

Annex 3:  
Plans of Operation (POs) of Four Components

Plan of Operation: Research and Education Component

Activities	Expected Result	Schedule					Responsible Organisations	Implementing Organisations	Equipment	Cost	Remarks
		2002	2003	2004	2005	2006					
1-1	Discuss on the detailed research plan for taxonomy and conservation biology among implementing organisations.		○				ITBC (Secretariat)	All Implementing Organisations			
1-2	Establish protocol for collection and distribution of specimens.		○				ITBC (Secretariat)	All Implementing Organisations			
1-3	JICA provides advice/ consultancy on designing research methods.		○				JICA	All Implementing Organisations			
1-4	Create and upgrade communication system to provide two ways communication among implementing organisations by means of Webpages and others.		○				ITBC (Leading Organisation)	All Implementing Organisations			
1-5	Exchange research results among implementing institutions.			○	○	○	ITBC (Leading Organisation)	All Implementing Organisations			
1-6	Create opportunities for periodic fora/ academic associations.		○	○	○	○	Forestry Department (as head of SITE)	All Implementing Organisations			
1-7	Hold research seminars and workshops quarterly.		○	○	○	○	ITBC (Secretariat)	All Implementing Organisations			
1-8	Publish research journals annually.			○	○	○	ITBC (Secretariat)	All Implementing Organisations			Other supporting organisations are necessary.
2-1	Acquire relevant literature/ publication on taxonomy and conservation biology.		○	○	○	○	ITBC supported by JICA	ITBC			Other Implementing Organisations also acquires essential books.
2-2	Make literature on taxonomy and conservation biology available.		○	○	○	○	ITBC	ITBC			ITBC provides reference book lists to the implementing organisations.
2-3	Establish/ introduce database/ GIS system in ITBC-UMS.		○	○			ITBC	ITBC			
2-4	Maintain the research facilities and equipment.		○	○	○	○	ITBC	All Implementing Organisations			Each Implementing Organisation has responsibility for equipment provided by JICA.
3-1	Provide training opportunities for research personnel.		○	○	○	○	JICA	All Implementing Organisations			
3-2	Plan and run short term and medium term courses in Japan and UMS/ other institutions, including biodiversity assessment, research methodology, curatorial and data/ IT management.		○	○	○	○	JICA (for training in Japan, ITBC (for training in Malaysia)	All Implementing Organisations			
3-3	Make and produce effective kits for effective teachings at various level (game warden, rangers).		○	○	○		ITBC	All Implementing Organisations			
3-4	ITBC gets many active students.		○	○	○	○	ITBC	ITBC			
3-5	Japanese side and Malaysian side make efforts to obtain scholarship for postgraduate students and staff.		○	○	○	○	Steering Committee and ITBC (Secretariat)	All Implementing Organisations			
3-6	Run taxonomic and conservation biology courses (MSc, Ph.D., BSc/ Bas).		○	○	○	○	ITBC	ITBC			
3-7	Train technical staff for equipment maintenance and operation.		○	○	○		JICA	All Implementing Organisations			
3-8	Train personnel on dbase/ GIS system techniques.		○	○			JICA	All Implementing Organisations			
3-9	JICA advises how to implement green auditing.				○	○	JICA	JICA			
3-10	JICA provide volunteers/ experts to supervise, i.e. fieldwork/ research.		○	○	○	○	JICA	JICA			

