

# BRAZIL INLAND FISHERIES

## *Sustainable Livelihoods and Conservation*

CIDA Project A-020911

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## Abbreviations and Terms

ADETRES	<i>Agência de Desenvolvimento Econômico e Social de Três Marias e Região</i> – Economic and Social Development agency for Três Marias and region.
<i>Agente Jovem</i>	Federally-funded municipal scholarship program to keep at-risk youth in school and promote community service.
ANAMMA	<i>Associação Nacional de Órgãos Municipais de Meio Ambiente</i> – National Association of Municipal Institutions for the Environment
BC	British Columbia, Canada
CAP	<i>Centro de Apoio ao Pescador</i> , Centre of Assistance for the Fishermen and women in TM, now renamed <i>Parque Municipal do Pira</i> - Municipal Park of the Pira
CEMIG	<i>Companhia Energética de Minas Gerais</i> - state-run hydroelectric company
<i>cerrado</i>	Tropical grassland savannah typical of central Brazil, considered endangered
CIDA	Canadian International Development Agency
CODEVASF	<i>Companhia de Desenvolvimento dos Vales do São Francisco e do Parnaíba</i> - Company for Development of the São Francisco and Parnaíba Valleys
<i>colônias</i>	Primary institutional structure for professional fishermen in Brazil
COMLAGO	<i>Consortio dos Municípios do Entorno do Lago de Três Marias</i> , a consortium of municipalities on the Três Marias reservoir
COPASA	<i>Companhia de Saneamento de Minas Gerais</i> - Sanitation Company of MG
CPT	<i>Comissão Pastoral de Terra</i> , a Roman Catholic NGO in Brazil dealing with agrarian reform
DFO	Department of Fisheries and Oceans, Canada
DNA	deoxyribonucleic acid - the molecule determining the genetic code of living organisms
EE	environmental education
EMATER	<i>Empresa de Assistência Técnica e Extensão Rural do Estado de Minas Gerais</i> - a public agency of the Secretary of Agriculture of Minas Gerais for extension and development services
FEAM	<i>Fundação Estadual do Meio Ambiente</i> - State Environment Agency in Minas Gerais
<i>Federação</i>	See FEPESCA-MG
FEPESCA-MG	<i>Federação de Pescadores Artesanais de MG</i> - Federation of Professional Artisanal Fishermen and Fisherwomen of Minas Gerais
GRAAL	International network of women founded in Holland concerned with empowerment and self-support; an active chapter in Buritizeiro focusing on conservation and income-generation
<i>GTPesca</i>	<i>Grupo de Trabalho da Pesca</i> – The IDRC <i>Rumo</i> project established this multi-stakeholder working group that brings together <i>colônias</i> , <i>Federação</i> , PMMG, IBAMA and IEF for dialogue about fisheries management.
IARA	<i>Instituto Amazônica de Manejo Sustentável dos Recursos Ambientais</i> , an Amazonian NGO working with community-based resource management
IBAMA	<i>Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis</i> - Brazilian Institute for the Environment and Natural Resources
IDENE	Instituto do Norte e Nordeste de Minas Gerais/Institute of the North and Northeast of Minas Gerais
IDRC	International Development Research Centre (Canada)
IEF	<i>Instituto Estadual de Florestas</i> - State Forestry Institute of Minas Gerais
IGAM	<i>Instituto de Gestão de Águas Mineira</i> - Water Management Institute of Minas Gerais
Integrated environmental education	Activities that are either integrated across the curricula in the school, or linked to other out-of-school programs in the community. Ideally, programs meet both criteria.
<i>Ministerio Público</i>	An autonomous organ responsible for upholding Brazilian law, especially as it relates to collective rights (for example, environmental protection, minority rights, etc.)
MMA	<i>Ministerio do Meio Ambiente</i> - Federal Environment Ministry in Brazil
NGO	Non-governmental organization
<i>piracema</i>	Migration that some Brazilian fish species undergo to spawn. Generally occurs in large

	schools and upstream, in Minas Gerais between November and February. Fishing is restricted during this period and commercial fishermen receive an unemployment compensation.
PMMG	<i>Polícia Militar de Minas Gerais</i> - state military police in Minas Gerais
PMTM	<i>Prefeitura Municipal de Três Marias</i> -Três Marias City Hall
PPA	<i>Peixes, Pessoas e Água</i> - Fish, People, and Water - local name given to the CIDA project
Rede Cooperação	<i>Cooperation Network</i> - Multi-stakeholder environmental monitoring group created in September 2005 in response to the surubim fish mortality
Rio SF	São Francisco river
Rumo	IDRC funded project (2002-2005) managed by UFSCar that works toward co-management of fisheries in the São Francisco River in Minas Gerais
SAAE	<i>Serviço Autônomo de Água e Esgoto</i> - Autonomous Service of Water and Sewer (water and sewage utility provider in Pirapora)
SEAP	<i>Secretaria de Aquicultura e Pesca</i> , a federal agency responsible for aquaculture and fisheries development in Brazil
SEBRAE	<i>Serviço Brasileiro de Apoio às Micro e Pequenas Empresas</i> , a Brazilian federal support and development agency for micro and small business
SEMEC	<i>Três Marias Secretariat of Education</i>
SEMEIA	<i>Secretaria Municipal de Meio Ambiente</i> - Secretariat of Environment for the Municipality of Três Marias
SENAI	Serviço Nacional de Aprendizagem Industrial – National Service for Industrial Training
surubim	A large catfish species native to Brazil and important to commercial fishing
TM	Três Marias
UBC	University of British Columbia in Vancouver, BC, Canada
UFMG	<i>Universidade Federal de Minas Gerais</i> , a federal university
UFSCar	<i>Universidade Federal de São Carlos</i> , a federal university
Unimontes	<i>Universidade Estadual de Montes Claros</i> , a state university
UVic	<i>University of Victoria</i> , BC, Canada
VM	Votorantim Metais, a Brazilian metals company specializing in zinc mining and processing, with a zinc refinery operating in Três Marias (also listed in earlier reports as CMM – Companhia Mineira de Metais – Unidade de Três Marias)
WFT	World Fisheries Trust, a Canadian NGO concerned with equitable and sustainable fisheries

## **Executive Summary**

The current semi-annual report of CIDA project number A-020911, Brazil Inland Fisheries: Sustainable Livelihoods and Conservation, covers the period between April 1, 2006 and September 30, 2006. During this period, numerous activities were carried out, including the following highlights:<sup>1</sup>

### **FIRST QUARTER HIGHLIGHTS:**

- A series of management meetings in March and April allowed academic, government, and community partners to evaluate activities, strategies and lessons learned and to chart directions for the final year of the project in a collaborative manner.
- Young Brazilian researchers Erida Silva (UFSCar) and Marcos Gomes (CODEVASF) spent two weeks in May at the Fisheries and Oceans Institute of the University of Manitoba, Winnipeg, analyzing samples from fish collected in the São Francisco River. The samples were analysed using exposition bioindicator techniques involving the quantification of certain enzymes sensitive to stress suffered by fish as a result of human impacts on the environment (pesticides and heavy metals.) Results have subsequently been presented at an international conference in Montreal, Quebec and several Project events in Brazil. The new techniques, taught by Dr. Vince Palace (DFO), a fish mortality specialist who conducted a technical visit to the project region in 2005, will assist current investigations into the cause of fish mortality in the São Francisco River.
- In June, four young women (local Project champions) were invited by the Environmental Youth Alliance (EYA) to participate in the World Youth Jam as part of UN Habitat Agency's World Urban Forum 2006 in Vancouver, BC. The women also visited a number of community development, environmental stewardship and restoration initiatives in British Columbia, many of which involved youth leaders. Three youth from a new CIDA-funded project in Brazil (New Public Consortia for Metropolitan Governance) also participated in the Forum and field visits, providing an opportunity for interaction between youth from diverse backgrounds and regions of Brazil.
- The Project supported monthly meetings of the multi-stakeholder *Rede Cooperação* (Cooperation Network) and the 3<sup>rd</sup> and the final workshop of the IDRC-funded metals research project led by UFSCar Department of Biogeochemistry. The monthly meetings continued to provide a constructive forum for network-strengthening and information sharing about fish mortality and mitigation of environmental impacts between representatives of local municipal government, fishing colônias and state Federation, state-level environmental bodies and health departments, industry and utility providers, the *Ministério Público*, local NGOs and the general public. WFT's role at these events involved promoting equitable stakeholder participation, transparency, opportunities for shared understanding and collaborative approaches to problem solving
- In May, Elaine Ward (WFT), Erika de Castro (consultant) and Thaís Madeira (consultant) conducted a 2-week technical mission to the project region on gender issues. The mission, involving community meetings, individual interviews with fisherwomen and meetings with municipal government representatives, contributed to understanding of existing local resources for and barriers to gender equity in fishing community households of the Project region.

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<sup>1</sup> See report for full list

## SECOND QUARTER HIGHLIGHTS:

- The *GTPesca* fisheries working group initiated by the IDRC funded *Rumo* Project in November 2005 held its second General Assembly meeting on August 30-31<sup>st</sup> 2006 in Ibiaí. The event built capacity among fishing community and government environmental agency representatives for planning and undertaking co-management related activities. The event had strong participation from fishing *colônias* in the Project region and further downriver, with strong local organization and counterpart contribution provided by the Ibiaí *colônia* and the *GTPesca* coordination team. Results of the event included: a commitment by IEF to produce a brochure explaining their new sliding scale system for application of fines, and an agreement by IEF and IBAMA representatives to host a special consultative meeting with *colônia* representatives to better incorporate their input into the 2006 *piracema* decree.
- A number of local Community Economic Development (CED) initiatives which began in 2005 continue to receive intensive Project support. These initiatives have proven to be effective in mobilizing community members, especially women, and institutional partners around the common goal of creating environmentally sustainable economic opportunities that promote the inclusion of marginalized fishing communities. During this reporting period the Três Marias/Beira Rio Artesanal Smoked Fish Group (GAPD) made significant progress in product development, marketing strategy and local market development. Other CED groups took steps toward strengthening their organizations and applied for funding from IDENE for infrastructure to support long-term activities.
- Following the gender mission conducted in the first quarter, representatives from municipal government and local organizations led by women in Três Marias and São Gonçalo do Abaeté participated in an introductory seminar on gender and community economic development (Encontro da Mulher) in August of 2006. A participatory planning process leading to the 1<sup>st</sup> Três Marias Women's Forum (to be held in December 2006) was also initiated at this event.
- After defending her master's thesis on fisherwomen's relationships to the local environment and work in the upper-middle São Francisco River in June 2006, Thais Madeira (UFSCar) was contracted by the project to coordinate a series of women-led CED activities in Três Marias and São Gonçalo do Abaete. Thais also coordinated a participatory photo project in which women from fishing families photographed their daily life and were interviewed about their life experiences. The photos and interviews will be used to create an exposition to increase public awareness about women fishers and fishing communities.
- 2 new watershed models of the São Francisco River were constructed in Pirapora and Beira Rio, increasing local capacity for awareness building and enabling youth to pass on the knowledge they gained during construction of the 1<sup>st</sup> model. The Beira Rio youth team presented the watershed models at several events, including two for the municipal government of Barretos, SP, bringing the concept of watershed models and related environmental issues to a wider Brazilian public.
- Brazilian water treatment technician Emerson Alves (SAAE Pirapora) spent over a month in Canada (Sept – October 2006) learning about Canadian approaches to and technologies for water and sewage treatment. Emerson participated in a sewage treatment conference in Victoria, B.C., interned with the Capital Regional District (CRD) and the District of Sooke as well as visiting a range of initiatives in BC showcasing stewardship-focussed environmental education.

The Project continues to be cost-effective. Progress towards expected short-term outputs within the three sub-projects and three cross-cutting themes is approximately 70%, which corresponds directly with the percentage of financial resources utilized to date. Progress towards anticipated medium-term outcomes, fully realizable at the Project's end in 2007, is between 50 and 55%, whereas longer-term impacts cannot be assessed yet.

