

Tenkile Conservation Alliance



FINAL REPORT FOR RSG

Conservation Education Program

April 2005-April 2006

TENKILE CONSERVATION ALLIANCE CONSERVATION EDUCATION PROGRAM

Report to Rufford Small Grants for Nature Conservation

Executive Summary and Project Objectives from original grant application

The Tenkile Conservation Alliance (TCA) a Non-government Organisation, was established in Papua New Guinea in 2001. Its primary goal is to save the critically endangered Scott's Tree Kangaroo (*Dendrolagus scottae*) or Tenkile from extinction. Restricted to approximately 125 square kilometres of the Torricelli Mountains of Sandaun Province-Papua New Guinea, the Tenkile occurs on land entirely owned by 18 villages. Hunting is considered the primary threat to the Tenkile population which could be only 100 animals. These factors make it imperative that any conservation effort engages local communities. Since 2003, TCA has been conducting conservation education programs in the schools and villages that surround Tenkile habitat.

The aim of this project is to support conservation of the Scott's Tree Kangaroo, or Tenkile, through development and delivery of conservation education programs within the Torricelli Mountains. The program aims to enable local people to make informed choices on how to use their natural resources, through

- (1) raising awareness of the significance of their environment in both a local and global context,
- (2) providing practical solutions that address local conservation issues and
- (3) empowering and motivating people to act on conservation issues.

A variety of educative styles and mediums will be used to accommodate the local demographic population including:

- ⊙ Delivering education programs in the local school community,
- ⊙ Using drama and puppet shows to reach the broader community in a medium that is consistent with local culture and,
- ⊙ Producing a weekly radio program and quarterly newsletters to reach both literate and non-literate people. .

Schools – the TCA has been conducting 3-day education programs focusing on local fauna, scientific principles and conservation to 8 community schools annually. It plans to conduct a one-week teacher in-service training program for the local teachers for the sustainability of the conservation education program. This will help to ensure the knowledge will be retained in the communities for the long term. Likewise the Alliance also plans to provide

appropriate literature to 11 community schools for the sustainability of the conservation education program.

Villages –many of these villages are very remote with limited access to broader communication tools, however radios are generally present in each village, making them an ideal communication tool to access the broader community. Recognising the legal land ownership of local communities, and the effectiveness of radio in reaching a broader community, the TCA aims to extend this radio program and use it as a forum to advocate the formation of a Conservation Area with the Torricelli Mountains. This would provide legal protection for the Torricelli Mountains and its unique wildlife.

Other – the TCA would like to continue producing newsletters (already outlined above) both to inform and engage local communities in TCA's conservation activities.

This conservation education program will make a substantial and long lasting contribution to nature conservation in the area through focusing on providing the local people with an informed choice on how to use their natural resources. Currently, the increase of the human population is depleting wildlife due to more hunting, changing cultures and reduction of habitat from gardening.

The content of these programs focuses on the impact that people have on the environment and incorporates local language and stories to enforce these messages. The use of drama, puppets, radio and newsletters have a lasting effect on the community because of their entertaining value. They also provide a medium, which is accessible to all members of the community, including the illiterate.

The teacher-training program will provide teachers with a resource that can be utilised in the future through its incorporation into the local PNG curriculum.

Students remember school visits because they are new and exciting. The materials and resources that TCA delivers will provide a long-term benefit to all students within the school both now and into the future.

REPORT ON OUTCOMES

SCHOOL PROGRAM

Aims and background information

Many people in PNG do not realise the biological significance of the plants and animals around them and see the majority of animals as a source of food only. The school education program tried to deliver a sense of pride and ownership to the students in the hope that this would motivate students to see their fauna differently and grow a greater appreciation for their local icons, in particular Tenkile.

The Tenkile Conservation Alliance has been conducting a 3-day school education program to local community schools since the employment of Education Officer Mrs. Jean Thomas in 2003. The education program, developed by Mrs Thomas, attempted to increase students' awareness on the environment that surrounds them using PNG flagship species to empower and motivate conservation action.

Methods

The school program was at a level more appropriate for students in grade 5 and above. There was an emphasis on conservation, biodiversity of PNG, animal and plant relationships and include some scientific principles such as food webs and food chains. Conservation values were emphasised by using local animal and plants endemic to the area to help develop a sense of pride and identity for PNG students. Topics that were covered include:

➤ *Tree Kangaroos*

What is a mammal? What is a marsupial? What is a tree Kangaroo? The life history of tree kangaroos such as: distribution, diet, habitat, reproduction, and adaptations.

➤ *Tenkile*

Students learnt about the discovery of Tenkile, the establishment of a hunting moratorium and Tenkile Conservation Alliance, causes of their decline and conservation of the species. The classification system of naming animals and plants was also introduced.

➤ *Conservation*

What is conservation? What is preservation? Students looked at the human population and its effect on wildlife.