Plan of Operation: Research and Education Component

Activities	Expected Result	Schedule					Responsible Organisations	Implementing Organisations	Equipment	Cost	Remarks	
		2002	2003	2004	2005	2006						
4-1	Plan faunal and floral survey.		○	○	○	○	○	ITBC (Secretariat)	All Implementing Organisations			Sabah Parks has responsibility on flora and fauna survey in Crocker Range Park. Forestry Department has responsibility on flora survey in the other target areas. Wildlife Department has responsibility on fauna survey in the other target areas.
4-2	Steering committee sets up clear and simplified research application (mechanism) to do research on the target areas.		○					Steering Committee	All Implementing Organisations			
4-3	Establish permanent research plots.		○					Forestry Department and Sabha Parks	All Implementing Organisations			
4-4	Collect specimens from the target areas.		○	○	○	○	○	ITBC	All Implementing Organisations			
4-5	Prepare and classify the specimens.		○	○	○	○	○	ITBC	All Implementing Organisations			
4-6	Identify the specimens and set up reference collections.		○	○	○	○	○	ITBC	All Implementing Organisations			
4-7	Conduct ecological and taxonomic studies on organisms in the target areas especially on rare/ endangered species and prioritised organisms.		○	○	○	○	○	ITBC	ITBC, Sabah Parks, Wildlife Department, Forestry Department			
4-8	Prepare species list of the target areas.					○	○	ITBC	All Implementing Organisations			Sabah Parks has responsibility on flora and fauna survey in Crocker Range Park. Forestry Department has responsibility on flora survey in the other target areas. Wildlife Department has responsibility on fauna survey in the other target areas.
4-9	Initiate long term monitoring of species composition in relation to climate change etc.		○	○	○	○	○	ITBC	All Implementing Organisations			
4-10	Conduct periodical monitoring on rare/ endangered species and prioritised organisms.		○	○	○	○	○	ITBC	All Implementing Organisations			
5-1	Standardise specimen management.		○	○				ITBC	ITBC, Forestry Department, Sabah Parks, Wildlife Department			
5-2	Establish systematic system of data management.		○	○				ITBC	ITBC			
5-3	Establish multimedia databank (video, sound, photo) of nature in the target areas.				○	○	○	ITBC	All Implementing Organisations			
5-4	Establish and open database of taxonomic and conservation biology information on the internet.				○	○	○	ITBC	ITBC			
5-5	Organise conferences.		○	○	○	○	○	ITBC (Secretariat)	All Implementing Organisations			
5-6	Make exhibition for conservation of biodiversity in ITBC.		○	○	○	○	○	ITBC	ITBC			
5-7	Present research findings at the international symposium, conference etc.			○	○	○	○	ITBC (Secretariat)	All Implementing Organisations			
5-8	Publish books on research findings and papers.			○	○	○	○	ITBC (Secretariat)	All implementing Organisations			

Plan of Operation: Park Management Component

Activities	Expected Result	Schedule					Responsible Organisations	Implementing Organisations	Equipment	Cost	Remarks
		2002	2003	2004	2005	2006					
1-1 Identify communities having notable impact on the park management		○					SP, SWD	SP, SWD, FD, DOs, LSD			
1-2 Study situation of the communities		○	○	○			UMS	UMS, DOs			
1-3 Conduct workshop/ dialogue/ discussion with communities to identify the people's need.		○					DOs	DOs			
1-4 Analyse socio-economic aspects of local communities.		○	○	○			UMS, JICA	UMS, DOs			
1-5 Study on the alternative to improve the relationship between the communities and the park management		○	○	○	○	○	UMS	UMS, DOs			
2-1 Compile existing and collect additional data and information necessary for preparation of the management plan of Crocker Range Park		○	○	○			SP	SP, DOs, UMS, SWD, FD, L&S			Each Implementing Organisation has responsibility for equipment provided by JICA.
2-2 Identify activities to be participated by the communities in and around Crocker Range Park		○	○	○			SP	SP, DOs, UMS, SWD, FD, LSD			
2-3 Document traditional knowledge, complying to the procedure under the Sabah Biodiversity Enactment 2000.		○	○	○			SP	SP, UMS			
2-4 Refer the results of the Research and Education Components (i.e. inventory of flora and fauna)		○	○	○			UMS (ITBC)	SP, UMS, SWD, FD, LSD			
2-5 Establish/introduce GIS/ database system for Crocker Range Park		○	○				SP(JICA)	SP, UMS, SWD, LSD			
2-6 Map focused/threatened habitat		○	○				SP	SP			
2-7 Plan on facilities and trails.		○	○				Sabah Parks (JICA)	SP, UMS, SWD			
2-8 Plan ecotourism with studying carrying capacity.		○	○	○	○	○	SP	SP			
2-9 Establish zoning scheme.		○	○	○			SP	SP, UMS			
2-10 Identify problems and constraints of the conservation.		○	○				SP	SP, DOs, LSD			
2-11 Identify potential buffer zone areas around Crocker Range Park.		○	○				SP	SP, FD			
2-12 Establish information linkage with Forestry Department Sabah for fire prevention.			○	○			SP	SP, UMS, SWD, JICA			Sabah Parks has responsibility on flora and fauna survey in Crocker Range Park. Forestry Department has responsibility on flora survey in the other target areas. Wildlife Department has responsibility on fauna survey in the other target areas.
2-13 Develop a unified strategy among the related governmental agencies to address the needs of the communities in and around the park				○	○		SP	All Implementing Organisations			
3-1 Identify training needs concerning ongoing assistance on capacity building project		○	○				SP, SWD	All Implementing Organisations			
3-2 Prepare training curriculum.		○	○	○			UMS, JICA	UMS, SP, SWD, JICA			
3-3 Train field staff of Crocker Range Park		○	○	○	○	○	SP, SWD, JICA	UMS, JICA			
3-4 Organise training and seminars for staff of the HQs of the implementing organisations		○	○	○	○	○	SP, SWD, JICA	UMS, JICA			
3-5 Provide degree/ post-graduate study opportunities for staff of implementing organisations at UMS and other universities.		○	○	○	○	○	UMS, JICA	UMS, JICA			
3-6 Conduct staff exchange programme in related protected areas in Japan.		○	○	○	○	○	JICA	SWD, SP, JICA			

