Centre for Sustainability

ANNUAL REPORT

CENTRE FOR SUSTAINABILITY

2013

March 2014

Centre for Sustainability

CONTENT

Centre for Sustainability

GENERAL INFORMATION

Trade name: Centre for Sustainability

Legal name: South Sea Exclusive Foundation

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Centre for Sustainability

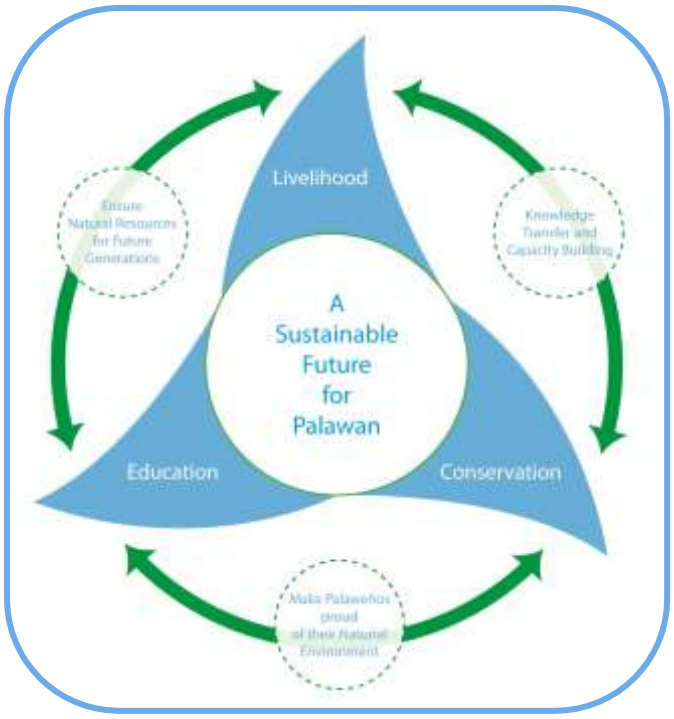
INTRODUCTION

The Centre for Sustainability is a non-profit organization working on sustainable development in Palawan, the Philippines. Through its Philippine The Centre is, through its Philippine sister organization (Southsea Exclusive Philippines Inc.), operating as social entrepreneurs and we focus on contributing to the creation of a sustainable future for Palawan through the execution of projects that are practical, environmental friendly and long lasting. With our style of developing and implementing sustainable projects, we aim to serve as a blueprint for sustainable development in other areas of the Philippines.

Our mission is to contribute to **"A Sustainable Future for Palawan"**, through:

- **Livelihood:** Creating sustainable livelihood initiatives for coastal and upland communities.
- **Conservation:** Protect and restore coastal and upland ecosystems.
- **Education:** Making people more aware of the importance of our natural resources.

We believe that an integrated approach of these three focus areas is required to carry out our mission of contributing to **a** sustainable future for Palawan**,** as is seen in the figure below.



The Centre works together with local partner organizations like the Philippine Coastguard Auxiliary, the City Government of Puerto Princesa and local universities. By bringing together the knowledge, skills, and experience of local organizations with the vast knowledge present at international institutes like the Wageningen University and Research Centre, the Centre for Sustainability is able to develop projects that are more effective and better adapted to local needs.

BOARD MEMBERS

Jonah van Beijnen is the Chairman of the board of the Centre for Sustainability. He has extensive experience from living and working in the Philippines for almost seven years while working on sustainable development through mariculture and conservation. Currently he is a consultant for WWF as a Supply Chain Manager for their Partnership Project Towards Sustainable Tuna Fisheries in the Philippines.

Kyra Hoevenaars is the Secretary of the board, she studied biology at Wageningen University, and she has five years work experience in the Philippines carrying out projects on nature conservation, development, and education.

Dirk de Wit is our third member of the board. His activities include administration and promotion for our student program. He holds a Master Diploma in Biology from Wageningen University. He is currently working in the Netherlands as Project Leader for Elsinga Policy planning and innovation.