## **Summary of Activities<sup>2</sup>**

### **Activities for Sub-Project 1 – Preparing Communities for Co-management**

#### **Activity 1.2.1 - Fisheries Working Group - GTPesca**

*GTPesca*, created at the final IDRC *Rumo* project workshop in November 2005 as an ongoing discussion forum for co-management related issues, held its second General Assembly on April 15, 2006 in Três Marias. Discussions at the meeting included: a review of the statute and objectives of *GTPesca*, as well as the inclusion of several new member organizations; an internal discussion among the fishing organizations present about problems with illegal fishing licenses granted to non-fishers, joint elaboration of a letter to SEAP responding to bad press and accusations of fraud in fishing licensing; and a commitment by all participants to investigate funding opportunities for future *GTPesca* meetings.

Participating agencies included PMMG, FEPECSA-MG, Três Marias, Pirapora, Buritizeiro, Ibiaí, Buritis, São Romão, Formiga colônia and other local institutions, with equal male-female participation. Unfortunately IEF, IBAMA, and SEAP did not participate in the meeting, though IEF and IBAMA were both founding members and are believed to be strong supporters of the initiative. Their lack of participation was probably due to communication and scheduling issues, something the group recognized as an area requiring future attention. The group also recognized that state and federal agency participation in *GTPesca* is critical to avoid the risk of becoming or being viewed as a self-referential advocacy group without policy level influence, or of infringing on the role of the already existing FEPECSA-MG in bringing together the colônias and representing their interests.

*GTPesca* had planned its third General Assembly for June 2006, but due to planning constraints and other commitments decided to reschedule it for August 30<sup>th</sup> and 31<sup>st</sup>, 2006 in Ibiaí. This event included participation from fishing communities in the project region and further downriver, with strong local organization and counterpart contribution provided by the *Colônia* de Ibiaí and the *GTPesca* coordination team. Prior to the event strategic visits were made by the coordination team to key institutional partners to explain the objectives *GTPesca* as a means of encouraging stronger partner support. As a result participation by state and federal environmental agencies and the PMMG was fuller than in past events. The meeting included:

- a presentation on the goals, members and objectives of *GTPesca* (see Appendix C-1).
- a discussion of the continuing surubim fish mortality which increased dramatically in August,
- a discussion of the law regulating the upcoming fishing prohibition period (*piracema* law),
- a presentation (see Appendix C-2), and discussion of the community policing concerns and IBAMA's volunteer environmental agents program, and
- a presentation by Erida Silva on results of IDRC-funded metals research project led by UFSCar Department of Biogeochemistry in Três Marias Region of SF River (see activity 3.7.7).

Event outcomes included invitations to consultation with IEF and IBAMA about *piracema* legislation and a joint letter to the Federal Ministério Público requesting immediate action on the surubim mortality issue. See Appendix C-3 for a report on the meeting.

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<sup>2</sup> See Appendix A for a tabular summary of results and indicators for activities completed during the reporting period, and Appendix B for activities planned for the next period.



### **Activity 1.2.2 –Brazilian co-management consultant**

Brazilian co-management consultant Ana Thé met with the *GTPesca* coordination group, including fishing representatives from Ibiaí and Buritizeiro, every 1<sup>st</sup> Monday of the month (see Appendix C-4 for minutes of the *GTPesca* coordination meeting held on June 5<sup>th</sup> and June 27<sup>th</sup>). During the reporting period the group worked on improving communication (developing internal and outreach strategies) and capacity building within the team for meeting coordination. They also met, during a technical visit, with state institutions in Belo Horizonte (PMMG, IEF and IBAMA) and Montes Claros (Emater) to promote *GTPesca*, its objectives and the importance of participation in the group (see Appendix C-5 for a summary of these discussions prepared by Ana Thé). See Appendix C-6 for Ana Thé's activity reports for the months of April, May, August, and September 2006.

### **Activity 1.2.3 - UFSCar monitoring program: Establish and implement review and participatory monitoring of GTPesca and other co-mgmt processes (as part of 1.2.2)**

Ana Thé (consultant) and Maria Ines Mancuso (UFSCar) revised and submitted the final report for the IDRC-funded *Rumo* project in August 2006 with the support of UFSCar students and IARA. Beyond semi-structured participatory review and evaluation during *GTPesca* meetings, other on-going monitoring mechanisms have yet to be established for the co-management activities of the project.

### **Activity 1.3.1 - Community policing**

Representatives of the PMMG from regional and state levels continued to be keen participants in all events and activities of the Project throughout the reporting period, with lessons from the exchange visits incorporated into existing police training curriculum. The updated PMMG approach to community policing was presented at the second *GTPesca* Assembly by Captain Arley Ferreira (see activity 1.2.1). However, specific project initiated activities on community policing were not possible during this reporting period and, with many of the key personnel associated with the project soon to retiring, we will see how effectively lessons learned have been institutionalized.

### **Outputs for Sub-Project 1 on Preparing Communities for Co-management:**

**Short-term results for activity 1.2.1:** Regular participation in *GTPesca* and other project related activities facilitated improved channels of and regular communication between all agencies on fishery related issues during reporting period.

**Short-term results for activity 1.2.2:** With the support of Ana Thé (consultant), *GTPesca* coordination group continues to build capacity, creating and implementing a communication and outreach strategy to engage partners, as well as establishing a strategy for financial sustainability (hosting colônia seeks out local partners to support meeting costs). The long term sustainability strategy includes an attempt to more fully engage IEF in a role as a coordinator of the process. This is moving forward and IEF has agreed to host a special consultation on *piracema* legislation in September and to fund accommodation and meals for the 3<sup>rd</sup> assembly to be held in Buritizeiro (Nov. 2006).

**Short-term results for cross-cutting theme A (Policy Development):** The Federal São Francisco fishery census has improved it's effectiveness in engaging State level partners and consulting with local fishing organizations. State and Federal have committed to regularly (at least annually) hosting consultative meetings with fishing representatives on legislation issues. One such meeting was held in September at IEF, where changes, some quite radical, to the *piracema* legislation were proposed. Community policing lessons learned in Canada and Amazon have been incorporated into new training curriculum for community policing in Minas Gerais.

**Short-term results for cross-cutting theme C (Women, Youth and Families):** Women, youth and families were effectively engaged in activities, with key female representatives becoming increasingly engaged during *GTPesca* meetings and more active in new positions established by the *GTPesca* coordination group.

The percentage of short-term project outputs achieved to date for Sub-project 1 is estimated to be 75 %.

***Outcomes for Sub-project 1 on Preparing Communities for Co-management:***

Fishing community leaders and members continue to become more comfortable with publicly expressing their needs and sharing responsibilities in a constructive way. Re-structured colony organization is becoming solidified. Co-management facilitators are also becoming more familiar with multi-stakeholder consensus-building processes, and stakeholder institutions, particularly state institutions, are demonstrating commitment to co-management principles. Police are demonstrating substantially more interest in humanized policing of the fisheries, and at least in part, are using community policing language in policy development.

A conservative estimate of how close we are to achieving the medium-term outcomes in Sub-Project 1 is 65%.

## **Activities for Sub-Project 2 - Building Sustainable Communities**

***Activity 2.1.1 – Canadian consultant in Community Economic Development (see also activities 2.1.1, C.1)***

Canadian consultant John Wojciechowski was contracted near the end of the last reporting period to support implementation of Community Economic Development (CED) initiatives in the project region. John coordinated the development of the women's Três Marias / Beira Rio Artesanal Smoked Fish Group (GAPD) and implemented training on CED concepts. He also tested and refined small scale fish-smoking technologies and recipes along with the group, built partnerships with local businesses and the municipal government to obtain financial and in-kind support for the group, and prepared funding proposals for the Fundação Banco de Brasil. See Appendix D-1 for John's activity reports for the months of April and May.

***Activities 2.1.2 and 2.1.3 - Technical training to evaluate and improve livelihood and community options***

**Community exchanges – learning between CIDA projects**

A series of strategic CED mini-workshops were held between April 24<sup>th</sup> and 27<sup>th</sup>, 2006 in Três Marias and Pirapora with people from the recently completed CIDA project in Santo André (São Paulo). The objective of the workshops was to share lessons learned in the Community Based Watershed Management (CBWM) project in Santo André with municipal staff and community members in the PPA Project region. The workshops were facilitated by Elena Rezende, a municipal employee who was one of the key champions of the CBWM project and who has many years of experience working on community development with neighborhood associations and women's groups. The workshops were co-facilitated by Andréia de Jesus Cardoso, representing the community council that was created as part of CED activities in the marginalized community of Pintassilgo in Santo André, SP. See Appendix D-2 for the presentation given by Elena Rezende during the workshops.

In Pirapora, on April 24<sup>th</sup>, and in Três Marias, on April 27<sup>th</sup>, representatives of the local CED groups formed during the Project's Community Development and Gender workshops (July 2005) and other community groups from the regions participated in one-day workshops. Discussions focused on conceptual understanding of community development and included presentations by the groups about their experiences thus far. For example, Andréia presented a timeline of the steps taken to organize community talent expositions and create an organic community garden in her community. She also discussed the challenges that had to be overcome to create a functioning small business and the ongoing challenges faced by her group in Pintassilgo. See Appendix D-3 for a report prepared by John Wojciechowski (consultant) on the Três Marias workshop.

Another workshop was held in Três Marias on April 26<sup>th</sup> for representatives of the Pirapora, Três Marias and São Gonçalo do Abaeté municipal governments. During this workshop particular attention was paid to the

experiences and challenges faced by municipal government teams working on community development in marginalized communities, the role of municipal government in community development, and differentiating between attitudes and actions that empower community groups and those that create dependence.

During their visit to the region, Elena and Andréia were able to meet and exchange experiences with representatives of the Buritizeiro and Três Marias fishing colonies as well as representatives of GRAAL, an international women's organization with a chapter in Buritizeiro. GRAAL Buritizeiro is involved in CED through production and sale of artesanial products made from native fruits and plants. They also visited ICAD, a new Pirapora culture-oriented NGO that offers training for women to generate income through embroidery.

### **CED pilot groups**

In the last reporting period, it became evident that CED groups formed in July 2005 were facing barriers in organization and mobilization and not receiving sufficient support from municipal governments to create viable and sustainable economic development initiatives. Thus, Brazilian consultant José Andrade and Canadian consultant John Wojciechowski were contracted in the last reporting period to undertake a participatory review of pilot initiatives and to provide ongoing support for the groups. See Appendix D-4 for the CED work plan prepared by John and José and Appendix D-5 for José's activity reports for the months of June and September). In this reporting period, ongoing support for these groups was provided and a new group with a fisheries focus, Artesanal Smoked Fish Group (GAPD), was formed in Três Marias and Beira Rio, São Gonçalo do Abaeté. Activities implemented in this reporting period include:

- **Artesanal Smoked Fish Group (Três Marias and Beira Rio)** - This group, formed in April 2006, is comprised of 12 women and 3 men from the fishing community in the Três Marias/Beira Rio region. See Appendix D-6 for an action plan detailing the groups planned activities. After intensive discussion and planning, the group began testing various smoking materials, techniques, fish species, and marinade (salmoura) recipes. Community tasting events were held, and based on this feedback techniques were refined until a select number of products were ready for launching (see Appendix D-7 for a presentation of the tasting event results). In partnership with SEMEIA the group participated in the Três Marias agricultural exposition, ExpoMarias, in early May 2006, offering samples and requesting public feedback on their products. The event helped the group publicize their work and gain local support, as well as evaluate public acceptance of their products. In early September, the project and SEBRAE organized a fish deboning course to improve the value of the smoked fish products. Deboning is also a very valuable skill to add value to filets – a principal product from fishing communities in the region, largely produced by women (see also Activities 2.3.7 and C.1). The group sold its deboned and smoked products for the first time in September 2006 at the 1st Regional Tucaná Fishing Tournament organized by Turlago, the Três Marias Reservoir tourism promotion agency. During the next reporting period a sales and marketing strategy will continue to be developed.