➤ *Biodiversity*

Students learnt about the structure of a rainforest and why they contain so much biodiversity, particularly the unique animals and plants found in Papua New Guinea.

➤ *Relationships*

How people interact with their environment. How plants and animals interact with each other – food webs and food chains, and symbiotic relationships.

➤ *Artwork*

In this section students celebrate the environment by drawing a picture of their favourite animal in the rainforest. These pictures were given to the Post Courier newspaper (PNG) for publishing in their “kids r us” section.

Results

During 2005 Mrs Thomas conducted a conservation education program in 5 community schools and the Lumi High School (table 1). Conservation talks were given to 3 elementary schools within the Lumi district.

School	Students	Date of visit
Karaitem Community School	13	24 th - 25 th October 2005
Fatima Primary School	26	16 th – 18 th May 2005
Wigote Community School	29	20 th – 22 nd June 2005
Tiere Community School	20	2 nd – 4 th August 2005
Lumi Primary School	24	30 th – 31 st May / 7 th June 2005
Lumi High School	60	19 th – 20 th October 2005
Miwaute Elementary School	45	13 th May 2005
Wabute Elementary School	30	14 th October 2005
Mupun Elementary School	36	11 th July 2005

Table 1 – Shows the schools visited during 2005, the number of students that participated in the education program and on what day(s).

Students from 4 community schools were given a pre and post test to help TCA measure and understand the impact of this education program. The test consisted of a series of true and false questions that were read out to the students in both English and Pigeon English. This was considered to be important to eliminate any literacy problems during the test. The results showed that the majority of students improved their knowledge as a result of the education program (Figure 1). Note these results also include teachers that attended the teacher-training workshop that will be discussed later.



Students from Fatima Primary School

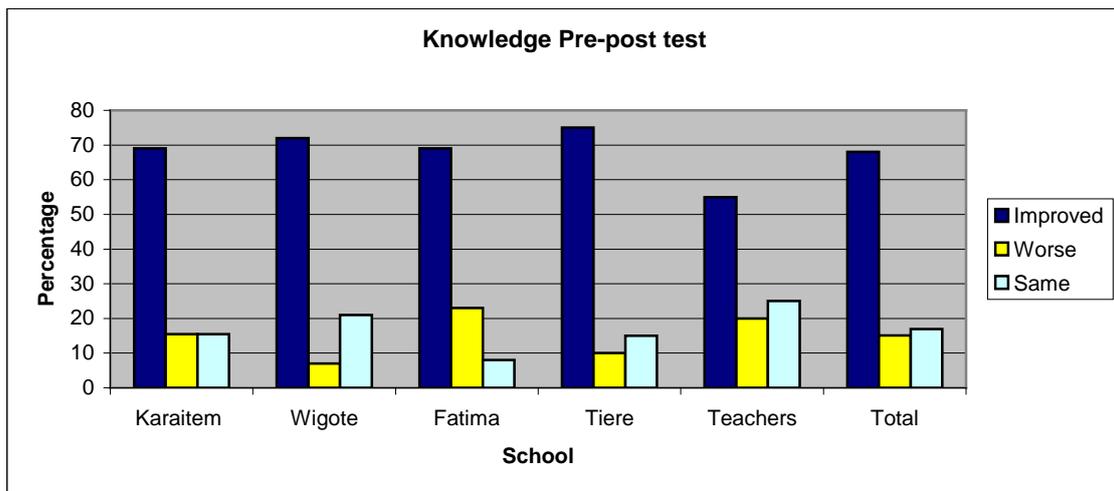


Figure 1 – Results from the knowledge pre-post test from 5 schools in the Lumi district.

The attitudes and opinions of students were also tested using a series of statements in which students were asked to indicate their feelings with a positive, negative or not sure response. The results are positive overall but not as significantly as the knowledge test (Figure 2). These results indicate that students generally have a good attitude towards conservation and species because many people’s attitudes remained the same.