Plan of Operation: Park Management Component

Activities	Expected Result	Schedule					Responsible Organisations	Implementing Organisations	Equipment	Cost	Remarks
		2002	2003	2004	2005	2006					
3-7 Provide exposure/ study tours for the staff of Crocker Range Park to other sites.		○	○	○	○	○	SP, SWD	All Implementing Organisations			
3-8 Review training effect and reflect the result to training plan.					○	○	SP, SWD, UMS	UMS, SP, SWD, JICA			
3-9 Establish coordination mechanisms among the implementing organisations.		○	○				Steering Committee	All Implementing Organisations			
4-1 Implement the management plans for Crocker Range Park, e.g.											
a- Establish research stations in Crocker Range Park.		○	○				SP, SWD	SP, SWD, JICA			
b- Conduct training for local communities to be tour guides in Crocker Range Park.		○	○	○	○	○	SP, SWD	SP, SWD, DOs			
c- Appoint honorary wildlife warden and Sabah Parks rangers from among the local communities as informers.		○	○	○	○	○	SP, SWD	SP, SWD, DOs			
d- Encourage and implement ecotourism.		○	○	○	○	○	SP, SWD	SP, SWD			
e- Establish substations for control and monitoring.		○	○	○	○		SP	SP, JICA			
f- Establish conservation plan for key species, e.g. Rafflesia, big animals etc.		○	○				SP, SWD, UMS	SP, SWD, UMS, JICA, FD			
g- Cooperate with other governmental authorities when considering any development/ land-use around Crocker Range Park.		○	○	○	○	○	Steering Committee	Steering Committee			
h- Establish information centre in Crocker Range Park.				○			SP	SP, JICA			
i- Implement rehabilitation programme.				○	○	○	SP	SP, SWD, JICA			
j- Communication system for control and monitoring of Crocker Range Park is enhanced.		○	○				SP, SWD	SP, SWD, FD, JICA, UMS			
k- Establish and conduct long term climate monitoring research/ activities.		○	○	○	○	○	SP, SWD, UMS	SP, SWD, UMS, FD			
l- Attractive facilities for ecotourism (like canopy walk, canopy gondola) are built, which are able to use for monitoring.				○	○		SP, SWD	SP, SWD, JICA			
m- Conduct long-term ecological/ social monitoring.		○	○	○	○	○	SP, SWD, UMS	SP, SWD, UMS			
n- Prevent forest fires in/around Crocker Range Park.		○	○	○	○	○	SP, SWD	DOs, FD, SP, SWD			
5-1 Conduct interim review of the implementation of the management plan.				○	○	○	SP, SWD	All Implementing Organisations			
5-2 Hold seminar/ conference/ discussion to evaluate progress and success.				○	○	○	SP, SWD	All Implementing Organisations			
5-3 Produce records of implementation of the management plan.						○	SP, SWD	SP, SWD			
5-4 Compile protected area management options as a handbook.						○	SP, SWD	All Implementing Organisations			

Plan of Operation: Habitat Management Component

Activities	Expected Result	Schedule					Responsible Organisations	Implementing Organisations	Equipment	Cost	Remarks
		2002	2003	2004	2005	2006					
1-1	Review existing data of the whole species, especially the protected species in Sabah.		○				SWD(Mr. Suffian(Wildlife Officer))	FD, UMS, SWD, SP			Cooperation needed from Fisheries Department.
1-2	Decide criteria for selecting key species.		○				SWD(Mr. Augustine(Wildlife Officer))	FD, UMS, SWD, SP			
1-3	Select species matching the criteria.		○				SWD(Mr. Peter Malim)	SWD, UMS, FD, SP			
2-1	Refer to relevant information collected by the Research and Education Component.			○	○		SWD(Mr. Augustine(Wildlife Officer))	UMS, FD, SWD			
2-2	Refer to existing topographic and land-uses maps in and around Tabin Wildlife Reserve.			○			SWD(Mr. Suffian(Wildlife Officer))	UMS, SWD, FD, Lands and Surveys Department			
2-3	Draft methods for monitoring the key species.		○	○			SWD(Peter Malim)	SWD, FD, UMS, SP			
2-4	Conduct preliminary field monitoring on the key species.			○			SWD(Mr. Suffian)	SWD, UMS, FD, SP			
2-5	Decide the monitoring methods.			○			SWD(Mr. Suffian)	SWD, UMS, FD, Sabah Parks			
2-6	Prepare manuals of the monitoring methods.			○			SWD(Mr. Laurentius(Dep. Director))	SWD, UMS, FD, Sabah Parks			
3-1	Identify officers, rangers, tourist guides, wildlife warden etc. involved in the monitoring.			○			SWD(Mr. Augustine)	All Implementing Organisations			
3-2	Identify what kind of training is necessary for them to conduct monitoring, in relation to the ongoing capacity building project.			○			SWD(Mr. Augustine)	All Implementing Organisations			
3-3	Formulate training module to suit the requirement.			○			SWD(Mr. Augustine)	All Implementing Organisations			
3-4	Conduct the training of the methods for monitoring the selected key species.			○			SWD(Mr. Augustine)	All Implementing Organisations			
4-1	Set up an institution for implementation of the monitoring.			○			SWD(Mr. Suffian)	SWD, UMS, FD, Sabah Parks			
4-2	Monitor the key species.			○	○	○	SWD(Mr. Suffian)	SWD, UMS, FD, Sabah Parks			
4-3	Plot monitoring results of the key species on a map.			○	○	○	SWD (Mr. Suffian)	SWD, UMS, FD, Sabah Parks			
5-1	Refer to relevant information collected by the Research and Education Component.					○	SWD (Mr. Suffian)	SWD, UMS			
5-2	Prepare a vegetation map in and around Tabin Wildlife Reserve, based on data from Forestry Department, UMS, Lands and Surveys Department etc.					○	SWD (Mr. Suffian)	SWD, Lands and Surveys Department, FD, UMS, Sabah Parks			
5-3	Verify the vegetation map by field survey.					○	SWD (Mr. Suffian)	SWD, UMS, FD, Sabah Parks			