Group organization was supported by John Wojciechowski (consultant) and, starting in August 2006, Thaís Madeira (consultant). Significant in-kind support has been provided to all activities by members of the group and their families, including transportation, accommodation for out-of-town instructors and group members, donation of materials and countless hours of volunteered time in the first 6 months.

Significant in-kind and financial support for the group was obtained from local businesses and SEMEIA. SEMEIA provided a permanent space at CAP for the installation of an experimental smoker for use by the group, which was constructed with labour from group members and financial support from a range of local partners and WFT. John and Thaís also worked on a proposal to the Banco do Brasil to fund infrastructure improvements to the CAP space, ensuring that they meet health standards for food production activities (see Activity 2.3.3 for more detail).

- **Leisure for All Group (Três Marias)** - John Wojciechowski (consultant) completed a participatory assessment with the most active members and municipal government facilitator of the Três Marias group and prepared a plan for replicating their training in community development and project planning with the Joaquim de Lima neighbourhood association. After the CED mini-workshops held in April 2006 with Elena Rezende of Santo Andre, the group requested more information about the Pintassilgo Community Talent Fair experience, which was presented to them by Sarah Bryce (WFT). The group

held several meetings to develop a similar talent fair plan, but decided to end activities due to lack of support and inactive members. Some attempts have been made to incorporate members of this group into other project activities, such as the GAPD and Women's Forum organizing group.

- **Revitalization of the Beira Rio Residents Association (São Gonçalo do Abaeté)** - The Beira Rio Residents Association held elections in May 2006. The new President and Board of Directors, elected by acclamation, consist of a number of residents who are already quite active in the Beira Rio community. While the Association faces a number of issues related to its legal status, it has already taken steps to establish regular meetings, fundraise to pay old debts and mobilize the community and municipal government around issues relevant to the community, such as water treatment and economic development opportunities. The Project is no longer directly supporting this group, but continues to accompany their activities and promote partnerships where possible.
- **Pescarte (Buritizeiro)** - The Buritizeiro Pescarte group found it difficult to make advances on planning the Pescarte Fair during this reporting period due to a number of other commitments (its organizing committee also participates in the organizing committee for *GTPesca* and the colônia of Buritizeiro). However, they received a presentation on community talents and products fairs held in Santo André, visited a number of regional and national craft fairs and continued to be very interested in pursuing a similar initiative focusing on promoting the culture of fishing. The group has set a new date of December 2006 for the launch of the Pescarte event.
- **Projeto Corvina and Fish Smoking (Ibiaí)** - While they experienced some of the same difficulties as the Buritizeiro group in terms of time constraints and other commitments, the Ibiaí smoked fish group continued to meet on a semi-regular basis. Their meetings, usually coordinated by José Andrade (consultant), have taken on an action-research approach and involve a significant amount of reflection and strategy for capacity building. Some of the challenges raised by the group include difficulty in acquiring fish for smoking or salting (due to seasonality) and storing the fish (due to the lack of a good freezer).

#### ***Activity 2.2.1 - Canadian Social Scientist in Brazil: Support for project coordination and implementation of CED strategy***

Canadian consultant Erika de Castro spent two weeks in the project region in May 2006, assisting with the coordination of a technical visit on gender (see Activity C.1) and providing technical advice to the various local CED initiatives (see Activities 2.1.2 and 2.1.3). She also accompanied a technical visit to the project region in August 2006 by representatives of SOLTEC – Federal University of Rio de Janeiro to investigate possibilities for networking and establishing a solidarity economy incubator in the region. The SOLTEC research centre promotes student engagement in community projects that incorporate solidarity economy principles in the areas of production engineering and local economic development. They have established a fisheries technical school in Macae, RJ, and are interested in developing an inter-regional network to share experiences with other groups and projects (see Activities 2.2.4 and 2.3.5).

#### ***Activity 2.2.4 - Foster NGO Networks***

During their technical visit on gender and CED in May 2006, Thaís Madeira (consultant), Elaine Ward (WFT) and Erika de Castro (consultant) worked to identify and strengthen local networks by meeting with numerous project partners, municipalities and NGOs, including: SEBRAE, ADETRES, a number of women-led cooperatives and associations in Três Marias (baked goods cooperative, sewing cooperative, artisans' association of Três Marias, Artesanal Smoked Fish Group), the women's organization GRAAL in Buritizeiro, Instituto ICAD in Pirapora and an artisan's group in Ibiaí.

All of these groups were invited to participate in an introductory seminar on Gender and CED (Encontro da Mulher) held in Três Marias on August 14<sup>th</sup>, 2006. Erika de Castro (consultant), Heloísa Ribeiro (Três Marias Municipal Women's Rights Council) and Sara Juarez Sales (Santo André Municipality - Department of Public Policies for Gender, Race, and People with Special Needs) made presentations during the seminar about their experiences working with gender and CED. Seminar participants were invited to participate in the planning of a regional women's forum to be held in November 2006, as part of the development of a local women's and CED

solidarity network (see Activity C.1 for more details). See Appendix D-8 for reports prepared by John Wojciechowski (consultant) on the August 14<sup>th</sup> Encontro da Mulher seminar and a preparatory meeting held July 26<sup>th</sup>.

Joachim Carolsfeld (WFT) accompanied a group of representatives of the fishing communities to a meeting in Bahia at the end of September organized by the Comissão Pastoral da Terra (CPT). The meeting brought together a variety of professional fishing representatives and related NGOs from throughout the São Francisco Basin, with the purpose of documenting environmental and social concerns and developing a unified lobby to address these. The Project was well represented at the meeting, and was repeatedly recognized as making significant positive changes towards empowerment of the fishing communities and opening the doors for social and environmental improvements. It was also used as a successful example of the multi-stakeholder consensus building process, which contrasts with the more confrontational bottom-up approach generally espoused by the CPT. Nevertheless, it appears likely that many of the project's community-level partners and Brazilian consultants will turn to the CPT for continuity of concerns after the project is over.

### ***Activity 2.3.3 - Value-added Development in Brazil: Development of proposals for value added strategy***

Long-term sustainability of the CED groups initiated with Project support was pursued during the reporting period through a number of mechanisms. Local and regional project partners and collaborators were lobbied for support, funding opportunities were investigated and several proposals were prepared by consultants John Wojciechowski and José Andrade.

José Andrade worked with *Colônia* representatives from Buritizeiro, Pirapora and Ibiaí and COOPERTEC (a regional technical agency) to prepare a funding proposal to IDENE (Institute of Economic Development of the North and Northeast of Minas Gerais) for new infrastructure for the *Colônias* that would support their CED initiatives. IDENE, a State agency with partial funding from the Inter-American Development Bank, offers grants to support economic development and infrastructure needs in northern Minas Gerais (Rural Poverty Reduction Program). A draft proposal was submitted to COOPERTEC for revision during the reporting period and should be submitted to IDENE sometime early in the next reporting period.

John Wojciechowski, Thaís Madeira and José Andrade (consultants) drafted, with the support of Barbara Johnsen and José Antônio de Souza, a proposal to the Fundação Banco do Brasil, a national agency that offers a range of financing opportunities for local economic and social development projects (See Appendix D-9 for a copy of the proposal). If approved, the funding will guarantee a coordinator's salary to support on-going capacity building in the group. It will also ensure that the CAP facilities now housing the new experimental smoker, constructed by the Artesanal Smoked Fish Group (GAPD - Três Marias and Beira Rio), are upgraded to meet current health standards for food production. Political support for the proposal was guaranteed by Almir Paraca, a PT Deputy candidate (and past director of the Fundação Banco do Brasil) and administrative approval looks likely during the next reporting period (see Activity 2.1.2 and 2.1.3 for more details).

### ***Activity 2.3.5 - Participatory Review of Alternate Activities: Continued support for pilot CED initiatives***

Between August 11<sup>th</sup> and 19<sup>th</sup>, Canadian consultants Erika de Castro and John Wojciechowski accompanied representatives of SOLTEC (a solidarity economy research centre at the Federal University of Rio de Janeiro with a special interest in fisheries production engineering and local economic development) on a technical visit to the project region (see also 2.2.1 and 2.2.4). The group visited municipal governments, local economic development agencies (SEBRAE, ADETRES), universities and CED pilot groups in the project region as part of preliminary assessment for the inclusion of the project region in a planned inter-regional CED network that may incorporate groups from RJ, the Amazon region, Minas Gerais and Bahia. SOLTEC's representatives, with their strong academic experience and focus on local market analysis and development strategies, provided many useful insights to the project's CED initiatives. They also expressed a strong interest in learning from the Project's experiences with community mobilization, adaptive participatory management and inter-sectoral collaboration. Based on the results of this visit, SOLTEC drafted a proposal to CIDA's KEEP Program to fund a

series of lessons-learned exchange seminars between the two regions (planned for December 2006 and March 2007) to further develop the network idea. See Appendix D-10 for an agenda and report on the technical visit.

***Activity 2.3.7 - Alternate Activity Implementation by Canadian and Brazilian Sociologists: Value added training course***

As part of its product development strategy, the Artesanal Smoked Fish Group of Três Marias and Beira Rio did a number of community tasting sessions. Feedback from these sessions suggested that the product would be better received by the public if offered deboned. Consultants John Wojciechowski and Thaís Madeira organized a deboning course in partnership with SEBRAE and ADETRES, and with some counterpart support from local supporters and future potential clients. The 5-day course, offered by a SENAI (National Service for Industrial Training) certified instructor-practitioner, took place in August 2006 and was attended by 12 women. The course included components on scaling, whole deboning and filleting for a range of different fish available from the São Francisco River. Thaís filmed the course and will put together a deboning handbook which will be used by the course participants to teach the technology to others during a training session planned for January 2007 (See also C.1).

***Outputs for Sub-Project 2 on Building Sustainable Communities:***

**Short-term results for activity 2.1.1:** Increased local understanding of CED mechanisms and improved local capacity to implement CED initiatives. New value-added fish product developed and introduced to local markets. Support for value-added initiative established with municipal government and other local actors.

**Short-term results for activities 2.1.2 and 2.1.3:** A greater understanding among community group members of the challenges that are frequently faced in CED, and exposure to a successful example of CED. Municipal employees exposed to new ideas about community development. Municipal employees who were unfamiliar with the Project gained a better understanding of the Project's goals and activities. Conflict mediation between Beira Rio youth group participants, whose participation in Elena's workshop and a separate meeting with her was critical to resolving an ongoing conflict within the group

**Short-term results for activities 2.2.1 and 2.2.4:** Existing capacity and resources for working with gender issues assessed. Interest developed among municipal partners for working with fisherwomen living in rural areas. Potential strengths and weaknesses of existing CED initiatives identified and joint strategies developed to address them.

**Short-term results for activity 2.3.3:** Development of two funding proposals for infrastructure and support to value added strategy. New technology developed, tested and refined for production and sale of value-added deboned and smoked fish in Três Marias and Beira Rio.

**Short-term results for activity 2.3.5:** New regional CED links in Brazil established with SOLTEC group. Opportunities for future networking between groups in region and with other regions identified. Municipal support for existing CED initiatives strengthened in Três Marias, Pirapora and Ibiaí and informal local women's CED network established in Três Marias and Beira Rio.

**Short-term results for activity 2.3.7:** Technical capacity for deboning and smoking fish built among 12 women, materials developed and four individuals prepared for replication with future groups.

**Short-term results for cross-cutting theme A (Policy Development):** Increased municipal attention towards gender and CED issues. Commitment by Três Marias municipal government to host women's forum in November 2006. Municipal support for CED initiatives in Três Marias (CAP infrastructure and event hosting support).

**Short-term results for cross-cutting theme B (Public Awareness and Education):** Increased awareness of value of compliance with minimum allowable catch size by Artesanal Smoked Fish Group and their partners.

**Short-term results for cross-cutting theme C (Women, Youth and Families):** Increased awareness by municipal government of issues faced by women in fishing communities. Increased awareness by women in fishing communities of programs and services available locally and regionally. New forum for dialogue between fishing women, municipal representatives and other organizations through establishment of Três Marias women and CED events. Improved self esteem and public profile of fisherwomen through development and marketing of value added products and participatory photo project.