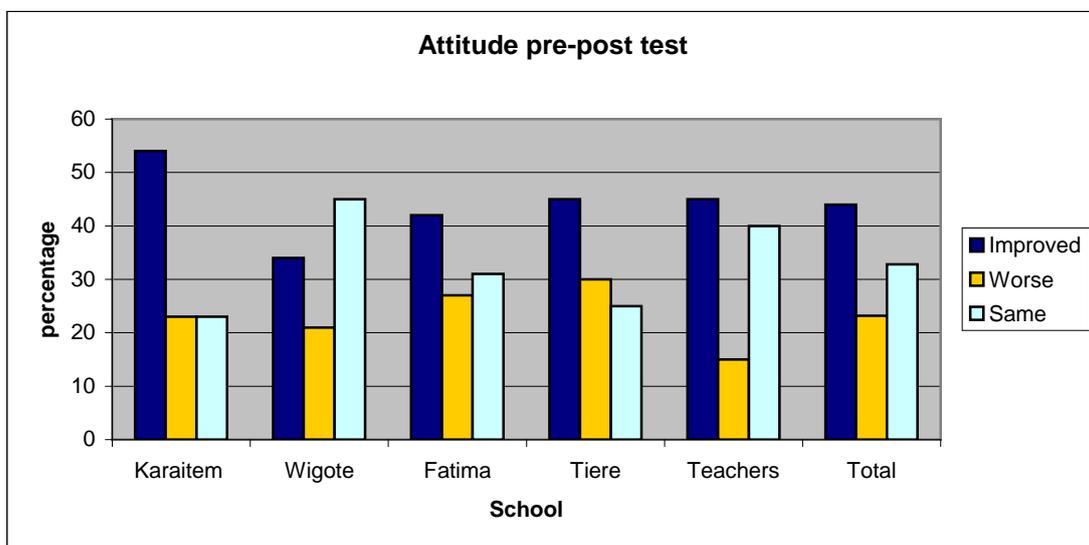


Figure 2 – Results from the attitude pre-post test from 5 schools in the Lumi district.

Approximately 100 student drawings have been given to the Post-Courier newspaper (PNG) for publishing in their “Kids r Us” section.

Books and maps produced by Pearson Education have been distributed to 18 schools in the Lumi district. These were given to teachers attending the teacher in-service program. Each school received: 4 wall maps, 4 pukpuk (crocodile) fiction books and 4 language and literacy books to the value of K850 kina.

During two of the Elementary School visits (Miwaute and Wabute), copies of the local language book called "Lyom lite Nafle" which means the bird's garden, were distributed. Each school received 40 copies of the book.

TEACHER TRAINING PROGRAM

Aims

The aim of the teacher-training program was to provide teachers with the training, knowledge, resources and skills necessary to conduct conservation education programs in their own teaching for years to come. This would help ensure the knowledge is retained in the communities and appropriate conservation action can take place in the future.

Many teachers within the Lumi district do not have the capacity or knowledge base to initiate and conduct conservation awareness programs. People do not understand the importance of conservation from not only a local perspective but from a global perspective. The teacher-training program tried to build the capacity necessary in the teaching community so teachers have the skills and knowledge necessary to inform the students and members of their own communities and help promote conservation action.

The overall goal of this teacher in service training was to provide sufficient background information for teachers to deliver conservation education within their classroom both now and in the future, with the aim of empowering the students to help "make a difference" in preventing the decline of PNG's unique flora and fauna.

Methods

In order to achieve our goals, a teacher training manual was written and produced by Jean Thomas, TCA Education Officer in conjunction with Bridgett Hayes (Conservation and Science Department-Zoos Victoria). It has been adapted from the Habitat, Ecology Learning Program (HELP) produced by the Wildlife Conservation Society (USA) and Zoos Victoria Discovery and Learning Resources. A copy of this manual is attached.

The teaching manual was designed to give teachers a source of information regarding the unique fauna and flora of Papua New Guinea. It includes detailed lesson plans and how they relate to the learning outcomes produced by the Department of Education-Papua New Guinea. The lesson plans include an aim, objective and learning outcomes. For the convenience of teachers at the village, lessons have been designed so they require only a small amount of materials.

The lessons are based on the scaffolding principle of learning where the learner builds on the knowledge in a step by step process. The lessons are activity based and try to incorporate many learning techniques including graphic organisers, art and movement. Although the lessons are designed to be taught consecutively, they are still flexible enough to be taught

individually. The manual can be used as a source of reference for teachers or as a complete set of lesson plans.

The major aims of the training manual was to provide teachers with:

- A resource manual containing information on PNG fauna and flora
- A series of lesson plans which incorporate scientific principles, conservation values and information on PNG's unique flora and fauna.
- Show how these lesson plans relate to the learning outcomes recommended by the PNG education department.
- Provide teachers with a series of teaching techniques that can be adapted for other subject material.

The key themes and concepts for teachers and students to comprehend were:

- What is science and what do scientists do?
- Classification of living things and biodiversity within PNG
- Rainforests how they work and why they are important
- How plants, animals and humans interact with each other.
- Conservation of natural resources within the environment

Results

During the 19th-23rd September 2005, Mrs. Jean Thomas held the first TCA teacher-training program. This was a great success with 27 teachers attending representing 16 schools in the district

The teachers that participated in the week workshop received a copy of the teacher-training manual (Table 2). The manuals were printed by Zoos Victoria, Australia. During the week a different unit of work was covered each day with an evaluation and graduation held on the last day of the workshop. Each school received materials from Pearson Education Australia (see School section). Each participant received a certificate of participation, which they took great pride in receiving at the end of the week.

Teachers participated in the same pre and post test as the students and the results are shown in Figure 1 and Figure 2. Teachers appreciated the training and the activities during the week. Most teachers provided positive feedback of the workshop during the evaluation. Full details can be seen in the attached file 'TT evaluation form results'.

