Darwin Initiative for the Survival of Species

Annual Report

1. Darwin Project Information

Project Ref. Number	162/12/019
Project Title	Sustainable management of the Rupununi: linking biodiversity, environment and people
Country(ies)	Guyana
UK Contractor	Royal Holloway University of London and The Wildfowl & Wetlands Trust
Partner Organisation(s)	Iwokrama International Centre for Rain Forest Conservation and Development, Georgetown, Guyana
Darwin Grant Value	£132520.05
Start/End dates	1st September 2003 to 31st August 2006
Reporting period and report number	1st April 2003 to 31st March 2004 Annual Report Number 1
Project website	http://systems.open.ac.uk/page.cfm?pageid=AndreaB Guyana
Author(s), date	Matthew Simpson and Jayalaxshmi Mistry, 23rd April 2004

2. Project Background

The Iwokrama Forest and North Rupununi Wetlands and Savannas, SW Guyana represents a unique assemblage of ecosystems. The area represents a significant geographical component of three eco-regions: the Guyana Shield forest, the Rio Branco savannas and the Amazon Basin. The World Bank identifies the region as an ecological 'hot-spot' and the International Union for Conservation of Nature (IUCN) has highlighted this region as being a 'major tropical wilderness area' requiring immediate protection. The area is a mosaic of savanna, wetland, forest and mountain habitats with high biodiversity and is the homeland of the Makushi people who depend on the natural resources for their livelihoods.

The region is becoming internationally recognised for high species richness (88 bat, over 400 fish and 500 bird species) and numbers of endangered species (Black Caiman, Giant Otter, Jaguar, Harpy Eagle, and Giant River Turtles). Unfortunately, the area is also becoming a focus for development through road improvements and national economic pressures to increase extractive activities such as mining and logging.

The project aims to significantly contribute to the effective management of this important sub-region and assist Guyana in fulfilling its commitment to the Convention on Biological Diversity (CBD) by building capacity through training, technology

transfer and research. Guyana's response to the CBD's Conference of Parties (1999) identified severe weaknesses in institutional, professional and technical capacity to meet the long-term commitments of its biodiversity management strategy. The same report identified capacity building through partnerships with foreign institutions as a top priority to address these issues.

To assist Guyana in fulfilling its commitments to the CBD in the North Rupununi Region the Research Department of The Wildfowl & Wetlands Trust, the Geography Department of Royal Holloway, University of London and the Open University have joined together with the following key Guyanese organisations:

- *Iwokrama International Centre for Rain Forest Conservation and Development (conservation and sustainable development interests);*
- *North Rupununi District Development Board (local Amerindian interests);*
- *Environmental Protection Agency and Fisheries Department (jurisdictional responsibility for natural resource management);*
- *University of Guyana (education and research interests).*

These organisations themselves have identified needs for capacity building in: savanna, wetland and riverine eco-hydrogeomorphic classification; biodiversity monitoring and assessment; GIS and remote sensing interpretation; and monitoring and management planning.

3. Project Purpose and Outputs

- ***Project Purpose***
  - To help build capacity for effective biodiversity management in Guyana through training and the development of ecosystem management plans and associated monitoring systems for the North Rupununi Region, Guyana.
- ***Project Outputs***
  - Trained local community members and staff within the partner organisations
  - North Rupununi Field Manual (NRFM)
  - North Rupununi Ecosystems Management Plan (NREMP)
  - Publications and presentations
- The project outputs and proposed operational plan have not been modified over the last year.

4. Progress

- The project commenced within this reporting period on 1st September 2003 so there are no activities to report before this current reporting period.
- The project has continued according to the original schedule and achieved all the milestones, set out in the original proposal, as follows:
  - Dec 2003 The initial eco-hydrogeomorphic classification of habitats was developed
  - Dec 2003 An initial list of potential land-uses within the North Rupununi region was developed
  - Dec 2003 Mapping of habitat types and land uses using remote sensed data was completed ahead of the timetable
  - Jan 2004 Start-up workshop completed and project tasks for each of the partner organisations identified with appropriate timetables

- Jan 2004 Stakeholder fora held with follow up meetings to identify possible collaboration and involvement within the project and possible linkages with other work within the region
- Jan 2004 Ground-truthing of habitat types and land uses identified using the remote sensed data
- Feb 2004 30 reference sites for monthly habitat and species surveys was completed ahead of schedule
- Feb 2004 3 weeks of formal training in habitat and species survey techniques and land-use type and impact survey techniques and GPS mapping. This contributes to the 1st major output of the project which is: Trained local community members and staff within the partner organisations
- Feb 2004 Finalisation of the eco-hydrogeomorphic classification of habitats and types of land use within the North Rupununi region
- Mar 2004 Monthly monitoring of the 30 reference sites commenced
- Mar 2004 Methods refined during the training programme were written up to form the North Rupununi Field Manual