The percentage of short-term project outputs achieved to date for Sub-project 2 is estimated to be 85%.

### ***Outcomes for Sub-project 2 on Building Sustainable Communities:***

Activities in this sub-project have intensified significantly. After some review, high priority has been placed on development of value-added fish processing technology for sales in local and regional markets as part of local CED strategies. Development of local expertise in value added technologies and local market procurement is well-underway, with participants motivated to replicate their new knowledge as trainers for others in the region. Both the introduction of the CED concepts and the development of the value-added smoked fish products have been accompanied by a good deal of interest and support from several municipalities, most notably Três Marias. There are good indications that this support will continue to grow as new local networks solidify. Opportunities for regional networks and establishment of research-based incubators have been identified and will be pursued over the next reporting period.

An estimate of how close we are to achieving the medium-term Project outcomes in Sub-project 2 is 60%.

## **Activities for Sub-Project 3 – Securing the Fisheries Resource**

### ***Activity 3.1.1 – Improving Fisheries Management through DNA training: Canadian expert to Brazil***

Gabriel Yazbeck, the DNA techniques trainee supported by the Project, continues to pursue his PhD degree at the UFMG, with several publications submitted describing the work. While the present work focuses more on Rio Grande basin issues, the interest continues in applications to fisheries management and assessing impacts of supplementation of wild stocks with hatchery-reared fish. Evanguedes Kalakapodis, Gabriel's supervisor who was hosted previously in Canada by WFT, has shifted the focus of his laboratory to fish from spider toxins, demonstrating this new direction of interest. The project has committed to funding the participation of Dr. Ben Koop (Professor at the University of Victoria) at the next meeting of the Brazilian Ichthyological Genetics group in São Carlos, organized by Dr. Pedro Galetti.

### ***Activity 3.3.2 - Support to ongoing investigation of fish mortality***

Mortality of the surubim, as well as a number of other fish species, continued to be a strong concern of all partners throughout the reporting period. Partners continue to participate in meetings of the Cooperation Network to discuss analysis and monitoring of the mortality, as well as mitigation measures for known environmental impacts (See activity 3.4.4) Reports of dead surubim continued through the reporting period at numbers lower than the previous period, with a small peak in August. Collection of complete, accurate data, and subsequently a conclusive analysis about the mortality continues to be a challenge for a number of reasons. It is still not clear whether the fish become ill after being contaminated in a specific spot or if the cause is more disperse. It is also not clear whether they are being contaminated by something new, or whether the deaths are the result of a chronic illness or a combination of other pre-existing factors. A number of investigations were underway during the reporting period.

A monitoring program for dead fish has been set up by Votorantim Metais (VM) and SEMEIA, with paid monitors located in a number of different communities in the São Francisco basin. The Project provided advice on data to

be collected by the monitors, and contributed to a review of its functionality by Geraldo Eyzink. However, concerns still exist among fishers, especially in Três Marias region, that the data may be inaccurate and/or misused. The project continues to work with VM and SEMEIA to improve the process and build trust with the fishing community.

The state *Ministerio Publico*, with project assistance, collected and analyzed the content of heavy metals (Zn, Pb, Hg, Cd and Mn) in the filet of 10 species of fish (mandi amarelo, pacamã, curimba, surubim, traíra, pira, dourado, piau, e matracha. from the Três Marias region. The levels of metals present in the filet were found to be within acceptable limits for human consumption. However, it is still not known whether these levels pose a health risks to the fish, or what the levels of metals in the internal organs and skin - also a common part of local cuisine - may be. The *Ministerio Publico* continues to work on a number of compensatory packages (TACs)<sup>3</sup> for environmental accidents in the region, including the VM retention dam overflow in 2004 initially alleged to be the cause of the fish mortalities, the CEMIG fish kill during maintenance in June 2005, and a pipe overflow at VM. One of the TACs mandates a more rapid resolution of historical contamination sites at VM, acceleration of the construction of a sewage treatment facility for Três Marias, and modified operating protocols for CEMIG. However, others have funded the purchase of patrol boats and GPS for IEF and supported a federal park in the region – measures unrelated to the fish mortalities. Various factions of the fishing communities have also been lobbying the *Ministerio Publico* for monetary compensation for lost revenues, so far without success. The environmental *Ministerio Publico* for the project region appeared quite open to input from the Project and encouraged input on how to direct future TACs. However, before this could happen, he was moved to a different position. The Project has not, as yet, been able to achieve a similar relationship the person now holding the position. The project continues to support project partners in their attempts to engage the *Ministerio Publico* at the federal level, assisting in the drafting of a letter to the federal prosecutor during a GTPesca assembly in Ibiaí (August 2005).

Young Brazilian researchers Erida Araújo Ferreira Silva (UFSCar) and Marcos Gomes (CODEVASF) spent two weeks in May at the Fisheries and Oceans Institute of the University of Manitoba, Winnipeg, analyzing samples from fish collected in the São Francisco River. The samples were analysed for heavy metals content and novel enzyme-based bioindicators for exposure to pesticides and heavy metals. Results have subsequently been presented at an international conference in Montreal, Quebec and at several project events in Brazil. The new techniques, taught by Dr. Vince Palace (DFO), head of the aquatic contamination lab in Winnipeg, will assist further investigations into the cause of fish mortality in the São Francisco River. Dr. Palace conducted a technical visit to the project region in 2005, and is prepared to continue further collaboration. Please see Appendix E-1 for a poster on Dr. Palace's fish mortality study.

#### ***Activity 3.4.1 – Reducing Industry Impact - Mitigation of dam impacts***

The Project did not directly undertake any new activities in this area during the reporting period. However, it is likely that the results of some other activities, such as the ongoing cooperation network meetings and technical visits to Canada, are having an impact on the approaches certain partners are taking in dealing with this issues. There was a large-scale mortality of small fish provoked by CEMIG dam in June 2006. Fishers, project staff and other members of the Rede Cooperação, as well as CEMIG, documented and evaluated the fish mortality. A subsequent public presentation given by CEMIG explained the mortality and other dam impacts and outlined plans to resolve these problems. This participatory approach and level of transparency is relatively novel for the Brazilian electrical sector, and the corporate sector in general, and can, in part, be attributed to the work the project has done with CEMIG and other stakeholders in the region. Resolution of two long-term contentious issues are included in these plans: the installation of a water-oil separator for lubricating oils used on the turbines and moving the 1 km boundary prohibiting access to the river below the dam.

#### ***Activity 3.4.4 – Reducing Industry Impacts – Corporate policies for social and environmental responsibilities***

Meetings of the *Rede Cooperação* (Inter-institutional Cooperation Network on Impacts on the São Francisco River), organized and facilitated by SEMEIA, were held on April 18<sup>th</sup>, May 24<sup>th</sup>, June 28<sup>th</sup> and August 29<sup>th</sup>, 2006.

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<sup>3</sup> TACs are compensatory agreements brokered by the *Ministerio Publico* to avoid legal action



Institutions that participated regularly include: the Federation of Artesanal Fishermen of Minas Gerais, Três Marias municipal Secretary of Health, CODEVASF, São Gonçalo do Abaeté municipal Secretary of Tourism, IBAMA, state environmental agencies FEAM, IGAM and IEF, Votorantim Metals, CEMIG and COMLAGO.

Advances the group made during the reporting period include: continued institutional strengthening, increased trust and ongoing information sharing between partners about mortality events and other environmental concerns in the region, the creation of a monthly bulletin summarizing results of analyses and other information presented at meetings for public distribution, a municipal/state health partnership for a water-use and potability study of families living in rural areas along the river, a municipal water treatment awareness campaign, a municipal health investigation into the causes of a skin rash suffered by fishermen and women fishing in the area immediately below the Três Marias dam, public discussion of VM's planned 3<sup>rd</sup> retention dam and upcoming environmental license review, ongoing fish monitoring by VM and SEMEIA, and the development of several proposals for establishing a long-term monitoring centre.

Ongoing challenges include: resolving conflicts and lack of trust between some institutions, meeting participants needs and expectations as to meeting structure and methodology and consistent participation by the community and certain key institutions (IBAMA, CEMIG, *Ministério Público*, fishing colônias). These issues will be discussed and strategies will be reviewed and refined at the upcoming 2<sup>nd</sup> Multi-stakeholder Forum in December 2006.

See Appendix E-2 for summaries of the April 18<sup>th</sup> and 19<sup>th</sup>, July 26<sup>th</sup>, and May 24<sup>th</sup> *Rede Cooperação* meetings, Appendix E-3 for June 23<sup>rd</sup> and August 29<sup>th</sup> meetings flyers and E-4 for the July 26<sup>th</sup> meeting invitation.

### ***Activity 3.6.3 - Improving Water Management Practices - Canadian in Brazil to help develop water management model***

In the previous reporting period, Canadian consultant Jason Lasuik introduced the concept of a Residential EcoPartners Pledge to local municipal partners. Also in the previous period, the Secretariat of Environment for the Municipality of Três Marias, Roberto Carlos Rodrigues da Silva, learned about watershed management and environmental education programming during a technical visit to Canada in which he met with Jason Lasuik and the Burnside Gorge Community Association. In follow up, the EcoPartners Program Step by Step guide was discussed by Barbara Johnsen (consultant) at a CODEMA meeting and presented to the Três Marias Municipal Secretary of Environment Roberto Carlos Rodrigues da Silva. The idea was then presented by Roberto Carlos to the public at Environment Day celebrations held June 6<sup>th</sup> in Três Marias. Public response to the idea was positive and the pledge process may be incorporated into the 2006-2007 participatory Agenda 21 local planning process underway in Três Marias and COMLAGO municipalities.

### ***Activity 3.7.7 - Develop Pollution Assays***

In June, the UFSCar's project on metal contamination in the Três Marias region<sup>4</sup> held its third and final workshop with fishers and other community members. The final results of water, sediment and fish sampling and analysis were presented and discussed, and a brochure explaining the process and results was developed by the group (see Appendix E-5 for copies of the presentation and brochure). On the final day of the workshop, representatives of VM, IEF, IBAMA, and other local actors were also invited to attend. See appendix E-6 for final technical and narrative reports for the project prepared by the UFSCar team.

It is clear from these workshops that community members and fishers are interested and capable of improving their scientific knowledge in the areas of water quality, fish mortality and general environmental health. Hopefully, the participatory and transparent nature of this workshop series and associated analysis will stimulate other partners and interested groups to take similar approaches. Erida Silva continues to participate actively in the Cooperation Network meetings, as well as making presentations about the results of the UFSCar study at various other events, including the *GTPesca* Assembly in August (see Appendix E-7 for a copy of Erida's presentation).

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<sup>4</sup> Funded by IDRC with supplementary support by the project (coordinated by Professor Antônio Mozeto and master's student Erida A.F. Silva)

IDRC's EcoHealth program also funded researchers from the University of São Paulo (USP) to do a preliminary study of the effects of heavy metals on fishermen working in the immediate vicinity of the VM refinery. The study was conducted by Dr. Teresina Ramos, a medical doctor currently doing a master's in public health, and two assistants and was supervised by Dr. Elizabeth Nascimento. Between September 4<sup>th</sup> and 6<sup>th</sup> 2006 and with the support of WFT staff and Norberto dos Santos (Três Marias fisherman), the USP team tested 45 fishermen from the Três Marias area and a control group of fishermen from Morada Nova, an upstream reservoir community. The Três Marias and Morada Nova municipal health department provided the necessary facilities for sample collection. Results of this study will be presented to the participants, the public, and project partners in January 2007.

### ***Activity 3.7.8 - Develop Waste and Pollution Management Strategies***

Brazilian wastewater technician Emerson Maurício de Almeida Alves (SAEE of Pirapora Municipality) participated in a technical visit to Canada on water treatment technology, sewage and residue solids, water quality, community planning and environmental education in Victoria, Vancouver and Toronto from September 15<sup>th</sup> to October 17, 2006. During his visit Emerson visited a wide variety of projects and participated in a conference, gaining knowledge on the variety of options available for both small and large scale sewage treatment, as well as options for eco-friendly storm-water management. As a result of the visit, Emerson has produced proposals for wetland components for sewage and storm-water management, small scale drinking water treatment options and a regional conference on water treatment. See Appendix E-8 for a full report of the visit prepared by Emerson.