A press release regarding the Teacher Training program was sent to the Post Courier Newspaper (PNG) and the story published on the 13th October 2005. (See copy attached).

Teachers also produced various posters regarding conservation, which TCA aims to develop into laminated posters that will be distributed to schools as a teaching resource.



Teachers participating in a food web activity

Teachers Name	School
Tom Kuma	Tiere Community School
Mathew Makari	Mapul Community School
Agnella Saweni	Fatima Community School
Mabina Barth	Fatima Primary School
Joe Toukil	Wigote Community School
Godfried Wima	Wigote Community School
Simon Mambei	Karaitem Community School
Rudolph Karis	Karaitem Community School
Arnold Sauye	Kinglapu Community School
Aileen Eiwai	Kamnom Community School
Clement Seiwa	Kamnom Community School
Brother Brendon	Lumi Primary School
Margaret Mayu	Lumi Primary School
Mathew Maka	Kabori Community School
Ainui Robin	Woru / Mupun Community School
Nobert Wilbe	Taute Community School
Joseph Komas	Taute Community School
Peter Alman	Pimon Community School
Samuel Ramaka	Pimon Community School
Carmel Kuma	Tabale Community School
John Kuma	Tabale Community School
Joseph Mourien	Tabale Community School
Brian Samgur	Yaluwape Community School
Robert Yelme	Yaluwape Community School
John Urum	Karate Community School
Sebby Olis	Karate Community School
Raymond Saikou	Lumi High School

Table 2 – Names of participants at the Teacher-training workshop and their respective schools.

DRAMA PROGRAM

Aims and background information

TCA has been conducting a village based drama education program to promote a sense of pride and ownership of local natural resources for the Wape people of the Torricelli Mountains since 2004. The program is based on the “Won Smolbag Theatre Groups” Environmental Education Program based

in Vanuatu. It includes various forms of drama, role plays and songs to both educate and empower the participants and audience to become more aware of the conservation issues that affect their community.

Methods

The TCA drama program invited 20 participants (preferably village leaders) to participate in a two-day education program, which provides locals with a better understanding of biodiversity in the area and its relevance to both PNG and the globe. The aim was to motivate and inspire local people to see their natural resources not only for its local significance but also National and International importance. This was to help develop a sense of pride and identity amongst the community.

The participants worked together in a series of activities that helped them develop drama techniques using environmental concepts as the topics. People began with simple one on one activities, then progressed to small group and then large group activities. Throughout each activity environmental concepts were explained. Firstly discussing the role of TCA and its work, then looking at different kinds of environments and how they work and finally debating various environmental issues relevant to the community.

The participants were then left with instructions to make up their own drama performances about a customary or traditional story using a locally significant animal – such as Tenkile. They were given 2 role-plays to develop which gave people an opportunity to explore the communities' ideas and actions they would take in relation to two controversial situations. One scenario was what the community would do if someone killed and ate a Tenkile now that there is a hunting moratorium established? The other scenario was what the community would do if someone allowed logging to commence in their area? Finally, the participants were encouraged to compose 2-3 songs about conservation that helps motivate people to stop and think about how they are using the environment and its resources.

Results

TCA had conducted the drama program in 7 villages during 2004. In 2005-2006 TCA conducted the drama program in 9 villages.

Drama performances have proven to be successful in each village. Usually the drama participants performed a traditional welcoming 'singing' for TCA staff, a story about Tenkile, role-plays on logging and Tenkile and then finish the program with songs about conservation and Tenkile. The highlights of the drama performances were the songs, which have been recorded and feature in the TCA radio program.

Participants found the drama component easy and executed the activities well (Table 3). They learned a lot about PNG fauna that they did not know before. The program provided them with a sense of pride particularly for Tenkile and

which helped to motivate them to protect it for future generations. Many people commented “it will not be any good if Tenkile becomes just a story. Our children need to see it with their own eyes”. Other people were able to recognise the value of Tenkile and their resources by acknowledging the international importance of the unique animals in PNG through the promotion of tourism. Many people would like to see tourism commence in the area so they are able to ‘showcase’ their animals to tourists. This would also provide a source of small cash income at the village level.

In 3 villages, women were seen mourning for Tenkile. It is customary for women to mourn during traditional ‘sing sings’ in PNG. This was unexpected but very powerful. This drama program showed that Tenkile has a deep cultural significance to the Wape people and they are sorry that it is declining. We strongly believe this drama program has had an impact on peoples’ feelings and attitudes and this will help promote positive conservation action in the future.