Plan of Operation: Habitat Management Component

Activities	Expected Result	Schedule					Responsible Organisations	Implementing Organisations	Equipment	Cost	Remarks
		2002	2003	2004	2005	2006					
5-4	Comprehensive analysis of habitat requirement of key species based on the monitoring results and other maps.				○	○	SWD (Mr. Peter Malim)	SWD, UMS, Sabah Parks			
5-5	Survey human activities and requirement around Tabin Wildlife Reserve.				○	○	SWD (Ms. Jum Rafia, Wildlife Officer)	SWD, UMS, District Offices			
5-6	Identify threats to the key species.				○	○	SWD (Mr. Laurentius, Mr. Augustin, Mr. Suffian, Mr. Peter Malim, Ms. Jum Rafia)	All Implementing Organisations			
5-7	Draft the management plan(s) for the selected key species.				○	○	SWD (All Wildlife Officers)	All Implementing Organisations			
6-1	Identify needs to rehabilitate degraded areas around Tabin Wildlife Reserve, especially riverine habitat.				○	○	SWD (Mr. Laurentius, Mr. Augustin, Mr. Suffian, Mr. Peter Malim, Ms. Jum Rafia)	All Implementing Organisations			Cooperation needed from Drainage and Irrigation Department, Fisheries Department, Department of Agriculture
6-2	Identify and propose the conservation of important habitat surrounding Tabin Wildlife Reserve.				○	○	SWD (Mr. Laurentius)	All Implementing Organisations			Cooperation needed from Drainage and Irrigation Department, Fisheries Department, Department of Agriculture