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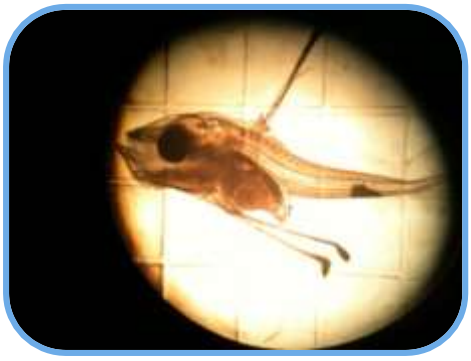
PROJECT ACTIVITIES

GROUPER HATCHERY



We worked this past year on optimizing the survival of our hatchery and nursery in order to produce enough fingerlings to supply the participants of our livelihood project. For now, we mainly produce Tiger Grouper fingerlings (*Epinephelus fuscoguttatus*). This species is easy to grow out, has a high demand in Manila, Hong Kong and mainland China and has a high market price. Therefore, it is the ideal species for the livelihood program. In 2013, we produced a total of 13,000 Tiger Grouper fingerlings.

In order to support and optimize the production of fingerlings, we have improved the following aspects of the hatchery and our grouper grow-out program:

LIVE FEEDS SECTION

Algae Department

Our algae department consists of 18 canvas tanks supported by wooden frames. Part of the tanks a covered with roofing to avoid rainwater going into the tanks which results on contamination and leads to reduced production. Algae are used for greening the larvae rearing tanks and feeding the zooplankton (rotifer).

Improvement in the algae department:

- New roofing for algae tanks to avoid rainwater entering the tanks and thus limiting contamination
- Improve water drainage to improve hygiene and waste management thereby decreasing contamination risks
- Improvement of pathways around the tanks for easier access and general hygiene in the department
- Acquisition of two additional algae tanks to increase algae production
- Acquisition of two submersible pumps to speed up harvesting of algae and refilling of tanks
- Acquisition of an additional air blowers since more algae and rotifer tanks are being used for production

Rotifer department

Our rotifer department consists of 8 canvas tanks. These tanks are also partially covered to prevent contamination. Rotifers are tiny zooplankton that we use for feeding the fish larvae when they are 3 to 20 days old. We culture rotifer in these canvas *tanks* and feed them with algae from the algae department. We monitor the rotifer production by analyzing samples using a microscope.

The following improvements were made:

- New roofing for rotifer tanks to avoid sunlight and rainwater entering the tanks thereby minimizing contamination
- Water drainage to improve hygiene and water management
- Improve pathways around the tanks for easier access and general hygiene in the department

BROOD STOCK MANAGEMENT

Currently most of the eggs we use at our hatchery originate from a neighboring government research facility (BFAR). Groupers are all born as female and once they reach old each they change sex. Because of this sex change, it is very difficult to find sufficient male groupers.

Our own grouper brood stocks consist mainly of females and to ensure sufficient egg production from our own stocks we purchases 5 new Mouse Grouper and 3 Tiger grouper breeders (mainly bought male groupers).

Training at SEAFDEC

Our hatchery manager, Al Gonzales, has attended a training course on grouper broodstock which included monitoring sexual maturity and inducing spawning using hormones and diet composition at SEAFDEC (Southeast Asian Fisheries Development Center) in Iloilo, the Philippines conducted by Ofelia Reyes. Broodstock management is the basis for our hatchery. Broodstock is the source of egg supply, and if we have regular egg supply of good quality from our own broodstock, this will result in higher production of fingerlings.

He learned how to determine the sex of fish, if the fish is sexually mature, how to inject mature fish with hormones to induce spawning. He also learned how to feed mature broodstock fish in order ro stimulate reproduction.



We have implemented these newly acquired techniques on our Green grouper and Tiger grouper broodstock. We keep our Green grouper in a land based broodstock tank that allows us to induce the mature fish with hormones to induce spawning. Green grouper are known not to spawn naturally in captivity.

The first induction was very successful and resulted in spawning on 5 consecutive days. The eggs were fertile and we managed to produce 200 pcs of Green Grouper fingerlings. It was the first run with this species so it is still trial and error, we expect that the egg quality will be higher during the next spawning.


Left: Weighing the fish. Right: Applying a cannula in a female fish to determine if she is mature.

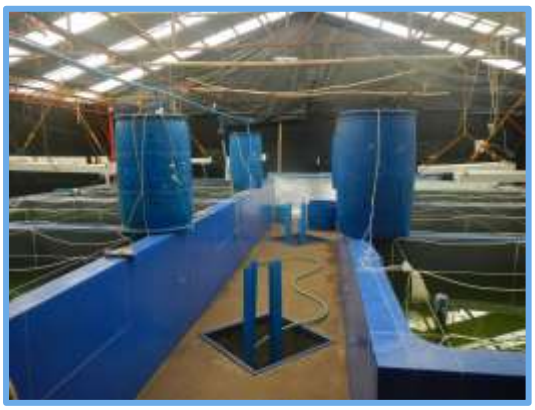
Our Tiger grouper broodstock is held in floating sea cages. We have adapted their diet in order to stimulate natural spawning. They have shown courting behavior, which is a very good result, but have not yet produced eggs. We will continue the diet as suggested during training.