- Although the project is still in its initial stages the following has been achieved:
  - Production of an eco-hydrogeomorphic classification for all water body types within the North Rupununi Region. This classification combines the different geomorphic features found within the region that result in the presence of waterbodies such as rivers, ox-bow lakes, basins etc. with the hydrological characteristics such as inputs, outputs or regime and habitat types such as savanna or rainforest.
  - Production of a map of habitat and land use types for the whole of the North Rupununi Region. Remote sensed data were analysed to determine different land cover types based on their specific spectral signature. These types were then ground-truthed to assign a particular habitat type or land use type.
  - User-friendly monitoring recording sheets were developed so that all surveys of habitat, species and environmental characteristics could be completed within one form. All data points were coded to allow simple input into the project database.
  - Training of 10 local community members and staff within the partner organisations occurred in habitat and species survey techniques, land-use type and impact survey techniques and GPS mapping. Training took the form of formal classroom sessions, where concepts and theory were introduced, and practical sessions, in the field, to demonstrate the survey and monitoring techniques in practice.
- As the project is in its early stages no significant difficulties have been encountered as yet. Some of the water chemistry equipment, purchased for the monthly monitoring, has proved to be faulty but this problem was quickly rectified by returning the equipment to the manufacturer and borrowing supplementary equipment from one of the project partners (Environment Protection Agency of Guyana).
- The original design of the project has not been refined as yet but on-going evaluation and feedback amongst the partners, especially as to the practical difficulties involved in the regular monitoring of reference sites, will be reviewed and alterations adopted as appropriate.

- The following workplan will be implemented in the next reporting period (Apr 2004-Mar 2005)

    - Apr 2004 to Mar 2005 Ongoing monitoring of reference sites with habitat and species surveys
    - May 2004 Production of the North Rupununi Field Manual
    - Feb 2005 Mid-term workshop with project partners
    - Feb 2005 2 weeks of formal training in the following topics: Data analysis and GIS analysis
    - Feb 2005 Stakeholder forum to update stakeholders and to discuss developing issues within the project

5. Actions taken in response to previous reviews (if applicable)

- This is the first year of the project so no actions were required.

6. Partnerships

- In this initial period of the project the partnership has proved to be very strong. The three UK organisations have co-ordinated activities well and linked with the key partner in Guyana (Iwokrama International Centre for Rain Forest Conservation and Development). Iwokrama have co-ordinated all activities within the host country and linked with other project partners within Guyana. The project start-up meetings proved very successful as face-to-face contact with all key staff within partner organisations was achieved and meetings were held with the candidate for the Masters degree due to start in May 2004. E-mail discussion lists and newsletters have aided the communication amongst partners.
- The project partnership has made contact with a number of organisations and projects, such as Conservation International, The Karanambo Trust, the in country Project Officer for the Darwin Shell Beach project and other departments of the Environment Protection Agency, that at present are external to the project partnership. These organisations are very keen to join in future training programmes and to expand site monitoring to other areas adjacent to the North Rupununi Region. Regular monitoring of important sites does not occur in many parts of Guyana as appropriate monitoring protocols and appropriate training have not been developed. This project fulfils this need and it is clear that the involvement of other organisations can only help to build capacity beyond the initial scope of the project.

7. Impact and Sustainability

- The profile of the project is very high within Guyana as regular national newspaper, radio and television items have featured the project. The project partnership, within Guyana, actively promotes the project using internal and external communication systems. A number of different organisations have already expressed an interest in collaborating with the project and in adopting monitoring and management programmes developed within the project. Staff trained within the project will take training material and practical experience gained through the project into the local communities to help train local community groups and school children. Work has begun on ensuring that the monitoring protocols and adaptive management plans developed by the project will be adopted as part of the regular work programmes of both partner and external organisations.

8. Post-Project Follow up Activities

- Not applicable as in first year of the project.

9. Outputs, Outcomes and Dissemination

- All project outputs have occurred on, or ahead of the project timetable and are listed below in Table 1.
- The project partnership has strong links with local community, non-governmental and government organisations and is actively disseminating project outputs to them and will continue to do so. Trained staff are sharing their knowledge and practical skills with these organisations through formal and informal training sessions.

Table 1. Project Outputs (According to Standard Output Measures)

Code No.	Quantity	Description
15A	2	Press releases in Guyana. One indicating award of funding for project and one indicating the start-up meetings and initial training programme.
15C	4	Press releases in Guyana. Two indicating award of funding for project and two indicating visit to Guyana by UK staff.
17A	1	E-mail discussion list set-up to keep project partners informed and to allow issues to be aired.
18A	1	Dr. Graham Watkins from Iwokrama International Centre for Rain Forest Conservation and Development appeared on Guyanese National TV to promote the project.
18B	1	Dr. Matthew Simpson from The Wildfowl & Wetlands Trust appeared on Points West Television News promoting the project
19B	1	Dr. Graham Watkins from Iwokrama International Centre for Rain Forest Conservation and Development was interviewed on Guyanese Radio to promote the project
19C	1	Dr. Andrea Berardi from the Open University was interviewed on Guyanese radio to promote the project
23	17	In-kind contributions of staff time and capital items
7	1	Training presentations and manuals developed
5	10	Ten staff appointed in Guyana to become trainees and work on project as field researchers
14A	2	Start-up workshop to plan work and identify key tasks and stakeholder forum held
8	3	Three UK staff to spent four weeks training and setting up project
6A and 6B	10	10 trainees undertook 3 weeks of formal and practical training
20	7	Delivery of equipment
22	30	Selection of reference sites for monthly monitoring

- As the project is within its first six months no publications to date have been produced by the project partnership.