Plan of Operation: Public Awareness Component

Activities	Expected Result	Schedule					Responsible Organisations	Implementing Organisations	Equipment	Cost	Remarks
		2002	2003	2004	2005	2006					
1-1 Establish a coordination office to coordinate all Activities.		○					UST, JICA	All All Implementing Organisations, JICA			
1-2 Pre-test of the study (sampling number, area and field survey method)		○					UMS (Social Science)	All Implementing Organisations			
1-3 Conduct field survey on problems and constraints in the pre-studied areas.		○					UMS (Social Science)	All Implementing Organisations			
1-4 Study current public awareness activities in the pre-studied areas.		○					UMS (Social Science)	All Implementing Organisations			
2-1 Identify target people (e.g. school children) of the general public campaign.		○					UMS (Social Science)	UMS, UST, PAE			Support from Education Department, NGOs
2-2 Identify necessary themes for the campaign.		○					UMS (Social Science)	UMS, UST, PAE			Support from NGOs
2-3 Formulate a strategic plan of campaign (selection of media, media, method and schedule).		○					UMS (Social Science)	UMS, UST, PAE			Support from NGOs
2-4 Conduct surveys to obtain baseline data		○					UMS (Social Science)	UMS, UST, PAE			Support from NGOs
2-5 Involve the policy makers/ decision makers in the campaign.		○	○	○	○	○	SP, SWD	All Implementing Organisations			Support from the steering committee
2-6 Involve the media (radio, TV, newspaper) in the campaign.		○	○	○	○	○	DOs	All Implementing Organisations			Support from NGOs and Media
2-7 Produce campaign materials.		○	○	○	○	○	UMS, JICA	All Implementing Organisations, JICA			Support from NGOs
2-8 Organise conferences and speeches, and conduct dialogues/ discussion.		○	○	○	○	○	UMS	All Implementing Organisations			Support from NGOs
2-9 Interact with international children's eco-tour to Sabah.		○	○	○	○	○	ITBC	SF, SWD, SP			Supported by Hyogo Museum
2-10 Conduct competitions of photography, essays and creative arts.			○	○	○	○	PAE	ECD, UMS, PAE, JICA			Supported by media, NGOs and Private sector
2-11 Create and upgrade the webpage.		○	○	○	○	○	UST	All Implementing Organisations			
2-12 Monitor effect of campaign on people.				○		○	UMS (Social Science)	All Implementing Organisations, JICA			
3-1 Identify training needs on implementing organisations staff.		○	○	○			UST	All Implementing Organisations			
3-2 Train the staff of implementing organisations.			○	○			UST, JICA	All Implementing Organisations			Include study tour in Japan and other countries.
3-3 Establish communication system (webpage newsletter, etc.).		○	○				UST	All Implementing Organisations, JICA			
3-4 Conduct staff exchange programme among the implementing organisations.		○	○	○	○	○	UST	All Implementing Organisations			
3-5 Study tour for staff of implementing organisations.		○	○	○	○	○	UST	All Implementing Organisations			
4-1 Analyse the results of the socio-economic study under Component 1 (Research and Education Component), 2 (Park Management Component) and 3 (Habitat Management Component)			○	○	○	○	UMS (Social Science)	UMS, UST, JICA, SP, SWD			Supported by other components
4-2 Identify best medium and method for effective public awareness activities. - Search for best practices in other parts of the world on materials for public awareness. - Involve social organisation to advice on effective communication methods.		○	○	○			UMS (Social Science)	All Implementing Organisations			



Plan of Operation: Public Awareness Component

Activities	Expected Result	Schedule					Responsible Organisations	Implementing Organisations	Equipment	Cost	Remarks
		2002	2003	2004	2005	2006					
4-3	Conduct meeting/ workshop to evaluate/ standardise public awareness guidelines.		○	○	○		UST	All Implementing Organisations			
4-4	Produce and distribute a guideline for the public awareness.		○	○			SP, SWD	All Implementing Organisations			
4-5	Produce and distribute materials for the public awareness and environmental education.		○	○	○		PAE	All Implementing Organisations, JICA			
4-6	Revise guidelines and materials after their testing in and around Crocker Range Park and Tabin Wildlife Reserve.			○	○		SWD, SP	All Implementing Organisations			
4-7	Compile public awareness materials to be used in other areas/ states in Malaysia.				○	○	UST	All Implementing Organisations			
5-1	Test the public awareness guideline in and around Crocker Range Park and Tabin Wildlife Reserve. Possible Activities under the guideline: -		○	○	○	○	SWD, SP	All Implementing Organisations			Support from DOs, JKKKs, NGOs and local people
a	Identify and adopt schools and villages for nature education and awareness.		○	○	○	○	SWD, SP	SWD, SP, UST, FD, ECD, UMS, PAE			Support from Education Department
b	Establish a "mobile unit" that visits villages and schools around Crocker Range Park and Tabin Wildlife Reserve.		○	○	○	○	PAE	All Implementing Organisations			
c	Involve NGOs and volunteers for environmental education.			○	○	○	UST	All Implementing Organisations			Support from NGOs
d	Involve and get support of the private sector.			○	○	○	UST	All Implementing Organisations			Support from private sector
e	Conduct environmental awareness camp.			○	○	○	PAE	All Implementing Organisations			
f	Conduct seminars/ talk on environmental issues.			○	○	○	UST	All Implementing Organisations			Support from NGOs
g	Study tour for target local groups.			○	○	○	SWD, SP	SWD, SP			Support from DOs, JKKKs, NGOs and local people
h	Conduct various competitions among school children related to conservation and ecosystem in and around Crocker Range Park and Tabin Wildlife Reserve.			○	○	○	UST	All Implementing Organisations			Support from Education Department and NGOs
i	Organise seminars for journalists.		○	○	○	○	UST	All Implementing Organisations			Support from NGOs
5-2	Monitor change of awareness of the people.			○	○	○	UMS	All Implementing Organisations, JICA			Support from NGOs

Annex 4:  
Terms of Reference (TOR) of Long-term Experts

# Terms of Reference (TOR) of Japanese Long-term Expert (1)

## 1. Position of the expert

- (1) Job title: Chief Advisor
- (2) Assignment: Long-term expert dispatched from JICA for the technical cooperation
- (3) Attachment Organisation: The Sabah State Government Secretary and the Institute Tropical Biology and Conservation, Universiti Malaysia Sabah
- (4) Required Qualification:
- 1) Subject: Programme management
  - 2) Academic degree: Bachelor or Master's degree
  - 3) Necessary qualification/experience: More than 20 years experience on international cooperation or environmental / natural resource management
  - 4) Language level required: Able to communicate in English fluently