Egg collection, 3-7 days after hormone injection.

Fertilized egg as seen under the microscope.

Green Grouper fingerlings produced with the eggs of our Green Grouper broodstock.

LARVAE REARING



In our indoor larval rearing tanks, we grow the larvae to fry in 30 days. Larvae receive intensive care and monitoring. Grouper larvae are very sensitive to light among other parameters. We improved the lighting in the hatchery by installing high quality transparent roofing as seen in the picture. This way we provide natural lighting to the fish and we can reduce electricity costs.

Monitoring

Monitoring is very important in a grouper hatchery. With an Olympus binocular microscope we monitor the egg quality, water quality in the hatchery and algae and rotifer production on a daily basis. We can detect contaminants early and ensure the quality and quantity of live feeds that we at to the larvae rearing tanks.

Fingerling production

After the larvae stage, the fry are transferred to the nursery where they are grown unto 3 inch fingerlings. The fish are weaned on pellets and prepared for stocking in sea cages where they will be grown to marketable size by grouper farmers.

We made the following improvements to the larvae rearing department:

- Acquisition of two additional air blowers to increase dissolved oxygen levels in the larval rearing tanks and one air blower serves as a spare in case of malfunction

- We acquired new semitransparent roofing panels for the hatchery to have better lighting setup and to save electricity cost from using lamps (now the use of lamps can be reduced to clouded days only).

- Acquisition of a new submersible pump (2HP) to pump water from the open sea to ensure high water quality in hatchery.

- We acquired a new microscope to improve monitoring of water quality, life feeds and contaminants

- We hired and trained 2 additional technical staff to support our hatchery operations.

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TRAINING AND ASSISTANCE GROUPER FARMERS

We updated our training manual, which serves as the basis for training sessions to teach farmers the basics of grouper grow-out and assist them during the grow-out process when needed. We are currently training/assisting 8 grouper farmers with grow out of tiger grouper fingerlings from our hatchery. Farmers are satisfied and survival and growth rate are very good.

We focused on teaching key grow-out farmers so they will be able to teach others. Our customers include the agricultural departments of two municipalities in Palawan and five individual growers based throughout the island (five different municipalities). In this way, we ensure the promotion of the project and once production is expanded, we can rollout our grouper grow-out program throughout the island.

The first time a farmer (in Palawan) orders our fingerlings, we accompany the fingerlings to the farm. We assist the farmer with the transport schedule, transport method and handling to make sure the fish receive a minimum of stress during the transport

Once arrived at the farm, we assist the farmer in stocking the fingerlings in the sea cages. It is important that this be done well to avoid high mortalities in the first days due to shock and stress.

After the fish are stocked in the sea cages the farmer has some reoccurring tasks as outlined in the training manual). The most important are feeding, health management, changing and cleaning the nets. We teach the farmers different methods and options they can implement using our training manual.

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FOREST CONSERVATION

The lush island province of Palawan (approximately 12,000 km2) is located in the southwest of the Philippines. Due to a relatively low population density, the island has been spared from the major deforestation tragedy that took place in the rest of the Philippines, and approximately 50% of the primary forests in the province remain. Palawan has received international recognition by UNESCO as a Biosphere reserve containing two World Heritage Sites. Nevertheless, the island remains relatively understudied and its forests are currently diminishing quickly.

There is a silver lining though; Puerto Princesa. This progressive municipality located in the middle portion of the island covers around 20% of province and holds a forest cover of 65%. Since 1994, the charismatic Edward S. Hagedorn (the former mayor) led the municipality on path towards sustainable development and he has banned logging and mining.

Puerto Princesa contains one national park (Puerto Princesa Underground River National Park, 22,000 hectare) but approximately 80,000 hectare of pristine forest neighboring the park remains unprotected. The centre of this large forest is shaped by Cleopatra's Needle (1,593 MASL), the highest peak of Puerto Princesa and surroundings. This area is a real biological gem and it is the last safe haven for countless local endemics. Its serves furthermore as the largest watershed in the municipality and functions an important corridor for species crossing the island.

