only site had a more erratic trend with an overall decrease in modern method use among sexually active youth respondents. The RH-only site generally fared better on FP opinions than the other evaluation sites. However, trend analysis shows that overall impact on RH indicators was greater in the site where the integrated approach was applied compared to the stand alone RH program.

#### Improving CRM Knowledge, Attitudes and Practices

1. At least one out of four adult respondents and one out of five youth interviewed in these surveys were fishers. Adult fishers had the lowest level of daily income share per household member but income share increased for these adult fisher respondents from 2003 to 2004. There has generally been a downward trend in fish catch and majority of the respondents was aware of the declining fish catch. CRM program messages can build on the P36/person/day economics to push for complementary livelihood programs. They can relate this to the need to reduce fishing pressure that the community can undertake by helping stop illegal fishing and overfishing, establishing and protecting “no take areas” and sanctuaries, and by planning their families and managing their community populations. This approach allows the fishers to see the benefits of the linkages between their family and economic status to their marine resources and the future of the community. The synergy of the integrated approach can therefore be concretized from experiences and conditions in their daily lives.
2. Despite the decline in fish catch, majority still perceive their reefs to be in relatively good condition with plenty of fish. Other sources of information, however, indicate a decline in integrity and diversity of coral structures and reef fish in some of the same sites. The NGOs should increase efforts to educate the population on the changing status of their coastal ecosystems and the implications for household food security and their children's future. For example, they can use and feedback the monitoring results of their MPAs to the community and hold discussions on the implications of these results and ways to reverse negative trends. Community awareness on the status of

their coastal resource is an important initial step in mobilizing the community to care for their environment. Less than half of respondents in all sites said that they or their partner have guarded a fish sanctuary or mangrove forest in the past twelve months. Most of the volunteers were current fishers, but still only 40% of current fishers volunteered.

3. In most sites, only a minority expressed optimism about their community's ability to protect its natural resources. Thus, the earlier recommendation on increasing community awareness should be followed through with efforts to empower the community and to come up with specific activities for protecting their environment. Mobilizing the people allows them concrete and direct experience in making a difference in their community and a small but initial taste of success can provide them hope and enthusiasm for sustaining CRM programs on their own.
4. Fishing methods reported by fishers are mostly legal and sustainable. Illegal fishing has ceased to be reported as a prevalent practice within the surveyed populations. The NGOs should validate these findings using their other monitoring activities. Although still inadequate, nevertheless, 40% of adult fishers and 20% of youth fishers currently help guard MPAs and sanctuaries and the communities can use this core of volunteers to help engage others in the community for CRM efforts.
5. Returning fish fry (juveniles) has proven to be a difficult indicator in the target sites. There was no active IEC effort for this; nor does a policy exist to support the practice. The NGOs need to further study how this behavior can be strengthened because it can help to arrest the decline in fish stocks. Ways to reduce the harvesting of juveniles by discouraging use of over efficient fishing gears and/or advocating for ordinances prohibiting such gear should also be looked into.
6. For the evaluation sites, CRM results were generally better in the integrated site ( Culion) compared to the RH-only (Busuanga) and the CRM-only (Cuyo) sites. In the integrated site, average fish catch rates nearly doubled for the adult fishers from 2003 to 2004 but remained the same for the non-integrated sites. In addition, more adult and youth respondents in the integrated site were positive about community empowerment in protecting coastal resources compared to the non-integrated sites especially in the 2004 round. The integrated site had fewer respondents who knew of illegal fishers in their community. Furthermore, Culion had the most respondents reporting other non-marine sources of income. There was also a decrease in those who said they lacked food in the integrated site, whereas the proportion increased in the CRM-only site and stayed the same percentage level for adults in the RH-only site and increased among its youth. Clearly, the synergistic approach in the integrated site has had a greater impact on CRM indicators than the CRM-only approach.

#### Driving home the Population-Consumption-Environment Linkage.

1. More than 60% of both adult and youth groups across sites and in both survey rounds agreed that family size affects the community's coastal marine resources. Likewise, overpopulation was seen as a cause for declining fish catch by majority of the both adult and youth respondents and agreement levels increased from 2003 to 2004. The NGOs can increase linkage awareness by discussing family size in the context of respondent concern about food scarcity for the family. This, in turn, can be linked to resource management, which can be discussed in relation to concepts of food security. The NGOs should distinctly convey the CRM benefits in their delivery of RH services and vice versa.