VILLAGE	DATE OF DRAMA	LIST OF PARTICIPANTS	
Rawete	19 th June, 2004	Bipiana Folo Patresia Florian Ruth Saimbu Agnus Florian Agnus Saimbu Monica Moko Sofia Saimbu Enselina Sarikon Fira Serfin Carol Waisi Ros Kernet	Luke Kiwen Florian Lamber Damien Timalu Gerald Sapien Andrew Topa Job Buka Andrew Saimbu Bonny Nakei Chris Saikou Fero Balko
Mupun / Sikel	21 st June, 2004	<i>Mupun</i> Moses Manula Soiven Yabis Marcus Iaruani Jose Maitin Jerry Kaua Camilus Kiuo Jenny Manuna Lusina Kaurai Leiony Salongo Sisilia Denes Lusia Waguk Julie Belen Camelius Wanki Jacob Yakalu Adam Baiuin Paul Makitan Paul Alue Bashai Manaum Ioldendor Tomas Athur Manuna Thadius Belen	<i>Sikel</i> Carulius Solowen Kanisius Souian Ignas Maiiau Thom Misiau Rabau Tomas Tonnie Mathius Baptist Yauran Valarius Yalimin Richard Somian Philip Yaurain Benny Pei Saberius Wiatu Cletus Ianu Aron Casper Karl Alien
Wilbeite	24 th June, 2004	Simon Peter Edmond Walete Nelson Tainkol	Karl Wamekei Ignas Ulel Francis Poye

		David Seiwo Ambrose Tibli Stius Meitom Saluator Walete Titus Weni Sabastian Ripai	Mathew Ibol Richard Tibai Alex Malipai Susan Furu Imelda Yuwau
Wigote	31 st June, 2004	Denis Naisou Patrick Alois Ratkau Leo Nasi John Aiyori Christina Oti Tresia Weri Yombo Rolen Saume Evelyn Sinta Felix Kanbine Raphael Mauki Primus Yawi Cityon Nemen	Robert Florian Mause Camilus Arum Penert Morin Primus Willei Margaret Aiyoi Primus Weri yombo Michael Paku Julian Awou Peter Raimou Wilson Wene Titus Saume Mathew Malei Carol Wene
Wanulu	16 th October, 2004	Herry Walion Joes Walion Joe Awok Moses Seipe Tom Yepiou James Tibli Jonathan Seipe Julee Canesus Donatha Womkei Thomas Womka	Gideon Awok Serah John Norma Walion Benjamin Rofi Rita Walion Diticus Wokin Sebby Waifile Paul Yepou Felix Yepou Adam Walion
Soulete	3 rd November, 2004	Paul Mefyau Simon Maibu Ravail Riri Andria Oneke Jonsan Sumei Simon Maibu Johnathon Muro Adam Riri Walion Sumei	Alfonse Taiyu Alfonse Kei Chris Falu James Pairie Kaspar Eki Hilda Maibu Agnus Ripos Eritei Wase Manu Falu Alice Jerens
Yongite	April, 2005		
Tolgete	10 th June, 2005	Steven Linus Smith Christopher Pascal Kolom Nelly Nela Matilda Pais	Clement Joe Canesius Hendrick Benedict Devina Maria Marius Francis Rubin Raymond Clara
Hapseim	13 th June, 2005	Francis Uwop Daneil Mlain Anton Moram Colin Amai Walter Simon Nabo Marius Sio	Martina Uwop Sabet Suwolo Pauline Mulain Roslyn Simoni Fitelis Worom Janine

		Clement Weiry Rodney Uwop Robert Pierye Petrus Simon	Max Ellen Jolanda Peter
Maiwetem	26 th October, 2005	Jessie Yousi Kelly Donald Hamilton George Nelson Zectro Zenneth Elton Luke Bob Jack Ombo Jack Moris Jeremy Kiwen Kenneth Osou Rex Carl Jason Jeremy W	Joanna Cathy Kufa Jaclyn Rala William Moses Yousi Stanly Olive Wendy Lynda Mina Joseph Sale Lilian David Raphael Mathew Akon Mobie Richard
Wai'eli	21 st January, 2006	Raymond Wirri John Ni Ordick Saikou Patricia Wiri Maria Saikou Bernadette Yamkelem Samuel Eki Filimon Yamkelem Joesha Seiwo Dominic Seiwo	Edna Seiwo Bernadete Bruku Philip Ouyia Timothy Ouyia Peter Manom Airin Manom Jema Manom Andrew Yemkelem Robert Bruku Fitelis Ketau Isaac Bruku
Miwaute	4 th February, 2006	Jack Moiye Christina Christopher Edai Constane Moiye Grace Silam Sebastian Mekai Agnelina Turwi	Constan Moiye Elixah Femingi Carol Wapou Greg Yatou Fabian Manjox Matilda Manjox Carol Wapou
Wabute	8 th February, 2006	Angelina Christina Agatha Rofina Susana Clara Valarie Jennifer Freda Connie Wokin	Desma Jenice Lynet Rosemary Maria Grace Elsie Lydia Francua
Sarporte	9 th February, 2006	Allan Mengkai Ignas Souli Barth Yemau Agnella Maikel Ceclia Raphael Stella Patrick Maria Raphael	Clement Peter Joana Peter Dominica Teil Joana Robert Evelyn Robert Clara A Clara W