## 2. Job Description

- (1) Location/office: The State Secretary office of Sabah and the Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah
- (2) Fieldwork site: All target protected areas, pilot protected areas and habitat expansion study areas
- (3) Period: 5 years (FY 2002 —2006)
- (4) Detailed Activities: - Advise for annual programme planning and implementation  
- Coordination of implementing organisations  
- Coordination of Malaysian counterparts and Japanese experts (Selection training person in Japan, equipment purchase etc.)  
- Co-chair of steering committee  
- Co-chair of working group meeting  
- Teaching special class on biodiversity conservation in UMS

## 3. Counterparts (Steering committee member and director of leading organisations)

- (1) The State Secretary of Sabah: Y. B. Datuk K. Y. Mustafa
- (2) Vice Chancellor, UMS: Professor Datuk Seri Panglima Dr. Abu Hassan Othman
- (3) Director of ITBC-UMS: Associate Professor Datin Dr. Maryati Mohamed
- (4) Deputy Director of Office of Natural Resources: Mr. Abdul Rahim Sidek
- (5) Chairman of Land and Survey Department: Datuk Mohamad Bin Jafry
- (6) Director of Sabah Parks: Datuk Lamri Ali
- (7) Director of Sabah Wildlife Department: Mr. Mahedi Andau
- (8) Director of Unit of Science and Technology: Mr. Moktar Yasein
- (9) Director of Forestry Department Sabah: Mr. Daniel Khiong
- (10) Director of Environmental Conservation Department: Mr. Eric Juin
- (11) Director of Conservation Department of Sabah Foundation: Dr. Waidi Sinun
- (12) Chairman of Public Awareness Education Sub-committee, Environmental Action Committee
- (13) Head of District offices of programme sites

## Terms of Reference (TOR) of Japanese Long-term Expert (2)

### 1. Position of the expert

- (1) Job title: Programme Coordinator
- (2) Assignment: Long-term expert dispatched from JICA for the technical cooperation
- (3) Attachment Organisation: The Sabah State Government Secretary and the Institute Biology and Conservation, Universiti Malaysia Sabah
- (4) Required Qualification:
- 1) Subject: Programme coordination
  - 2) Academic degree: Bachelor
  - 3) Necessary qualification/experience: More than 10 years experience on international cooperation field or environmental management
  - 4) Language level required: Able to communicate in English fluently and in Malaysian language

### 2. Job Description

- (1) Location/office: The State Secretary office of Sabah and the Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah
- (2) Fieldwork site: Work mainly in office
- (3) Period: 5 years (FY 2002 –2006)
- (4) Detailed Activities:
- Administration management of programme (Japanese side)
  - Supporting of experts and counterpart activities
  - Purchase and management advice for equipment and facilities provided from Japan
  - Accounting of Japanese side expenditure
  - Support publication of newsletter and update of website

### 3. Counterparts

- (1) The State Secretary Office: Malaysian side steering committee coordinator of the programme
- (2) ITBC-UMS (Secretariat): Malaysian side programme coordinator and co-coordinator
- (3) Implementing organisations: Coordinator or contact person of each implementing organisations

## Terms of Reference (TOR) of Japanese Long-term Expert (3)

### 1. Position of the expert

- (1) Job title: JICA Long Term Expert in Systematic Biology (Research and Education Component)
- (2) Assignment: Long-term expert dispatched from JICA for the technical cooperation
- (3) Attachment Organisation: The Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah (ITBC-UMS)
- (4) Required Qualification:
- 1) Subject: Systematic Biology
  - 2) Academic degree: Master's degree or Doctoral degree
  - 3) Necessary qualification/experience: More than 10 years experience on insect taxonomy and lecture in university or institute
  - 4) Language level required: Able to communicate and lecture in English fluently

### 2. Job Description

- (1) Location/office: The Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah (ITBC-UMS)
- (2) Fieldwork site: Whole of Sabah, especially target protected areas, pilot protected areas, and habitat expansion study area(s)
- (3) Period: 5 years (FY 2002 —2006)
- (4) Detailed Activities:
- Coordination and technical advice for Research and Education Component, especially in research work on the insect biodiversity
  - Staff training for biosystematics and insect taxonomy
  - Advice for taxonomic study of insect to staff and graduate students
  - Joint research works on insect taxonomy with Malaysian staff
  - Field work for insect fauna in the target areas.
  - Coordination for other research field in component 1 with other long-term expert(s) of Component 1

### 3. Counterparts

- (1) ITBC-UMS:
- (2) Sabah Parks:
- (3) Sabah Wildlife Department:
- (4) Forestry Department Sabah:
- (5) Sabah Foundation:

## Terms of Reference (TOR) of Japanese Long-term Expert (4)

### 1. Position of the expert

- (1) Job title: JICA Long Term Expert in Inventory / Museum Management (Research and Education Component)
- (2) Assignment: Long-term expert dispatched from JICA for the technical cooperation
- (3) Attachment Organisation: The Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah (ITBC-UMS)
- (4) Required Qualification:
- 1) Subject: Inventory / Museum Management
  - 2) Academic degree: Master's degree or Doctoral degree
  - 3) Necessary qualification/experience: More than 10 years experience on inventory and museum management in natural history museum / university / institute.
  - 4) Language level required: Able to communicate and lecture in English fluently

### 2. Job Description

- (1) Location/office: The Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah (ITBC-UMS)
- (2) Fieldwork site: Whole of Sabah, especially target protected areas, pilot protected areas, and habitat expansion study area(s)
- (3) Period: 5 years (FY 2002 —2006)
- (4) Detailed Activities:
- Coordination and technical advice for Research and Education Component, especially in BORNEENSIS
  - Advice for management of museum collection of organism.
  - Staff training for curatorial activity of museum collection.
  - Joint research works on taxonomy of certain group(s) of organism with Malaysian staff.
  - Graduate student education on the curatorial activity of museum collection.

### 3. Counterparts

- (1) ITBC-UMS:
- (2) Sabah Parks:
- (3) Sabah Wildlife Department:
- (4) Forestry Department Sabah:
- (5) Sabah Foundation:

## Terms of Reference (TOR) of Japanese Long-term Expert (5)

### 1. Position of the expert

- (1) Job title: JICA Long Term Expert in Protected Area Management (Park Management Component) and Conservation Biology (Research and Education Component)
- (2) Assignment: Long-term expert dispatched from JICA for the technical cooperation
- (3) Attachment Organisation: Sabah Parks (under MTEST) and The Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah (ITBC-UMS)
- (4) Required Qualification:
- 1) Subject: Protected Area Management / Conservation Biology
  - 2) Academic degree: Master's degree / Doctoral degree
  - 3) Necessary qualification/experience: More than 10 years experience on protected area management or conservation biology
  - 4) Language level required: Able to communicate and lecture in English fluently

### 2. Job Description

- (1) Location/office: Sabah Parks (HQ in Kota Kinabalu and HQ of Crocker Range Park (CRP)) and ITBC-UMS
- (2) Fieldwork site: Whole of Sabah, especially in pilot protected areas (Crocker Range Park and Tabin Wildlife Reserve)
- (3) Period: 5 years (FY 2002—2006)
- (4) Detailed Activities:
- Coordination and technical advice for protected areas component
  - Advise planning and management specialised courses at ITBC, e.g. radio telemetry.
  - Management of "local small scale development study" on CRP for making master plan of the park management
  - Advice for review and making management plan of target protected areas including zoning
  - Advice to strengthen implementation capability of protected area management
- Assist to compile and publish handbook of protected area management

### 3. Counterparts

- (1) Sabah Parks: Dr. Jamili Nais (HQ), Mr. Ludi Apin (CRP)
- (2) Sabah Wildlife Department: Mr. Peter Malim, Mr. Augustin Tuuga (Tabin WR), Mr. Sumbin
- (3) ITBC-UMS: Dr. Maryati, Mr. Mahadimenakbar, Mr. Zulhazman
- (4) Forestry Department Sabah: Frederick Kugan
- (5) Land and Survey: Datuk Mohamad Bin Jafry, Mr. Rahim Kupun

(6) District Office:

District officers of pilot protected areas (CRP and Tabin WR)



## Terms of Reference (TOR) of Japanese Long-term Expert (6)

### 1. Position of the expert

- (1) Job title: JICA Long Term Expert in Community Participation (Park Management Component)
- (2) Assignment: Long-term expert dispatched from JICA for the technical cooperation
- (3) Attachment Organisation: Sabah Parks (under MTEST) and The Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah (ITBC-UMS)
- (4) Required Qualification:
- 1) Subject: Community Participation
  - 2) Academic degree: Bachelor / Master's degree
  - 3) Necessary qualification/experience: More than 10 years experience on community participation planning for protected area / natural resource management
  - 4) Language level required: Able to communicate and lecture in English fluently

### 2. Job Description

- (1) Location/office: Sabah Parks (HQ in Kota Kinabalu and HQ of Crocker Range Park (CRP))
- (2) Fieldwork site: Whole of Sabah, especially in pilot protected areas (Crocker Range Park and Tabin Wildlife Reserve)
- (3) Period: 3 years (FY 2002 —2004)
- (4) Detailed Activities: - Coordination and technical advice on community participation planning for protected areas component
- Management of "local small scale development study" on CRP concerning community participation and socio-economic situation
  - Advice for making community participation planning of target protected areas
  - Advice to strengthen implementation capability of protected area management involving community