2. Majority of the respondents from both target groups also agreed to the opinion on the possibility of a crisis in the village due to overpopulation and declining fish supply. For the three linked RH-CRM opinions, the highest agreement levels were generally for this opinion. This concern for an impending crisis and understanding of the roles of overpopulation and declining fish supply by the target groups is an opportunity to drive home the importance of the integrated approach to RH and CRM. The NGOs can strengthen interventions that can help translate this concern into active involvement in alternative livelihood, protected area management, and the decision to take action in managing their family size. Outreach education can be intensified to discuss with the target groups what they can do as individuals to help achieve equilibrium in the population, its need for food, and the capacity of the ecosystem to provide sustainably for the future.

Strengthening Policy Advocacy for Poverty Alleviation in the Coastal Zone

1. These surveys provide current information about the breadth and depth of poverty in rural coastal communities, which is particularly pronounced in fisher households. The data also show average household income increased by 21% in the integrated site whereas it declined by 28% in the CRM-only site and remained about the same in the RH-only site. NGOs can use these results to advocate with provincial and local governments for cross-sectoral approaches that can mitigate poverty as well as improve RH and CRM outcomes in coastal areas.
2. In general, income shares increased for fishers from 2003 to 2004. In six of the 11 sites where the integrated approach was applied, income shares also increased for female respondents. This suggests that IPOPCORM projects implemented by NGO partners are reaching the poorest of the poor and helping to redress inequities in income earning potential between women and men in rural coastal communities. NGOs should feedback these results to the community and use them to advocate with LGUs for more funding and assistance to expand the alternative livelihood component of IPOPCORM.

## Appendix

### SUMMARY TABLES OF OPINIONS

Table I. Responses to Opinion Statements and Site (in %). IPOPCORM BMS 2003

Opinion Statements		Implementation Sites								Research Sites		
		S.Vicente	Cebu	Dauin	Camiguin	Syquijor	Candijay	Tubigon	El Nido	Culion	Busuanga	Cuyo
Family Planning need not involve men.	Disagree	58.3	55.8	59.4	85.8	70.0	78.1	71.2	65.8	87.6	85.7	66.7
	Agree	41.7	44.2	39.1	14.2	30.0	20.2	28.0	34.2	12.4	14.3	33.3
My partner does not involve herself/himself in family planning matters.	Disagree	55.8	64.2	42.5	80.0	67.5	72.3	67.8	60.7	70.8	73.1	64.2
	Agree	44.2	35.0	35.9	20.0	32.5	25.2	31.4	39.3	28.3	26.9	35.8
I actively involve myself in family planning matters.	Disagree	14.2	33.3	25.0	23.3	31.7	16.1	20.3	13.7	15.9	10.1	31.7
	Agree	85.5	66.7	73.1	76.7	67.5	83.5	78.8	86.3	84.1	86.9	68.3
Adolescents should not have access to FP information or commodities.	Disagree	66.7	57.5	60.2	78.3	67.5	58.3	48.3	63.2	70.8	74.8	52.5
	Agree	33.3	42.5	37.5	21.7	32.5	40.5	49.2	36.8	29.2	25.2	47.5
Families with large number of children are better off economically than families with only a few children.	Disagree	68.3	48.3	64.1	82.5	75.8	71.9	66.9	82.1	82.3	84.9	68.3
	Agree	31.7	51.7	34.4	17.5	24.2	26.9	31.4	19.9	17.7	15.1	31.7
There has been a decline in fish catch over the past few years.	Disagree	25.8	46.7	39.8	35.8	30.8	21.9	33.1	14.5	8.0	12.6	8.3
	Agree	74.2	53.3	56.2	64.2	69.2	67.4	65.3	85.5	92.0	87.4	90.8
The condition of the reefs is still very good in this area and there are still plenty of fish.	Disagree	15.0	16.7	1.6	12.5	12.5	28.5	28.8	47.0	42.5	33.6	53.3
	Agree	85.0	82.5	96.1	87.5	87.5	70.2	70.3	53.0	56.6	66.4	46.7
Aside from the sea we have other sources of income.	Disagree	19.2	18.3	6.3	2.5	3.3	11.6	19.5	13.7	11.5	12.6	18.3
	Agree	80.8	81.7	93.0	97.5	96.7	83.5	79.7	86.3	88.5	86.6	81.7
Sometimes there is not enough food for the family.	Disagree	53.3	51	59.4	62.5	40.0	45.9	51.7	44.4	43.4	53.8	40.0
	Agree	46.7	46.7	40.6	37.5	60.0	53.7	47.5	55.6	56.6	46.2	60.0
Our community is helpless in protecting its resources	Disagree	55.0	46.7	40.6	56.7	46.7	64.5	50.0	44.4	50.4	53.8	53.3
	Agree	45.0	50.8	50.0	43.3	50.8	34.7	46.6	55.6	49.6	46.2	46.7
Family size affects my community's coastal marine resources.	Disagree	26.7	35.0	24.2	24.2	24.2	23.6	33.1	34.2	30.1	26.1	31.7
	Agree	73.3	63.3	74.2	75.8	75.0	74.4	66.1	65.8	69.9	73.9	68.3
This village may soon face a crisis because there are too many people and not enough fish to go around.	Disagree	29.2	45.8	24.2	15.0	26.7	19.4	33.1	13.7	12.4	10.1	15.0
	Agree	70.8	53.3	75.8	85.0	73.3	77.7	66.1	86.3	87.6	89.9	85.0
Overpopulation is one of the causes of declining fish catch.	Disagree	25.8	49.2	27.3	24.2	28.3	26.0	31.4	19.7	12.4	18.5	19.2
	Agree	74.2	50.0	68.8	75.8	71.7	71.9	66.9	80.3	87.6	81.5	80.8