		Rebecca Cyprian Nita Ruape Dorrish Kati	Andrew Ainou Serah Maikel Joyce Charles
Yomoum	18 th February, 2006	David Seidu Otto Seidu Ben Weieki Oto Weieki Dwrwno Yurra Raphael Minio Arimol Anton Herbert Wolien Jerry Boiw	Thomas Nolai Philip Yuonko Rikas Yawares Lucas Mawre Katie Wingien Marian Wingien Pipiana Maito Raylene Jerry Pita Wein
Lilal	20 th February, 2006	William Balkan Sapastena Saikape Baskal Manoun Jackop Wukaki Paul Kaiyo Richard Kaiyo Wapers R Gaberil Liwana Christopher Kalex Mikal Wamaen Luthy Bamaian Cellin Aulan Esia Aulan Raphal Rambuse Baulinus Oyam Alois Aulan Rabeka Aeriman Martha Aeriman Raphael Sule Godfried Malikan Lukas Oyam Emilion Mekel Peter Alman	Helen Kalex Agatha Sape Aumpta Lukas Bebena Aeriman Martha Alois Canesius Malien Ruth Araman Mithal Walaki Alexiya Pewei Sapath Balkan Josephin Aeriman Jackey Sowani Canesius Balkan Ferdinant Kaiyo Eddy Pewe Rodney Mewek Steven Meisu Jakob Wulaki Lasarus Kalex Colleen Mewek Nicky Kaiyo Godfreid Malikan

Table 3 – List of all drama participants and the dates of the drama performances



Jean Thomas (center) conducting Drama program at Wilbeite village

RADIO PROGRAM

Aims and background information

The aim of the radio program was to promote conservation awareness to a greater audience. It reaches all Sandaun Province and some areas of East Sepik, Southern Highlands and Manus Provinces. TCA's radio program is listened to regularly by local people. The Radio Station is situated in Vanimo, the capital city in Sandaun Province, and is a branch of the National Broadcasting Corporation, which is linked to Radio Australia.

Methods

The radio program begins with a TCA theme song that is written in pigeon English and is performed by Jean Thomas. The song is an adaptation of the Carpenters song "on top of the world" (Table 4). It introduces the audience to Tenkile and conservation. Both Jim Thomas (TCA Project Manager) and Jean Thomas discuss a different conservation topic each week. Throughout the discussion, animal characters are introduced which aim to develop interest, humour and engagement of the listeners.

Pigeon English	English translation
<p>Wekam ol long TCA program. Mi bai traim lainem yupela moa save Samting bilong abus, plawa na diwai Tasol nambawan samting Tenkile</p> <p>Dispela kapul em blackpela I gat longpela tel na stap diwai I gat bikpela smel, na longpela nel Sapos yu lukim em no kilim em</p> <p style="text-align: center;"><u>Chorus</u></p> <p>Oi stap, antap Torricelli Lukim daun long Lumi, Fatima na Nuku distriks tu Bipo plenty abus I stap, Tasol nau I no gat So yumi mas lukautim ol abus</p> <p>Consevesin I no nupela samting Em I samting bilong tumbuna bipo Tasol yu losim dispela kaim kastam Gutpela ting ting long kisim bek</p> <p>Wara abus na ol kain diwai Em ol risos bilong yu na PNG Sapos yu bagarapim yu no gat gutpela sindaun Ol pikinini I kamap lik lik</p> <p style="text-align: center;"><u>Chorus x 2</u></p>	<p>Welcome to the TCA program I will try and teach you more Things about the animals, flowers and trees But first something about Tenkile</p> <p>This animal is black With a long tail and it lives in trees It has a big smell and a long claws If you see it don't kill it</p> <p style="text-align: center;"><u>Chorus</u></p> <p>All live on top of Torricelli Looking down on Lumi, Fatima and Nuku districts too Before we had plenty of animals But now we don't So we must look after all of the animals</p> <p>Conservation is not a new thing It is something from our ancestors But we are losing these kinds of custom It is a good idea if we bring it back again</p> <p>Water, animals and all kinds of trees Are the resources of PNG If you destroy these your way of life is no good All of our children will be affected.</p> <p style="text-align: center;"><u>Chorus x 2</u></p>

Table 4 – translation of TCA radio program theme song.

Jim Thomas performed the animal characters with a different voice for each. 'Timmy Tenkile' is a slow talking wise character that provides an easy to understand explanation of the programs topic, 'Clemen Cockie' is a squawking Cockatoo that repeats major points of the program and 'Rick the Rat' is the mischievous devils' advocate that helps audiences see the other side of conservation issues.

The program finishes with 2-3 conservation songs that have been recorded during the drama program. These songs have created a great sense of pride to the local people once they hear themselves on the radio. Some of the songs were in local language, which has had an even more powerful impact.