Table 2: Publications

Type * (e.g. journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (e.g. contact address, website)	Cost £

10. Project Expenditure

- Table 3 indicates the expenditure incurred by the project within the reporting period.

Table 3: Project expenditure during the reporting period (Defra Financial Year 01 April to 31 March)

Item	Budget (please indicate which document you refer to if other than your project schedule)	Expenditure	Balance

11. Monitoring, Evaluation and Lessons

- Informal communication between Guyanese project partners and project stakeholders, ongoing informal on-line communication between all project partners and formal face-to-face discussions during the project start-up workshop and subsequent meetings have been used to monitor and evaluate the project. Feedback from trainees was sought and findings will be used to improve training that occurs later within the project. On-going evaluation of the reference site monitoring will occur from all partners and improvements in methodology, logistics and reporting will be implemented. The key milestones and outputs identified within the original proposal will continue to be used as an indicator of achievements within the project.

12. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum)

■ **I agree for ECTF and the Darwin Secretariat to publish the content of this section**

There have been a number of major disturbances to waterways in Guyana, for example, the Omai mine accident in the Essequibo River. These events have been disastrous for local habitats and biodiversity, but other than measuring the immediate

impacts using a limited number of variables, little or no work has been carried out on monitoring the effects of these disturbances over a larger spatial and temporal scale. An outstanding achievement of this project to date has been the development and implementation of a monitoring programme for comparing impacted versus non-impacted sites within the North Rupununi ecosystems, a first for Guyana. This monitoring scheme is novel in that it links local people's livelihoods with the environment and biodiversity. Developed in collaboration with local community members and the scientific community, it takes a holistic approach to monitoring, whereby local concerns over particular natural resources, whether they be little or heavily used, have formed the basis of monitoring the biodiversity (upon which local people subsist) and the environment (upon which the biodiversity is sustained). By monitoring sites within interconnected water systems, over a two year period, any impact or changes taking place in one area can be associated with disturbances taking place in other areas, as well as allowing for natural seasonal variations in the water courses such as flooding. The monitoring design, although in its initial stages of implementation and still subject to adaptation and modification, has attracted great interest from other conservation bodies in Guyana, including Conservation International. Ten local Guyanese involved in the design and implementation of the monitoring scheme have been trained in various methodologies, and it is hoped that this monitoring protocol will form the basis of other such programmes in Guyana.

Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2003/2004

Project summary	Measurable Indicators	Progress and Achievements April 2003-Mar 2004	Actions required/planned for next period
Goal*:* To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve • The conservation of biological diversity, • The sustainable use of its components, and • The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources			
Purpose To build capacity for effective management of the Iwokrama Forest and Rupununi Wetlands and Savannas of Guyana, through training and the development of sustainable ecosystem management plans	New understanding of the relationships between environmental determinants, key species distributions and impacts of land-use change that will inform management plans Long-term monitoring and management strategies resulting in effective conservation of key habitats and species Evidence of sustainable development and key habitat and species conservation	Selection of 30 key sites in the North Rupununi, that will receive monthly monitoring, occurred during this reporting period. Monitoring of this sites has now commenced.	Monitoring will be on-going within the next reporting period
Outputs			
Trained local community members and staff within the partner organisations	10 staff trained in monitoring, data analysis & management and 1 graduate Masters student	10 staff were trained in monitoring habitat and species survey techniques, land use and impact survey techniques and GPS mapping.	Staff will be trained in data analysis and GIS analysis techniques within the next reporting period. Lessons learned about appropriate training techniques will be incorporated into

			subsequent training programmes
North Rupununi Field Manual (NRFM)	Monitoring protocols and data recording sheets produced and peer reviewed, publication and distribution arranged	Recording sheets for the monitoring protocol were developed and methodologies refined	Production of the NRFM will occur within the next reporting period
North Rupununi Ecosystems Management Plan (NREMP)	GIS spatial database of ecosystem and species characteristics, stakeholder fora reports, NREMP peer reviewed, publication and distribution arranged		Development of the spatial database and analysis of collected data will occur within the next reporting period
Publications and presentations	6 radio and TV items, 3 newspaper items, posters, 2 papers	4 radio and TV items and three newspaper items occurred within this reporting period	Further radio, TV and newspaper items will occur within the next reporting period

Note: Please do NOT expand rows to include activities since their completion and outcomes should be reported under the column on progress and achievements at output and purpose levels.