### ***Outputs for Sub-Project 3 on Securing the Fisheries Resource:***

**Short-term results for Activity 3.1.1:** Increased appreciation, knowledge and skills at UFMG for the use of DNA tools in fisheries management and increased public awareness of these applications.

**Short-term results for Activity 3.3.2:** Increased knowledge and understanding of environmental contamination and means of monitoring it amongst researchers, community members, government, and industry and increased communication between these stakeholders.

**Short-term results for Activity 3.4.1:** Increased public transparency in the environmental mitigation strategies and activities of CEMIG and increased opportunity for public input. Improved technology for dealing with environmental problems high-lighted by the community.

**Short-term results for Activity 3.4.4:** Increased public awareness of environmental issues and increased communication and joint decision-making amongst multi-stakeholders in the river environment.

**Short-term results for Activity 3.6.3:** Continued increased public interest in best practices for ensuring minimized impact on water use, both in Três Marias and state-wide.

**Short-term results for Activity 3.7.7:** Increased understanding and capacity amongst community members and researchers to evaluate environmental contamination.

**Short-term results for Activity 3.7.8:** Increased capacity and knowledge on wastewater treatment and storm-water management at SAEE – Pirapora.

**Short-term results for cross-cutting theme A (Policy Development):** Increased community consultation and input to industrial and governmental practical policies related to the environment.

**Short-term results for cross-cutting theme B (Public Awareness and Education):** All activities in this reporting period have emphasized improved awareness on environmental issues. This is reflected by increased informed community participation in multi-stakeholder meetings.

**Short-term results for cross-cutting theme C (Women, Youth and Families):** Efforts were made in all activities to foster gender parity in activities, which was not always achieved. However, women, men and youth of the community are all expressing themselves in an improved informed manner on the environmental issues. Women outnumber men in the project's team at the research level, which helps to foster expression of women's interests in the community.

The percentage of short-term project outputs achieved to date for Sub-Project 3 is estimated to be 75%.

***Outcomes for Sub-Project 3 on Securing the Fisheries Resource:***

The most marked outcomes in this sub-project to date are the greater participation by the government and other partners in environmental monitoring, recognition of the role of the fishing community in the monitoring process, and the higher degree of ownership the community has taken in the investigation of fish mortalities. This will provide an important basis for the intensification of activities in this component in the coming year. We estimate that we are 50% towards achieving the medium-term project outcomes proposed for Sub-project 3.

## **Activities for Cross-Cutting Theme A – Assist the Development of Policies for Sustainable Fisheries with Community Participation**

***Activity A.1 - Contributions to Fisheries Policy***

The Project continues to influence fisheries policies, primarily at the state level through IEF and the Military Police, as well as community and municipal policies and industrial practices, through new and past activities. The Project has been most influential by fostering participative processes with the professional fishers and between stakeholder institutions. An example of this is the special consultative meeting on the *piracema* fisheries closures, held in September, 2006, with the Colônias and Federation and organized jointly by IEF and IBAMA. This meeting was a direct result of the 2<sup>nd</sup> GTPesca Assembly held in August.

Ana Thé (consultant) participated in a workshop "Network of learning Communities in Fisheries Community-based Co-management in Brazil" held in Tamandaré, PE from May 3<sup>rd</sup> to 5<sup>th</sup>, 2006. The purpose of the conference was to discuss lessons learned in Brazil on fisheries co-management and to develop a strategy to pursue its development by the MMA and IDRC. See Appendix F-1 for a copy of the presentation given by Ana Thé at the workshop.

IBAMA/IEF and CODEVASF began a fisheries census of the São Francisco River during the reporting period. The project is not directly involved in this project, but many of the participatory principles being used were influenced by the project (see Project Spin-Offs for more details).

***Activity A.3 - Participation in Conferences and Events***

Ana Thé (consultant), Barbara Johnsen (consultant), and Sarah Bryce (WFT) participated in the *Ibero-American Environmental Education Congress* held in Joinville, Santa Catarina, Brazil from April 4<sup>th</sup> to 9<sup>th</sup>, 2006. They were joined by UFSCar students Érida da Silva and Tatiana Lima, who submitted a poster about on the IDRC-funded metals research project, and a representative of COMLAGO. The Três Marias Secretary of Education was also able to attend thanks to funding by the MMA's São Francisco Revitalization Program. Dr. Haydée Torres de Oliveira (UFSCar) was part of the conference organizing team and facilitated several of the workshop events. The 4-day conference included representatives from most Latin America countries, as well as Spain and Portugal. See Appendix F-2 for reports on the conference prepared by Ana Thé and Érida da Silva.

Four young women from the project area participated in the World Youth Jam and the UN Habitat Agency's World Urban Forum in Vancouver in June of 2006. Debora Antunes Pereira, Danielle Ferreira, Gislâne Ribeiro

Leite and Daiana da Silva were joined by José Andrade (consultant), Sarah Bryce (WFT) and Alison Macnaughton (WFT) as well as three youth from a new CIDA-funded project in Brazil (New Consortia for Metropolitan Governance). During the events the youth participated in a wide variety of discussions, field visits, presentations and informal networking with youth and adults representing NGOs, governments, business and UN agencies. In addition, two of the women, who were involved in watershed model construction in Três Marias, presented a watershed model as part of a youth booth in the exhibition hall of the World Urban Forum (see activity C.3 for more details).

#### ***Outputs for Theme A on Policies for Sustainable Fisheries with Community Participation:***

**Short-term results for Activity A.1:** Continued enhancement of participatory processes in fisheries policy development.

**Short-term results for Activity A.3:** Greater awareness of project activities throughout Latin America, Canada, and globally; increased global awareness of issues by project participants.

#### ***Outcomes for Theme A on Policies for Sustainable Fisheries with Community Participation:***

All sub-projects have contributed to improved self-determination of the fishing communities and increased positive interaction with government and industrial stakeholders and managers. Supportive policies to foster this input have resulted, and are gradually being implemented – at times through fairly subtle processes. Advances can be estimated as 75% of the overall desired medium-term outcomes.

## **Activities for Cross-Cutting Theme B – Public Awareness and Education**

While public awareness and education are cross-cutting themes addressed to some degree in all activities, environmental education was identified as being of particular interest, with specific objectives and activities. We also report on publications related to the Project in this section.

#### ***Activity B.1.2 – Activities for a Riverine Community Target - Development of teaching materials to support Brazilian curriculum***

The project continued to focus on developing watershed models as a tool for in-school environmental education and public engagement with watershed issues. In this reporting period, Jason Lasuik (consultant) guided the construction of two new watershed models by youth volunteers and partners in Beira Rio and Pirapora (see Appendix F-3 for Jason's activity report for the months of March and April). In order to enhance partners' ownership of the models and bring this teaching tool to a greater number of municipalities, Jason divided his time between Pirapora and Beira Rio (São Gonçalo do Abaeté), offering five weekly 1 or 2-day workshops in Pirapora and weekly review sessions with the youth team in Beira Rio. Approximately 15 SAAE and municipal government staff and Unimontes students participated in Jason's workshops in Pirapora, with regular participation of 10 or more *Agente Jovem* youth as well. See Appendix F-4 for an outline of the workshops.

In Pirapora, SAAE provided staff time, construction space and most of the construction materials. The Pirapora municipal secretaries of Education and Social Assistance also provided significant support in staff time, transportation, and the mobilization of *Agente Jovem* project youth participants. Unimontes university students also collaborated in the construction. Volunteers from the Três Marias watershed model team co-led each workshop, sharing their newly acquired knowledge from the first watershed model building process and building self-confidence and new skills as facilitators. In Beira Rio, the local Catholic Church provided space for watershed model construction and the Três Marias and São Gonçalo municipal governments provided some staff time to support the volunteer youth team.

To increase awareness amongst teachers of the watershed models and their potential as a teaching and learning tool, several activities were carried out in schools during the construction phase. Based on mapping workshops offered by Janet Strauss (consultant) and Barbara Johnsen (consultant) during the previous reporting period, Barbara, with support from Matilde Mesquita (SEMEC) facilitated hands-on mapping workshops with each of the classes at Olinto Gonçalves School. In addition, each class participated in some aspect of watershed model construction. Matilde Mesquita and Sarah Bryce (WFT), along with two youth volunteers from the community, accompanied each class at the Olinto Gonçalves School in Beira Rio to the watershed model in progress. During these visits the students discussed the area shown by the model, were asked to point out key features and discussed their perceptions of local environmental issues. They returned to the classroom and youth volunteers taught each student to make a house or other feature to be included in the watershed model. Youth volunteers commented that this visit led to much more curious and engaged students.

During the construction of the Beira Rio watershed model an afternoon session with the volunteer community team was held by Norberto dos Santo (Colônia Z-05), Andrea Alves (Prefeitura de São Gonçalo do Abaeté) and João Eudes (longtime resident and President of the Rural Producers' Association of Beira Rio, and VM employee). During the session Norberto talked to the youth about local history and the participants reviewed the watershed model and made suggestion for features to include in the finishing touches. Local artisan Cecilia also offered a brief workshop on techniques for using modeling clay to represent local animals and fish. The Beira Rio watershed model was shown for the first time to the Beira Rio community as part of the Igreja São Pedro's *Festa Junina* (traditional community festival) on June 30<sup>th</sup>. Financial support was obtained from the Beira Rio gas station for T-shirts for the watershed model team.



Figure 1: The Beira Rio watershed model team at the launch on June 30th

Significant counterpart support for all watershed model activities was provided by Cléria Maria Melo of the Secretary of Education of Três Marias, which assigned Matilde Mesquita full-time to support the Project's environmental education and communications activities. Matilde's responsibilities included: participating in the construction of all watershed models, presenting the watershed model as a senior member of the watershed model team, organizing photo display and supplies in preparation for watershed model trips, supervising watershed model during its exhibition at the Três Marias municipal library over three month long display period,

coordinating watershed model team during Barretos trip (August 2006), supporting teachers and students in learning about watershed issues in conjunction with Barbara Johnsen (consultant) at Olinto Gonçalves and Professor Johnsen Schools and participating in planning and decision-making meetings as a representative of the Três Marias municipal government.

### **Activity B.2.2 - Pilot Travelling Displays/Stands and Folders - Watershed models**

The watershed model teams continued to receive the support of local project partners, including the Barretos municipal government, who provided food, transportation, and hotel for 8 members of the team, the Três Marias municipal government, who provide salaries for 2 employees, the São Gonçalo do Abaeté municipal government, who provide salary for 1 employee. As in the previous reporting period the watershed models were presented by the volunteer teams on a number of occasions.

On April 24-25, youth from Beira Rio, accompanied by Alison Macnaughton (WFT), Matilde Mesquita (Três Marias Prefecture) and Barbara Johnsen (consultant), presented the *Barreiro Grande* watershed model in Belo Horizonte during the *Mining and Biodiversity Convention (Combio)*, which was hosted by IEF.

The volunteer watershed model team presented the new São Francisco River watershed model at an evening event on June 6 in Três Marias as part of the World Environment Day commemorations organized by SEMEIA. The event was attended by approximately 60 people, including teachers, municipal government representatives and the general public. Matilde Mesquita, Barbara Johnsen, and Sarah Bryce also presented photos and discussed the construction and use of watershed models in the region. See Appendix F-5 for the presentation given at the event.

The Beiro Rio/Três Marias watershed model team was invited to Barretos (São Paulo state) for their Earth Day celebrations. Four youth volunteers and three Três Marias municipal government employees, accompanied by Sarah Bryce (WFT), spent June 7<sup>th</sup> to 10<sup>th</sup> presenting the Três Marias watershed model to over 500 people in Barretos. The audiences included the local university, an environmental seminar at the SENAC technical school, and dozens of classes from municipal and private schools. Accommodation, transportation and food were paid for by the Barretos municipal environment department, which had learned about the watershed model when the Barretos mayor, mayor's assistant and the Secretary of Environment visited the PPA project in February 2006. See Appendix F-6 for a report on the trip prepared by the youth trip participants.