The Program is recorded using Adobe Audition sound editing software and recorded on CD which is then sent to the Radio Station in Vanimo via the local airline MAF (Mission Aviation Fellowship). Because the program is pre-recorded, this provides the station with a permanent library of programs that can be repeated at any time in the future.

Results

Unfortunately the radio program did not go to air until early December 2005 due to technical and financial difficulties of Radio Sandaun. However, TCA's radio programs have been developed, recorded and sent to Radio Sanduan. The TCA radio program is played each Friday night from 7.30 – 8.00 pm (Table 5).



Jim Thomas Project Manager presenting wind-up radio to Wabute community

PROGRAM	TOPIC	Went to air
1	History of TCA - Tim Flannery names the Scott's tree kangaroo, the hunting moratorium is established, TCA becomes a recognised NGO inside PNG and the current and future work of TCA within the Lumi area.	Feb 3 rd 2006
2	What is Conservation? - We will define what is conservation using examples used within PNG. We will point out what is being practiced now, what conservation practices have been lost and how people can change for the future.	Feb 10 th 2006
3	Mammals and marsupials - Define what is a mammal and the 3 types of mammals found in the world and the importance of this in PNG.	Feb 17 th 2006
4	Tree Kangaroos of the world - focus on what Tree kangaroos are found in the world and why they are important species.	Feb 24 th 2006
5	Classification of animals - define what is a species. The importance of science classifying and naming plants and animals particularly in PNG.	3 rd March 2006
6	Science research in the Torricelli Mountains - Explain the research technique TCA is using to find out how many Tenkile there are in the Torricelli Mountains.	10 th March 2006
7	Conservation of Megapodes - Wild fowl - A series of good hunting and harvesting practices that can be adopted by people to help keep the populations of these birds at a sustainable level.	17 th March 2006
8	Alternative Protein Sources - TCA will explain the various protein alternative people can look after in their gardens and villages that provides an ongoing and sustainable source of protein.	9 th Dec 2005 and 24 th March 2006
9	Biodiversity in PNG - A look at the various endemic species of plants and animals found in PNG. We aim to inspire the listeners of the various natural resources they can be proud of in their country.	16 th Dec 2005 and 31 st March 2006
10	Cassowary - a basic look at the cassowary and their natural history. An important animal in PNG.	23 rd Dec 2005 and due 7 th April 2006
11	Cuscus - the natural history of cuscus found in the world.	30 th Dec 2005 and due 14 th April 2006
12	Long-beaked Echidna - An endangered species in PNG not found in Sandaun Province but a very interesting animal.	6 th Jan and due 21 st April 2006
13	Frogs - the plight of frogs worldwide.	Due 13 th April and due 28 th April 2006
14	PNG coins - a blow by blow account of the animals found on the PNG coins.	20 th Jan and due 5 th May 2006
15	Symbiotic relationships - how plants and animals live together in symbiotic relationships.	27 th Jan and due 12 th May 2006
16	Tenkile story - A short play for children (and adults) using Tenkile and the other local animals as the main characters.	Due 19 th May 2006

17	Cats and dogs - How cats and dogs in PNG are affecting the local wildlife.	Due 26 th May 2006
18	Plenty of animals – NOT - Try to eliminate the fallacy that 'plenti abus i stap long bus'. There are many people out there who believe there is a never-ending supply of animals that can be killed for food.	Due 2 nd June 2006
19	Good gardening practices - a series of good sustainable practices for making gardens without impacting the environment.	Due 9 th June 2006
20	A good snake is a dead snake! - the belief 'a good snake is a dead snake' is used in Australia and this is often true for people of PNG. This week TCA aims to take away some of the fears of snakes in PNG to help protect them.	Due 16 th June 2006
21	Rubbish. - The global problem of what to do with our rubbish and waste. TCA addresses the Mt Somoro walking track as an example of what not to do.	Due 23 rd June 2006
22	Big fish, little fish, where are they? - Where are all the fish? Overfishing is a huge problem globally and TCA will try to help increase awareness of this problem.	Due 30 th June 2006
23	Looking after trees - Various good practices for the sustainable harvesting of timber.	Due 7 th July 2006
24	Bush medicine - Medicinal plants in PNG are yet to be studied by science and the younger generations are losing the knowledge. TCA will try to inspire the youth to become more interested in their tumbuna customs so this information is not lost.	Due 14 th July 2006
25	Agree or disagree? - This week we would like the audience to participate. TCA will read out various statements regarding environmental issues and attitudes while the audience will respond in their communities and discuss amongst themselves what they believe in. We hope this week's program initiates a lot of debating in each village.	Due 21 st July 2006
26	Plenty people - The people problem. How and why the human population has increased in the local area and the world.	Due 28 th July 2006

Table 5 – TCA radio Program topics for Radio Sandaun.

PUPPET SHOW

Aims and background information

The animal characters that appear in the radio program provide TCA with a great starting point to develop a puppet show. These characters were used in a short puppet show designed to engage young children but also to appeal to adults and youths in villages. This is a particularly important medium of education because of its entertaining value but also because it is highly engaging at the village for all age groups.