For these reasons, the Centre for Sustainability and its partners propose to preserve this entire forest area and to safeguard the existence of numerous Palawan endemics, by the creation of Cleopatra's Needle Forest Reserve.

To achieve the mission and to ensure the long-term sustainability of the project we will accomplish five goals:

I. Implement a delineation program to identify and mark the remaining forests and other valuable habitats on and around Cleopatra's Needle that will form the proposed Cleopatra's Needle Forest Reserve.
II. Create an efficient management plan for the proposed forest reserve.
III. Increase the efficiency of law enforcement in the area by capacity building of forest wardens.
IV. Create a sustainable livelihood for members of the Batak Tribe in the area through ecotourism activities.
V. Implement a research program (inc. an educational component) to get a better understanding of different endemic and endangered

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This year we have carried out the following activities:

- They Puerto Princesa City Government represented by Mayor Lucille Bayron and the City Administrator Rod Saucelo have expressed their support to work to the creation of the reserve.
- We have organised a committed group of scientists committed to participate in the Rapid Biodiversity Assessment in order to get a better understanding of species richness, different endemic and endangered species, their range, population status, habitat, ecology, and threats to their existence.
- We have raised funding for the first 3 goals of the project through the Amphibian Survival Alliance. The funds, donated by Rainforest Trust, will be managed by Global Wildlife Conservation.
- We have made arrangements with the following organisation to partner in the project:

Puerto Princesa City Government
Department of Environment and Natural Resources
Palawan Council for Sustainable Development
Amphibian Survival Alliance
Global Wildlife Conservation
Rainforest Trust
National Museum of the Philippines
Katala Foundation
Palawan State University
Wageningen University
Wild Bird Photographers of the Philippines

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CONSULTANCY PROJECTS

ATREMARU ECO-RESORT

March- December 2013

We have set up a financial administration method for Atremaru Eco-resort. Second we have advised the management if the Eco-resort on Environmental Tours and activities.

SOUTH SEA PEARL MUSEUM

August 2013-Present

Kyra Hoevenaars is the curator of the Marine Biology Division of the South Sea Pearl Museum located at Barangay Irawan in Puerto Princesa City. Kyra helped the management of the museum setting up the museum, especially the Marine Biology section.

WWF- PARTNERSHIP PROGRAM TOWARDS SUSTAINABLE TUNA FISHERIES

April 2013-Present

As the Supply Chain Manager of the program, Jonah van Beijnen gives technical and administrative advice on MSC certification.

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FINANCES

Balance sheet

	As of 12/31/13
Assets	
Current Assets	
Cash	4
Bank	13,148
Total Current Assets	**13,152**
Other Assets	
Investment in SSE Philippines Inc	9,500
Other assets	406
Total Other Assets	**9,778**
Total Assets	***23,058***
Liabilities & Equity	
Liabilities	
Loan Poc Start life	43,438
Total Liabilities	**43,438**
Equity	
Retained Earnings	-23,575
Owners Equity	585
Net income	2610
Total Equity	**-20,308**
Total Liabilities & Equity	***23,058***

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Profit and loss statement

1/1/2013-12/31/2013

			Euro
Income			
		Donations	1,491
		Consultation fees	46,000
Gross Income			47,491
		Reimbursement WWF expenses	3,353
		Total Income	**50,844**
Expense			
	Projects	Hatchery	429
		WWF-Sustainable Tuna Project	14,677
		Total Projects	**15,106**
	Marketing material		
		Email server	55
		Representation gifts	107
		Total Marketing material	**162**
	Staff		
		Volunteer allowance	850
		Management salaries	6,076
		Expense allowances	2,172
		Total Staff	**9,098**
	Travel		
		Public transport	40
		Flights	1,620
		Food and beverages	827
		Lodging	1,867
		Other	560
		Total travel	**4,914**
	Office		
		Internet	102
		Utilities	151
		Telephone	51
		Books	264
		Total office	**568**

Depreciation		159
	Total depreciation	**159**
Interest		
	Interest loan	1,671
	Total interest	**1,671**
Donations	Fund to SSE Philippines Inc.	16,372
	Total donations	**16,372**
Bank charges		
	Bank costs	81
	Transfer costs	83
	Card costs	20
	Total bank charges	**184**
Total Expense		48,234
Net income		**2,610**