The watershed model team returned to Barretos in August to present the model in the Secretary of Environment's stand at the Barretos International Rodeo. This rodeo attracts international participation and tens of thousands of visitors from around Brazil. Three youth volunteers, Júnia Ribeiro Leite (youth and representative of the São Gonçalo do Abaeté municipal government), Matilde Mesquita (SEMEC - TM) and the principal of the Beira Rio school participated in the event between August 22<sup>nd</sup> and 26<sup>th</sup>. They discussed issues relevant to the São Francisco River with children from visiting schools and a wide variety of members of the general public from São Paulo and around Brazil. See Appendix F-7 for a report on the trip prepared by Júnia Leite.

On September 13<sup>th</sup>, the watershed model team also presented the new São Francisco River watershed model to the Regional Agenda 21 Forum, a regional meeting of municipal government and civil society representatives that is coordinating local and regional Agenda 21 participatory planning processes.

During all these presentations the model teams reported consistent positive audience response and interest in replicating the participatory watershed model building process. The youth team led public presentations at all events, explaining the participatory model-building process and demonstrating its usefulness as a tool for raising awareness about human impacts on local watersheds. Over the course of the model building process, and while sharing the knowledge gained during the construction of the first watershed model at workshops in Pirapora, the youths became more aware of their local environment and the interactions that occur within it, learning to represent these environmental values and concerns on the model. They also continued to gain significant experience with public speaking, speaking to small and large groups of youths, adults and the media, experienced raised self-confidence, and became skilled at engaging others in discussion about the region and

its issues. See Appendix F-8 for a report on the watershed model construction process prepared by Junia Ribeiro Leite.

#### **Activity B.2.4 – Contribute to local press on fisheries issues**

Several articles and TV segments featuring project initiatives were produced by Brazilian media in this reporting period. These include: a full-page feature article describing the Project and highlighting the Smoked Fish Producers' Group of Três Marias and Beira Rio (see Appendix F-9), a summary of Rede Cooperação network meeting in August (see Appendix F-10), and a summary of the on the August 14<sup>th</sup> Encontro da Mulher seminar in Três Marias (see Appendix F-11), in the regional newspaper *O Sertanejo*. Youth activities in Beira Rio were publicized in the São Gonçalo do Abaeté municipal newspaper *Em mãos* (see Appendix F-12). Furthermore, a TV report about environmental education and the watershed model at the Olinto Gonçalves School in Beira Rio was produced by the Três Marias television station TV3. With the help of a communications analyst from SAAE in Pirapora, reports were made for journals, television, and Pirapora radio concerning the local construction of the watershed model. At the state level, an article about the Project was published in the newspaper *O Eco-Ambiental*, a Belo Horizonte-based NGO (see Appendix F-13).

Over the past year, there has been an increase in local, state and national press attention to fisheries issues. Several articles were published about fisheries issues in the São Francisco basin during this reporting period. Project partners were interviewed for a number of these articles, including several which focused on the on-going surubim mortality and related investigations. See Appendix F-14 for an interview of Norberto dos Santos that appeared in *Correio Brasiliense*, July 7<sup>th</sup>, 2006.

With the goal of communicating accurate information about the surubim mortality and the multi-stakeholder Rede Cooperação monthly meetings, the Rede Cooperação produced monthly flyers throughout the reporting period highlighting the activities of the group and its participating institutions for information-sharing, environmental monitoring and reducing environmental impacts (see also Activity 3.7.7). 1,000 copies of the flyer were distributed by SEMEIA, with support from project staff and Rede Cooperação institutions.

#### **Activity B.2.5 – Evaluate Educational Goals – develop integrated environmental education strategy**

Janet Strauss had indicated that she would continue to work with the Pilot School, following her March 2006 technical visit. This, in part, inspired the Municipal Secretariat of Education and Culture (SEMEC) to designate the Professora Johnsen Municipal School as a provider of all-day classes to urban and rural low-income students. In turn, this would cater public interest in these courses that also include a safe outlet in the evenings for youth and adults.

Barbara Johnsen (consultant) and Matilde Mesquita of SEMEC promoted the continuation of community mapping projects, using the watershed models as a participative and transversal teaching tool. This was done in part by gathering a team of 46 members from a teachers group and 27 friends, which then represented 120 youth and adults, and 170 students from kindergarten to fourth grade at the pilot school. (Reports for these activities were developed by Barbara and Matilde from April to September – Appendix F-15)

In an academic curriculum workshop, additional development of mapping activities and their pedagogical use took place with 50 students of the teacher training course at the Unimontes extension university in Três Marias. With the participation of a teacher from the Pilot School, practical concepts for the classroom were also developed.

The watershed workshop for Pirapora and Barra do Guaicuí teachers was administered by Janet Strauss and Barbara with an array of watershed construction activities on the Pirapora and Beira Rio watershed models by means of painting techniques, historical backgrounds and the use of the maps.

A new experience occurred with 20 rural youth in Andrequicé through a local mapping workshop. These students collected native plants and jointly painted a banner for the regional watershed model that was to be presented at the IV Cultural Week during the *Manuelzão* Festival.



In conjunction with the Municipal Secretariat of the Environment, Jason Lasuik and Barbara Johnsen made a detailed presentation of the Eco-Partner project and its manual to the Municipal council of the environment. This included the terms of adherence to the Corporate Commitment to the environment as it was presented personally to Roberto Carlos Rodrigues (Secretary of the Environment in Três Marias).

Jason and Janet, with the support of Inês Mancuso, developed a questionnaire to evaluate the environmental education activities. Also included in this process were the teachers at the Olinto Gonçalves School in Beira Rio, the Prof. Johnsen Pilot School, and the students of Unimontes.

In Beira Rio, environmental education activities were extensive with 5 mapping workshops in 5 classes at the Olinto Gonçalves School, which included 95 students and their teachers.

Planning meetings were held with the teachers of the Prof. Johnsen Pilot School regarding the 2006 activities. Also, with the participation of the students, the environmental education project of 2007 “Soft Water on Hard Rock” was elaborated and presented at project workshops offered by Votorantim Metals “Window to the World”. Moreover, the pedagogical experiences in the *Projeto Semeando* of SENAR (National Service for Rural Education) were presented.

Janet Strauss and Barbara Johnsen developed the idea of a letter exchange between Canada and Brazil. Each class at the Prof. Johnsen School sent maps and pictures to Rogers School in Victoria, Canada, which included the very first group photos of these students. Also included in these packages were handwritten messages on 27 cards created by students from kindergarten to the adult night school classes. These were sent to the Rogers School with the idea in mind that this could be used to connect adults in both countries in the future. Similarly, teachers in the Seaquaria network in Vancouver were included with the assistance of Cathy Carolsfeld.



Figure 2: Grade 4 students present the watershed model to Beira Rio School on September 30<sup>th</sup>

In Beira Rio, the volunteer youth watershed model team played an active role in supporting use of the new São Francisco model in the Beira Rio School. From the return of the watershed model from Barretos in mid-September onward, the watershed model was kept permanently in the Beira Rio School. Youth and municipal government representatives participated in a joint planning meeting with school representatives on September 12<sup>th</sup>, 2006 (see Appendix F-16 for a report on the meeting prepared by Saran Bryce) and in a follow-up meeting to create an environmental education plan for the school, as part of the Minas Gerais state-wide Projeto



Semeando environmental education program/contest. The watershed model team supported a school field trip to clean up garbage at the river's edge and worked with a Grade 4 class and teacher to develop a watershed model presentation that was shown to the entire school on September 30<sup>th</sup>. These activities were filmed by the local TV3 station and edited into a film about environmental education activities with the watershed model that was submitted to the state-wide *Projeto Semeando* competition. A version of this documentary was shown on Três Marias television in the next reporting period.

An environmental education exchange between Brazilian and Canadian students began in July, initiated by Janet Strauss, who sent a map of Rogers School neighbourhood in Canada drawn by the students, along with donated art supplies, to the Barreiro Grande School. As part of the exchange, each class at Prof. Johnsen School chose a map done by one of the Canadian students and prepared a message to be sent to Rogers School in Canada. The Brazilian students also wrote individual letters to Canadian students of their same age. The exchange will be continued in the following reporting period.

***Activity B.2.6 – Increase Respect for Fishing Class – develop and implement participatory pilot initiatives, documenting and disseminating colony history, etc***

As part of her master's research at UFSCar and in concert with her work on gender and CED, Thais Madeira (consultant) conducted numerous interviews with women from fishing families in the project region. She also coordinated a photo project in which women from fishing families photographed their daily life and were interviewed about their life experiences (see Activity C.1 for more details).

Norberto dos Santos (Três Marias Colônia) volunteered on August 29<sup>th</sup> to speak to all grades 2 to 4 classes in September about the ecological characteristics of the river, history of human use, and issues relevant to professional fishers. Fishermen in all project communities have shown considerable interest in doing this type of community outreach activity, generating recent discussion as a possible approach for inclusion in the MMA proposal for continuing funding of the environmental education initiatives. The proposal was pursued throughout the reporting period, both through mail and email and personal visits to Brasília.

***Outputs for Theme B on Public Awareness and Education:***

**Short-term results for Activity B.1.2 & 2.5:** Strategy developed for integrated environmental education that addresses the school educational environment, as well as public education, youth involvement, and improved public image of the fishing class.

**Short-term results for Activity B.2.2:** Principles of watershed-based and community-based pollution control and resource management shared with local São Francisco communities, Barretos (SP) and other national and international audiences. Activities of the PPA project promoted to a broad national and international audience.

**Short-term results for Activity B.2.4:** Positive socio-environmental activities of the project promoted both at a local scale and a state-wide scale.

The percentage of short-term project outputs achieved to date for Cross-Cutting Theme B is estimated to be 75%.

***Outcomes for Theme B on Public Awareness and Education:***

Public awareness of the fishing profession has improved through the Project activities, particularly among closely related stakeholders and government managers. Educational elements for the environment have also had substantial impact on participants, as well as the general public. Advances can be estimated as 60% of the overall desired medium-term outcomes.

## **Activities for Cross-Cutting Theme C – Creating Opportunities for Women, Youth and Family**

### ***Activity C.1 – Workshop component on women's needs***

Thaís Madeira (consultant), Elaine Ward (WFT) and Erika de Castro (consultant) spent 2 weeks, from May 14<sup>th</sup> to 27<sup>th</sup>, 2006 in the project region, meeting with municipal government representatives and community members in São Gonçalo do Abaeté, Três Marias and Pirapora to discuss the current situation of women, with a special focus on women from fishing communities. The group also met with the Council for Women's Rights in Três Marias and Pirapora and, in collaboration with the municipal government of São Gonçalo do Abaeté, they met with 30 women from the fishing community of Beira Rio. See Appendix F-17 for reports on the mission by Thaís Madeira and Elaine Ward and Appendix F-18 for a copy of the presentation given by Elaine Ward and Erika de Castro at various venues.

During the same period in May 2006, Thaís, Elaine and Erika traveled by boat downriver from Três Marias to Ibiaí, interviewing women from fishing families about their life experiences. The women were invited to participate in a photography project and, those that agreed were left with a disposable camera to record their daily life. In August, Thaís returned with their developed photos and interviewed the women again, asking them to describe their photos and explain the reasons they chose to take the photos they did. The results of this project will be used to produce an exposition about the lives of women from fishing communities, to be shown at the Três Marias Women's Forum in December 2006 and other events. See Appendix F-19 for Thaís's monthly activity report.

Disposable cameras for the photo project were donated by FUJI Canada, time was donated for the trip downriver by Norberto dos Santos, Maria José, and Josemar Alves Durães (Ibiaí colony president), and meeting space was donated by various institutions, including the Três Marias and Pirapora municipal governments and the Assembléia de Deus Church.