The main aim of the puppet show was to promote the radio program and encourage people to continue supporting the hunting moratorium for Tenkile.

Method

A stage area was erected at each village using local materials which were covered in fabric. This provided a place for both Jim and Jean to hide while hand puppets were in view on the 'stage' area. Jim also created the animal characters voices and dialogue throughout the puppet show which brought the puppets to life.

Results

The puppet show was shown in 12 villages and was regarded as a huge success by TCA staff. The puppet show was a hit with the young children. Some children were a little confused and fearful of the puppets while others relaxed and laughed at the animal characters Jim created.

At the same time each village received a wind-up/short wave radio. These radios were designed to give each village a sustainable source of radio (wind up power) so they could always tune in to the TCA radio program. All villages were very grateful to receive their radios.



Puppet show at Yomoum village

NEWSLETTER

Aims and background information

The newsletter is designed to provide a form of communication to village communities. This is a document that can be utilised by the literate members of each village. Information can then be passed on to the non-literate members of the village via community meetings and in general discussions.

In Papua New Guinea confusion, jealousy and suspicion amongst communities can arise if plans of a program are not made clear. TCA's newsletter aims to eliminate any confusion about its work by recording information in a hard format that cannot be misinterpreted. It is the responsibility of the TCA representatives in each village to make the newsletter available to both the literate and non-literate members of their own communities. Often the newsletter becomes a talking point at meetings and during general conversation.

Methods

TCA's newsletters were written by Jim Thomas and Jean Thomas using the software program "Microsoft publisher". Newsletters were printed and copied at HELP Resources in Wewak. Newsletters were then delivered to each village via TCA representatives or TCA staff during village visits.

Results

TCA has written 3 newsletters for the year 2005 (see attached). They are written in Pigeon English and include photos, minutes of meetings and all aspects of TCA's work such as the rabbit farming program, research and education. TCA printed 50 copies of each newsletter, which were distributed to both male and female TCA representatives from each village (36), Local Level Government representatives (5), individuals and TCA (3) and the school community (6).

Unfortunately some TCA representatives do not always succeed in getting the newsletter out to the entire community and some individuals miss out or are confused by TCA's work. This is usually due to people not attending village meetings when the content of the newsletter is discussed. However, during the village visits, TCA staff discussed newsletter information at village meetings and gatherings.

TCA staff feels that its newsletter is an extremely important aspect of its work. It not only keeps the people informed on what is happening but it is also showing them what has been done. TCA has received only positive feedback from the people about the newsletter and people want it to continue.

CONSERVATION AREA

The ultimate goal for the Tenkile Conservation Alliance is to establish the Torricelli Mountain Range as a Protected Area. This will provide the legal protection from not only large scale commercial development such as logging and mining but also prevent the loss of species from local impact such as over hunting and harvesting of natural resources. The approach is one of a "bottom up" approach where resource owners agree to establish the protected area, establish their own rules and penalties and then manage it accordingly.

Although the Rufford Small has not funded work regarding the establishment of a Protected Area within the Torricelli Mountains, the process of doing this has begun due to the support of the Rufford Small Grant. During village visits, Jean and Jim Thomas have used the opportunity to commence dialogue with people to help them understand what a protected area is and why it is important for the conservation of Tenkile and the other fauna within the Torricelli Mountains.

Local landowners and leaders were then able to discuss their ideas and concerns regarding the protected area before participating in a brief mapping workshop that provided them with a visual display of their natural resources so that they could make an informed choice as to how to utilise their resources now and in the future.

Although in the early stages of its development, the initial response to the Protected Area has been positive. A few villages have concerns and reservations while others want to establish the protected as soon as possible. TCA aims to focus more of its education work in this area in order to ensure the legal protection of the Torricelli Mountains and local management and sustainable use of natural resources.

If the Torricelli Mountains becomes a protected area known as a Conservation Area, it will be the first for Sandaun Province and the first Conservation Area for PNG.



Conducting conservation area awareness at Wanulu village

CONCLUSION

All aspects of TCA's conservation education program have been executed and the original objectives fulfilled by TCA staff. Each component has been a success and has had an impact on the participant's attitudes and knowledge on PNG fauna and conservation issues. The most successful of these projects have been the drama, radio and teacher training program.

TCA would like to continue its education program in the years to come by focusing more on teacher training and capacity building programs that provide people with the skills and knowledge required for the long term sustainability of conservation awareness within the Lumi district. TCA would also like to continue the radio and newsletter programs because it is able to reach a wider audience than the village and school based education programs.

More importantly though, the local people have requested to have more education and training regarding the management of their natural resources and would like TCA to arrange this as part of the education program. Being a grassroots initiative and request, it is important that TCA procures funding to implement this initiative. This would also help build the capacity that is essential in the area for the long-term sustainability of conservation action within the Torricelli Mountain area.