Table I. Responses to Opinion Statements by Site (in %). IPOPCORM BMS 2004

Opinion Statements		Implementation Sites								Research Sites		
		S.Vicente	Cebu	Dauin	Camiguin	Syquijor	Candijay	Tubigon	El Nido	Culion	Busuanga	Cuyo
Family Planning need not involve men.	Disagree	88.3	65.8	79.5	82.5	83.2	80.0	84.2	69.0	80.8	89.7	75.0
	Agree	11.7	34.2	20.5	17.5	16.8	19.6	15.8	31.0	19.2	10.3	25.0
My partner does not involve herself/himself in family planning matters.	Disagree	81.7	69.2	80.3	75.8	81.5	79.2	80.0	63.8	75.0	76.9	61.7
	Agree	16.7	29.2	16.4	24.2	16.8	19.6	20.0	36.2	24.2	22.2	38.3
I actively involve myself in family planning matters.	Disagree	9.2	35.0	10.7	11.7	18.5	10.4	10.8	13.8	13.3	6.8	32.5
	Agree	90.8	64.2	88.5	88.3	81.5	89.2	89.2	86.2	86.7	93.2	67.5
Adolescents should not have access to FP information or commodities.	Disagree	78.3	67.5	70.5	75.0	74.8	72.9	75.8	71.6	70.0	77.8	60.0
	Agree	21.7	32.5	28.7	25.0	25.2	26.3	24.2	28.4	30.0	22.2	40.0
Families with large number of children are better off economically than families with only a few children.	Disagree	82.5	55.0	80.3	79.2	81.5	70.0	75.0	79.3	81.7	86.3	69.2
	Agree	17.5	43.3	19.7	20.0	18.5	29.2	25.0	20.7	18.3	13.7	30.8
There has been a decline in fish catch over the past few years.	Disagree	20.8	29.2	31.1	38.3	25.2	19.6	17.5	12.1	19.2	8.5	10.8
	Agree	79.2	69.2	68.9	60.8	73.9	76.3	80.0	87.9	80.8	91.5	89.2
The condition of the reefs is still very good in this area and there are still plenty of fish.	Disagree	25.0	25.8	8.2	2.5	16.0	25.8	34.2	45.7	40.8	46.2	54.2
	Agree	75.0	73.3	91.8	97.5	84.0	71.3	61.7	50.9	59.2	53.8	45.8
Aside from the sea we have other sources of income.	Disagree	11.7	15.8	9.0	5.8	.8	7.9	11.7	14.7	9.2	13.7	21.7
	Agree	88.3	84.2	90.2	94.2	99.2	91.7	87.5	85.3	90.0	86.3	78.3
Sometimes there is not enough food for the family.	Disagree	36.7	41.7	63.1	30.8	46.2	45.0	36.7	50.9	48.3	54.7	22.5
	Agree	63.3	56.7	36.1	69.2	53.8	55.0	63.3	49.1	51.7	45.3	77.5
Our community is helpless in protecting its resources	Disagree	50.8	54.2	51.6	72.5	45.4	57.5	49.2	59.5	51.7	44.4	36.7
	Agree	49.2	45.8	47.5	27.5	54.6	42.1	50.8	40.5	47.5	55.6	63.3
Family size affects my community's coastal marine resources.	Disagree	10.0	30.0	22.1	10.0	22.7	21.7	24.2	37.1	35.8	30.8	21.7
	Agree	90.0	69.2	77.9	90.0	77.3	77.1	73.3	62.9	64.2	69.2	78.3
This village may soon face a crisis because there are too many people and not enough fish to go around.	Disagree	6.7	35.0	13.1	23.3	19.3	17.5	15.8	12.9	16.7	10.3	12.5
	Agree	93.3	65.0	86.9	76.7	80.7	82.5	84.2	87.1	83.3	89.7	87.5
Overpopulation is one of the causes of declining fish catch.	Disagree	12.5	42.5	14.8	14.2	23.5	20.8	24.2	20.7	17.5	14.5	15.8
	Agree	87.5	57.5	85.2	85.8	76.5	78.8	74.2	79.3	82.5	85.5	84.2

Table IV. Percentage of Respondents Aware of Contraceptive Methods and Type of Method They Know Of. IPOPORM BMS 2003.