Figure 3: Erika and Elaine traveling by boat to interviewing women from fishing families

### **Activity C.3 – Workshops with Youth to Identify Needs and strategies - ongoing implementation of activities with pilot youth groups**

During the reporting period the Environmental Youth Alliance (EYA) invited the project to send youth representatives to the World Youth Jam, a youth conference in preparation for the UN Habitat Agency's World Urban Forum, hosted in Vancouver in June 2006. Four youth were selected by lottery from amongst all the interested youth who are active project participants: Débora Antunes Pereira (Pirapora), Danielle Ferreira (Barra do Guaicuí), Daiana Taise da Silva (Beira Rio), and Gislâne Ribeiro Leite (Beira Rio). They were accompanied by José Andrade (consultant), Sarah Bryce (WFT), and Alison Macnaughton (WFT) throughout the trip, and were joined by 3 youth representatives of partner municipalities in the CIDA-funded New Consortia for Metropolitan Governance project coordinated by Centre for Human Settlements at UBC. At the World Youth Jam and World Urban Forum, the young women participated in a wide variety of discussions, field visits, presentations and informal networking with youth and adults representing NGOs, governments, business and UN agencies. During their time in Canada the youth also visited a number of local environmental education and stewardship initiatives, many led by youth. Appendix F-20 contains collective reports on the trip prepared by the youth participants.

Each of the trip participants also gave a presentation about their experiences in Brazil (see Appendix F-21 for Naira Pedrosa presentation). Along with informal conversations and structured discussions with the trip facilitators, these presentations permitted mutual learning amongst trip participants, who came from a wide variety of backgrounds and regions in Brazil. As follow up to the trip, youth in Beira Rio received training on internet use and web publishing (see Activity D.4 for more details).

A Municipal Youth Forum was held on May 28<sup>th</sup>, 2006 in São Gonçalo do Abaeté. The forum included a youth led community mapping exercise, based on the experience with Susan Kurbis (EYA) in October 2005. Beira Rio youth prepared and presented a powerpoint presentation about watershed models (see Appendix F-22), youth association and community reporter activities in Beira Rio. The forum was planned by the Prefeitura of São Gonçalo do Abaeté, project staff and the Beira Rio youth group, with support from the Conselho Tutelar (municipal council for child and youth protection) of São Gonçalo do Abaeté.



Figure 4: Brazilian Youth in the Canadian rainforest

### ***Outputs for Theme C on Creating Opportunities for Women, Youth and Family:***

**Short-term results for Activity C.1:** Greater awareness among municipal partners of living conditions and the immediate and longer term needs of women in rural fishing communities. Increased awareness among project team of local gender perceptions and issues. Identified potential for women's networks in region and made first steps towards developing these networks. Built self-esteem among fisherwomen through participatory photography project.

**Short-term results for Activity C.3:** Capacity built among youth participants of the project to organize and present issues to a variety of audiences. Exposure to a range of youth-led and other environmental and social initiatives. Global networks of youth established, opportunities for understanding of each others' issues, etc.

The percentage of short-term project outputs achieved to date for Cross-cutting Theme C is estimated to be 75%.

### ***Outcomes for Theme C on Creating Opportunities for Women, Youth and Family:***

The percentage of progress towards medium-term project outcomes to date for Cross-Cutting Theme C is estimated to be 60%.

## **Management Activities Completed**

### ***Activity D.2 - Project Newsletter***

1750 copies of the August project bulletin were published and distributed in the project region and to project partners in Belo Horizonte. The project newsletters were also distributed to the general public at events with project representation, such as the watershed model presentation at the state-wide conference on biodiversity (COMBIO) and the environment stand at the Barretos, SP Rodeo. In order to reach a greater number of partners outside the project region and state and national media, approximately 200 copies of the electronic version of the project bulletin were distributed by e-mail in the month of August. ANAMMA (National Association of Municipal Environmental Agencies) and UFMG (Centro de Transposição de Peixes) either placed the bulletin on a website or forwarded it to contacts at the state and national level. See Appendix G-1 for a copy of the newsletter.

### ***Activity D.3 - Creation of Other Publicity Material***

Canadian intern and Millenium Scholar Branden Beatty was in Brazil from August 7<sup>th</sup> to September 5<sup>th</sup>, 2006 and spent three weeks interviewing project partners to document partners' evaluations of Project activities as the Project completes its fourth and final year of activities. See Appendix G-2 for Branden's trip report and copies of the transcribed interview.

### ***Activity D.4 - Communication group***

Sarah Byrce (WFT) consulted with project partners to produce local stories and gather activity specific information and updates from the colonies and federation for the newsletter. Informal communication happens on continuous basis between partners by email, phone, etc. and regular face to face contact during activities.

### ***Activity D.4 Ongoing training and support for Community Reporters***

During the reporting period the Community Reporters group of Pirapora/Buritizeiro, with support from José Andrade (consultant), completed content, graphic design and fundraising for the first edition of their 4-page



publication, *Jornal Piracema* (see Appendix G-3). 1000 copies were printed in August and distributed in the project region.

In June, Community Reporters in Beira Rio prepared a brief video about life in Beira Rio, for presentation by Gislâne Ribeiro during the youth trip to Canada. In June and July the community reporters faced organizational challenges as several participants obtained full-time work and others became more involved in Watershed Model activities. In July, the group decided to prioritize the watershed model activities. They did, however, begin training for web publishing, with an initial focus on creation of blogs, so that they could better publicized local youth initiatives and build networks with other youth groups. See Appendix G-4 for the blog created by the youth reporters. Other community reporters (Zé de Nós in Ibiaí and Donna Ze-Ze in Beiro Rio) continue to report on events in specific radio programs in their respective communities.



Figure 5: Filming in Beira Rio by community reporters

### **Activity E.1 - Project organization meetings**

A series of project management meetings were held in April 2006 in order to prepare the 2006/2007 Annual Work Plan, harmonize planned activities with partners' current activities and respond to collaboratively-defined needs and opportunities. The first meeting, held March 30<sup>th</sup> and 31<sup>st</sup> in Belo Horizonte, was detailed in the previous semi-annual report and focused on scientific research and included participation by academic partners. The second meeting, held in Três Marias on April 20<sup>th</sup>, 2006, included more than 40 project participants from the entire project region, including representatives of CED and youth groups, municipal governments of São Gonçalo do Abaeté, Três Marias, Pirapora, FEPESCA-MG, Três Marias, Buritizeiro, Pirapora and Ibiaí colônias, PMMG, COMLAGO, and others. A third project management meeting with institutional partners from Belo Horizonte was held April 24<sup>th</sup> at IEFs' COMBIO (Minas Gerais Biodiversity Congress) meeting.

The project's Annual Steering Committee meeting was held in Brasília on June 7<sup>th</sup>, 2006, during which the 2006/2007 Annual Work Plan and budget were discussed and approved. Participants in the meeting included partners Roberto Messias Franco (IBAMA), Humberto Candeias Cavalcanti and Miguel Ribon Jr. (IEF), as well as Raimundo Marques (FEPESCA-MG MG), Maria Inês Mancuso (UFSCar), Joachim Carolsfeld (WFT), Roberto Carlos Rodrigues (Semeia-Três Marias), Ana Thé and Barbara Johnsen (consultants), and representatives of CIDA and ABC. See Appendix G-5 for a copy of the presentation given at the meeting.

### ***Activity E.3 – On-going project management (WFT)***

As the project entered its final year, Alison Macnaughton (WFT) returned to Canada to provide intensified project management support. Alison took two management trips to Brazil, March 27<sup>th</sup> to May 1<sup>st</sup>, 2006 and August 27<sup>th</sup> to October 1<sup>st</sup>, 2006. Yogi Carolsfeld (WFT) continued to contribute to management of the project from Canada, with one management trip to Brazil in June 2006.

Elaine Ward (WFT) managed contracts and administrative matters, including the coordination of inputs for the 6<sup>th</sup> semi-annual report to CIDA and translations of appendices. She also administered consultant contracts and supervised Stewart Lampe (WFT), the administrative coordinator, and Karl Archer (WFT), the full-time bookkeeper.

Sarah Bryce (WFT) continued to provide field support in Brazil, spending March to June and July to October 2006 based in Três Marias. Numerous meetings between WFT project management staff and Brazilian project partners and consultants were held during the period, including two formal management meetings (see Activity E.1 for more details).

Brazilian consultants Barbara Johnsen, Ana Thé and José Andrade continued to implement activities, and Thaís Madeira was contracted in April 2006 to provide ongoing support to gender and CED activities. Canadian consultant John Wojciechowski continued to support CED activities.

Management decisions between the management meetings were carried out through informal discussions between the Canadian team, Ines Mancuso (UFSCar), the fishing community leaders, and the Brazilian consultants, in addition to consultation with other partners and Brazilian institutions.

### ***Outputs for Communications and Management:***

**Short-term results for Activity D.2:** Effective communication of project news to regional partners. Network of interested partners and public developing by email. Raised awareness at regional level of fisheries and livelihood issues in the project region.

**Short-term results for Activity D.3:** Project partners actively engaged in reflection process about project lessons learned.

**Short-term results for Activity D.4:** Production/publishing of community newspaper built capacity and awareness about local issues, raised self-esteem of reporters. New training on use of electronic media (blogs, email) builds capacity for local and global networking.

**Short-term results for Activity E.1:** Participatory process builds capacity to analyze and evaluate options collaboratively.

**Short-term results for Activity E.3:** Reduced Canadian presence in Brazil started to build independence of Brazilian partners.

### ***Outcomes for Communications and Management:***

An estimate of how far we have moved towards the goal of sustainable, participatory management, including participatory performance of all CIDA-required reporting, is 75%.

## **Project Spin-Offs**

Project spin-offs during the current reporting period include:

- Proposals submitted to the MMA, Fundação Banco de Brasil, and IDENE for logistical support and infrastructure of initiatives created by the PPA project;
- The MMA stock and fisheries assessment project was initiated and implemented in a participatory manner, in part due to the Project's influence;
- A very active radiotelemetry listserver group was formed by members of a core group initially trained in fish radiotelemetry by the Project;
- A public aquarium was proposed to the Santarem municipality with input from WFT;
- Two students from Três Marias participated in Rotary Exchanges (one to Canada and one to Mexico) with organizational help from WFT; and
- A Rotary grant for fisheries development in Pernambuco was facilitated by WFT.

## **Variance of Activities Planned vs. Carried Out**

The following activities originally planned for this reporting period were postponed or cancelled:

- Activity 1.1.3 - Community exchange/workshop with other groups was postponed;
- Activity 1.3.2 - Community policing workshop was cancelled;
- Activity B.1.2 - Technical visit by Canadian teachers specializing in EE was postponed pending budgetary review and indication of Brazilian commitment;
- Activity 3.1.1 - Technical mission to Brazil by DNA biologist volunteer Ben Koop was postponed until October;
- Activity 3.6.1 - Technical mission to Canada on environmental management and mitigation, corporate policy, water management and community environmental policing by IEF, IGAM, PMMG, Votorantim, fishing representatives was postponed pending budgetary review;
- Technical mission to Brazil by aquatic contamination volunteer Vince Palace (DFO) was postponed pending budgetary review and indication of Brazilian commitment; and
- Mission to Brazil by conflict resolution and management specialist volunteer Maureen Maloney (co-funding with other CIDA project) was postponed pending coordinated planning and budgetary review.

## **Variance of Expenditure Forecasted vs. Actual**

Total expenditures during the reporting period were somewhat higher than forecast, primarily due to the contracting of Brazilian consultants and costs in Brazil that were not covered by counterpart commitments. However, overall budgets were maintained within a 10% level of variance through savings in travel costs, reduced investment in technical areas of the project, and reduced WFT staff.

## **Problems and Challenges**

The continued lack of counterpart funding has resulted in spending in unexpected areas and less money to do the planned activities. Unified participatory management with the Brazilian team also remains a challenge, but while not yet returning to the fully participatory model initially envisioned, appears to be at a manageable level. Institutional engagement remains problematic in most areas, with increased participation, but it is unclear what actual commitments will be made to carry activities forward. We have compensated for this by hiring Brazilian consultants, but ensuring continuity of activities after the Project is over will be problematic.

## **Report on Gender Equity Strategy**

Initiatives to foster gender equity and opportunities for women became more prominent during the current reporting period. Project CED initiatives have all prioritized participation by women, which in turn has led to substantial empowerment, increased self-esteem, and CED initiative generated by participants.

Potential conflict with men, due to empowerment of women, has so far not materialized to the extent we had feared. Instead, we observed substantial male support for the initiatives and substantial informal community-led economic solidarity networks. A variety of existing initiatives and cooperatives led by women became more prominent in the community during the reporting period, responding positively to networking opportunities. Women continue to be as active as men in terms of participating in fisheries related events and discussions. However, men continue to dominate the formal political roles (colony presidents, federation, etc.).

## **Key Lessons Learned During Reporting Period**

Hands-on practical activities and tasks, with facilitator participation, continue to provide the best opportunity for organizational and conceptual changes in the community. Consultative and planning meetings are not adequate for this purpose.

Participatory visioning and self-directed development of CED activities were of limited effectiveness in this region, possibly due to limited personal horizons, low levels of governmental support, and/or existing social structures. The facilitated introduction of key ideas from outside the region to seed the CED development and community organization has been more effective, although sustainability of the activities remains to be demonstrated.

Timely introduction and participative testing of technical expertise and recognition and resolution to practical barriers are essential for effective development – even if initial solutions are not arrived at in a completely participative manner. If development takes too long to provide results, effective participation and engagement is lost. However, the Project still needs to determine how and at what point participatory planning should be intensified to ensure the community future ability to initiate and pursue new CED opportunities and to maintain existing ones. A good prior analysis of support opportunities, power structures, limitations to development, and market potential are key elements to initiating CED. The Project was initially remiss in this process, depending too much on solely participatory consultative processes.

Educational strategies need to challenge existing social structures and norms in the Brazilian society and schools to be fully effective, as demonstrated by Janet Strauss' technical visit and follow-up activities. However, it may be difficult to prioritize and implement these new strategies within the Brazilian system.



Multi-stakeholder processes that are based on cross-societal consensus-building, while relatively new to Brazil, show substantial potential to build sustainable socio-environmental management structures in this country (in contrast to the more traditional confrontational power-broking processes). Both the Cooperation Network and the *GTPesca*, while substantially different in character, are project-induced examples of hybrids between the two approaches.

## **Areas Requiring CIDA Action or Approval in Near Future**

As recommended by representatives of ABC and CIDA at the steering committee meeting in June, UFSCar will be inviting IEF, IBAMA and the Federação of Fishermen to sign on as managing partners in the project. The prospective partners have indicated their readiness to formally take on this more active leadership role in the project. This will be very beneficial for future actions in the Project, enabling these partners to dedicate specific funds to project activities – activities that will also facilitate the realization of their mandate in the area and thus ensuring sustainability of the project's impacts. During the reporting period, ABC formally approved UFSCar's invitation to the new partners and IEF has formally accepted UFSCar's invitation. During the next reporting period, it is hoped that the other two institutions will accept the invitation and a meeting will be organized for signing of a new official project agreement – for which CIDA approval will be required.

Some over-spending is expected in the next quarter, due to a continuing shortage of counterpart investment. This may entail a revised budget and approval of accelerated provisioning of funds by CIDA. This will enable the project to maintain its Brazilian consultants for this quarter. All of the consultants put together funding proposals for their activities during the reporting period, which we hope will provide sustainability for both the project's activities and the consultants themselves. CIDA and ABC lobbying may be required to help out with some of these proposals, where appropriate.

Brazilian investment in the project, through a variety of in-kind support, has been substantial. However, the full amount of counterpart support initially proposed is not likely to be realized. CIDA and ABC approval of this shortfall will be needed.

## **Planned Missions To and From Brazil**

The most immediate foreseen missions to and from Brazil include:

- **Yogi Carolsfeld (WFT)** – Management and Assessment mission to Brazil (November 22 – Dec 20, 2006);
- **Alison Macnaughton (WFT)** – Management and Assessment mission to Brazil (November 11 – Dec 12, 2006, January-February 2007, March 2007);
- **Sarah Bryce (WFT)** - Field assistance (October 2006, December 2006, January – March 2007);
- **John Wojciechowski** – Community Economic Development consultant in Brazil (October – December 2006);
- **Cathy Carolsfeld & Janet Strauss** – Technical visit by Canadian teachers specializing in environmental education (February 2007);
- **Nancy Sherwood** – replacing Ed Donaldson's at Animal Reproduction Conference in BH, (November 11-15, 2006);

- **Fraser Basin Council representative** – Water management and multi-stakeholder processes mission to Brazil (co-funding with other CIDA project) (2007); and
- **Mauro Vescera (Vancouver Foundation)** - Arte Chico project assessment mission (December 2006).

## **Appendix A – Results and Indicators for Activities Conducted During the Reporting Period<sup>5</sup>**

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<sup>5</sup> activity titles and numbering from revised LFA

## **Appendix B – Schedule of Activities for Next Reporting Period**

## **Appendix C – Sub-Project 1 Results**

- C-1 Presentation** – *GTPesca* working group presentation given at the *GTPesca* 3rd General Assembly held August 30<sup>th</sup> & 31<sup>st</sup> in Ibiaí
- C-2 Presentation** – Community policing presentation given by PMMG at the *GTPesca* 3rd General Assembly held August 30<sup>th</sup> & 31<sup>st</sup> in Ibiaí
- C-3 Meeting Report** – *GTPesca* 3rd General Assembly held August 30<sup>th</sup> & 31<sup>st</sup> in Ibiaí
- C-4 Meeting Reports** – *GTPesca* coordination meetings held June 5<sup>th</sup> & June 27<sup>th</sup>, 2006
- C-5 Visit Report** — *GTPesca* technical visit June 28<sup>th</sup>, prepared by Ana Thé (consultant)
- C-6 Monthly Reports** – *GTPesca* coordination activities for the months of April, May, August & September, 2006, prepared by Ana Thé (consultant)

## **Appendix D – Sub-Project 2 Results**

- D-1 Monthly Reports** – CED coordination activities for the months of April & May, 2006, prepared by John Wojciechowski (consultant)
- D-2 Presentation** – by Elena Rezende given at the CED lessons learned workshops, held April 24<sup>th</sup> to 27<sup>th</sup>, 2006 in Pirapora & Três Marias
- D-3 Workshop Report** – CED lessons learned workshop, held April 27<sup>th</sup>, 2006 in Três Marias
- D-4 Work Plan** – CED work plan, prepared by José Andrade & John Wojciechowski (consultants)
- D-5 Monthly Reports** – CED pilot groups coordination activities for the months of June & September, 2006, prepared by José Andrade (consultant)
- D-6 Action Plan** – CED pilot group action plan by Smoked Fish Producers' Group
- D-7 Presentation** – Tasting events results presentation given by the Smoked Fish Producers' Group
- D-8 Meeting Reports** – Gender & CED meetings August 14<sup>th</sup> & July 26<sup>th</sup>, prepared by John Wojciechowski (consultant)
- D-9 Proposal** – Banco de Brasil Proposal
- D-10 Visit Report & Agenda** – SOLTEC Technical Visit August 11<sup>th</sup> to 19<sup>th</sup>, 2006

## **Appendix E – Sub-Project 3 Results**

- E-1 Poster** – Vince Palace fish mortality study
- E-2 Meeting Summaries** – *Rede Coop* meetings April 18<sup>th</sup> & 19<sup>th</sup>, July 26<sup>th</sup> & May 24<sup>th</sup>
- E-3 Meeting Flyer** – *Rede Coop* meetings June 23<sup>rd</sup> & August 29<sup>th</sup>
- E-4 Meeting Invitation** – *Rede Coop* meeting July 26<sup>th</sup>
- E-5 Presentation & Folder** – Final UFSCar Water Quality workshop in June
- E-6 Project Reports** – Final narrative & technical reports for UFSCar Metals Project
- E-7 Presentation** – *GTPesca* presentation given by Erida Sliva at the final UFSCar Water Quality workshop in June
- E-8 Trip Report** – Water treatment technical visit to Canada, September 15<sup>th</sup> to October 17, 2006, prepared by Emerson Alves

## **Appendix F – Cross-Cutting Theme Results**

- F-1 Presentation** – “Network of learning Communities in Fisheries Community-based Co-management in Brazil” workshop held in Tamandaré, PE, May 3<sup>rd</sup> to 5<sup>th</sup>, 2006, given by Ana Thé (consultant)
- F-2 Trip Reports** – Ibero-American Environmental Education Congress held in Joinville, SC, April 4<sup>th</sup> to 9<sup>th</sup>, 2006, prepared by Erida Silva & Ana Thé (consultant)
- F-3 Monthly Reports** – Watershed model support activities for the months of March & April, 2006, prepared by Jason Lasuik (consultant)
- F-4 Workshop Outline** – Watershed model workshops given in Pirapora by Jason Lasuik (consultant)
- F-5 Presentation** – Watershed model presentation at Três Marias Environment Day, June 2006
- F-6 Trip Report** – Watershed model youth trip to Barretos, June 2006, prepared by Sarah Bryce (WFT)
- F-7 Trip Report** – Watershed model youth trip to Barretos, June 2006, prepared by Junia Ribeiro
- F-8 Report** – Watershed model construction report by Junia Ribeiro Leite
- F-9 Newspaper Article** – Article on Project & the Smoked Fish Producers’ Group of Três Marias and Beira Rio, in the Três Marias newspaper *O Sertanejo*, August 2006
- F-10 Newspaper Article** – Article summarizing Rede Cooperação network meeting in August, in the Três Marias newspaper *O Sertanejo*, August 2006
- F-11 Newspaper Article** – Article summarizing the August 14<sup>th</sup> Encontro da Mulher seminar in Três Marias, in the Três Marias newspaper *O Sertanejo*, August 2006
- F-12 Newspaper Article** – Article on Project youth initiatives in Beira Rio, in the São Gonçalo do Abaeté municipal newspaper *Em Maos*, No. 3
- F-13 Newspaper Article** – Article about the Project, in the newspaper *O Ecoambiental*, No. 5
- F-14 Newspaper Article** – Article interviewing Norberto dos Santos, in the newspaper *Correio Braziliense*, July 7<sup>th</sup>, 2006
- F-15 Monthly Reports** – Environmental education support activities for the months of April, May, June, July and September, 2006, prepared by Barbara Johnsen (consultant)
- F-16 Meeting Report** – Beira Rio environmental education meeting, September 12<sup>th</sup>, 2006, prepared by Sarah Bryce (WFT)
- F-17 Trip Reports** – Technical mission on gender, May 14<sup>th</sup> to 27<sup>th</sup>, 2006, prepared by Thaís Madeira (consultant) and Elaine Ward (WFT)
- F-18 Presentation** – Given by Erika de Castro (consultant) and Elaine Ward (WFT) during technical mission on gender, May 14<sup>th</sup> to 27<sup>th</sup>, 2006



- F-19 Monthly Report** – Gender support activities for the month of July 2006, prepared by Thaís Madeira (consultant)
- F-20 Trip Reports** – Youth trip to Canada for World Youth Jam World Urban Forum, June 2006, prepared by youth participants
- F-21 Presentation** – Given by Naira Pedroso during Youth trip to Canada for World Youth Jam World Urban Forum, June 2006
- F-22 Presentation** – Given by youth at Municipal Youth Forum in São Gonçalo do Abaeté, May 28<sup>th</sup>, 2006

## **Appendix G – Management and Spin-Off Results**

- G-1 Newsletter** – Project newsletter for August 2006
- G-2 Trip Reports and Interviews** – Project evaluation trip to Brazil, August 7<sup>th</sup> to September 5<sup>th</sup>, 2006, prepared by Branden Beatty
- G-3 Newsletter** – Piracema Newsletter No. 1, August 2006, prepared by community reporters group
- G-4 Internet Blog** – Watershed models blog, prepared by youth community reporters group
- G-5 Presentation** – Project Steering Committee meeting, June 7<sup>th</sup>, 2006