2003	Implementation Sites								ALL	Evaluation Sites		
	S.Vicente	Cebu	Dauin	Camiguin	Syquijor	Candijay	Tubigon	El Nido		Culion	Busuanga	Cuyo
Know any FP method	79.2	74.2	83.6	80.0	83.3	85.5	91.5	86.3	83.2	87.6	89.1	70.0
Knows this method												
Pill	22.5	15.8	25.8	20.8	11.7	8.3	22.2	30.8	18.5	11.5	13.4	15.0
IUD		4.2	1.6	13.3	6.7	2.9	1.7		3.7			
Injections	4.2		7.0	0.8	0.8	0.4		3.4	1.9	.9	0.8	
Condom	10.0	11.7	6.3	7.5	8.3	10.3	6.8	8.5	8.9	15.0	2.5	3.3
Ligation		0.8	2.3	1.7	4.2	1.2	1.7		1.5	7.1	0.8	1.7
Vasectomy				0.8					.1			
Withdrawal	1.7	3.3	3.1	6.7	2.5	1.7	2.6	2.6	2.9	.9	4.2	12.5
Rhythm	4.2	1.7	7.0	5.8	0.8	5.0	5.1	0.9	4.0	.9	2.5	6.7
Condom and pill	16.7	6.7	7.0	3.3	2.5	8.7	23.1	19.7	10.6	16.8	16.	4.2
Condom and various methods	7.5	19.2	7.8	10.0	20.9	26.8	15.4	7.8	15.9	27.4	20.9	5.8
Abstinence	0.8		0.8			0.4	0.9		.4		0.8	
Multiple modern excluding condom	4.2	3.3	7.8	4.2	10.8	3.7	0.9	6.8	5.1	4.4	3.4	3.3
Multiple non modern			3.1		0.8	1.7	1.7		1.0		1.7	2.5
Modern (not condom)+non modern	3.3	2.5	3.1	4.2	11.7	7.0	4.3	5.1	5.4	2.7	4.2	6.7
Family Planning		1.7	0.8	0.8		5.0	5.1	0.9	2.1		0.8	5.8
Other non modern						0.4			.1			1.7
Other Cannot be coded	4.1	2.5			1.6	1.2			1.5		1.7	0.8

Table V. Percentage of Respondents Aware of Contraceptive Methods and Type of Method They Know Of. IPOPORM BMS 2004

2004	Implementation Sites								ALL	Evaluation Sites		
	S.Vicente	Cebu	Dauin	Camiguin	Syquijor	Candijay	Tubigon	El Nido		Culion	Busuanga	Cuyo
Know any FP method	95.8	80.8	95.1	94.2	92.4	91.7	93.3	89.7	91.6	90.8	95.7	58.3
Knows this method												
Pill	25.0	10.0	11.5	15.8	5.0	11.3	20.0	12.1	13.6	23.3	11.1	14.2
IUD		2.5	.8	.8	1.7	2.1	5.8		1.8	.8		.8
Injections			2.5	1.7	1.7			.9	.7			2.5
Condom	5.0	12.5	3.3	6.7	4.2	9.6	10.0	6.0	7.4	13.3	6.0	9.2
Ligation		1.7	.8			.8	1.7	.9	.7	10.8		
Vasectomy						.4			.1			
Withdrawal	.8		1.6		2.5	1.3	3.3	.9	1.3	1.7		5.8
Rhythm	1.7	.8	1.6		.8	2.9	4.2	2.6	1.9			4.2
Condom and pill	40.0	7.5	15.6	10.0	7.6	12.1	13.3	30.2	16.4	22.5	31.6	8.3
Condom and various methods	19.1	26.5	31.9	47.1	54.6	30.4	11.6	19.0	30.2	14.1	36.0	2.4
Abstinence								1.7	.2			.8
Multiple modern excluding condom	3.3	7.5	15.6	7.5	5.0	5.0	10.0	6.0	7.2	.8	4.3	1.7
Multiple non modern		2.5				3.3	.8	1.7	1.3		.9	6.7
Modern (not condom)+non modern		5.0	6.6	1.7	9.2	4.2	7.5	4.3	4.7	3.3	3.4	.8
Family Planning		.8	.8	1.7		3.3	5.0		1.7			.8
Other non modern						2.1			.5			
Other Cannot be coded		2.4	1.6			2.9		3.5	.5	1.0	2.6	

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