### 3. Counterparts

- (1) Sabah Parks: Dr. Jamili Nais (HQ), Mr. Ludi Apin (CRP)
- (2) Sabah Wildlife Department: Mr. Peter Malim, Mr. Augustin Tuuga (Tabin WR), Mr. Sumbin
- (3) ITBC-UMS: Dr. Maryati, Mr. Mahadimenakbar, Mr. Zulhazman
- (4) Forestry Department Sabah: Frederick Kugan
- (5) Land and Survey: Datuk Mohamad Bin Jafry, Mr. Rahim Kupun
- (6) District Office: District officers of pilot protected areas (CRP and Tabin WR)

## Terms of Reference (TOR) of Japanese Long-term Expert (7)

### 1. Position of the expert

- (1) Job title: JICA Long Term Expert in Wildlife Management (Habitat Management Component)
- (2) Assignment: Long-term expert dispatched from JICA for the technical cooperation
- (3) Attachment Organisation: Sabah Wildlife Department (under MTEST)
- (4) Required Qualification:
- 1) Subject: Wildlife Management
  - 2) Academic degree: Bachelor / Master's degree
  - 3) Necessary qualification/experience: More than 10 years experience on wildlife management
  - 4) Language level required: Able to communicate and lecture in English fluently

### 2. Job Description

- (1) Location/office: Sabah Wildlife Department (HQ in Kota Kinabalu)
- (2) Fieldwork site: Tabin Wildlife Reserve and surroundings
- (3) Period: 5 years (FY 2002 –2006)
- (4) Detailed Activities:
- Coordination of Habitat Management Component
  - Advice on selecting key species
  - Advice on development of monitoring methods
  - Advice on training of monitoring personnel
  - Advice on identification of habitat range
  - Advice on preparing management plan(s) for the selected key species.

### 3. Counterparts

- (1) Sabah Wildlife Department: Mr. Augustin Tuuga (Tabin WR), Mr. Sumbin, Mr. Peter Malim
- (2) ITBC-UMS: Dr. Maryati, Mr. Zulhazman, Mr. Mahadimenakbar
- (3) Forestry Department Sabah: Frederick Kugan, Dr. Singing Unchi
- (4) ECD: Ms. Susan Pudin
- (5) Land and Survey: Datuk Mohamad Bin Jafry, Mr. Rahim Kupun
- (6) Sabah Foundation: Mr. Waidi Sinun
- (7) District Office: District officers of pilot protected areas (CRP and Tabin WR)
- (8) Sabah Parks: Dr. Jamili Nais (HQ)

## Terms of Reference (TOR) of Japanese Long-term Expert (8)

### 1. Position of the expert

- (1) Job title: JICA Long Term Expert in Environmental Education (Public Awareness Component)
- (2) Assignment: Long-term expert dispatched from JICA for the technical cooperation
- (3) Attachment Organisation: Science and Technology Unit (under MTEST)
- (4) Required Qualification:
- 1) Subject: Environmental education
  - 2) Academic degree: Bachelor / Master's degree
  - 3) Necessary qualification/experience: More than 10 years experience on environmental education or public awareness activities for nature conservation
  - 4) Language level required: Able to communicate and lecture in English fluently

### 2. Job Description

- (1) Location/office: The Unit of Science and Technology
- (2) Fieldwork site: Whole of Sabah, especially in pilot protect area
- (3) Period: 5 years (FY 2002 —2006)
- (4) Detailed Activities:
- Coordination and technical advice for Public awareness component
  - Advice for study on current public awareness programme and issues
  - Advice for planning of public awareness conservation (Whole of Sabah)
  - Training staff/ranger and advice for establishment of information network system on public awareness activities
  - Advice for planning and preparing material of public awareness in target protected areas
  - Advice for conducting and monitoring of public awareness in school/villages adopted in target protected areas

### 3. Counterparts

- (1) Science and Technology Unit: Mr. Moktar Yassin, Mr. Abdul Fatah
- (2) ITBC-UMS and Environmental Action Committee: Dr. Maryati, Dr. Monica Suleiman
- (3) Sabah Parks: Dr. Jamili Nais, Mr. Alim Bium
- (4) Sabah Wildlife Department: Mr. Peter Malim, Ms. Anna Wong
- (5) Forestry Department Sabah: Mr. Yusof Awang, Mr. Pilis Malim (Forest fire Division),
- (6) ECD: Ms. Susan Pudin
- (7) Sabah Foundation: Mr. Waidi Sinun
- (8) District Office: District officers of pilot protected areas (CRP and Tabin WR)

Annex 5:  
Evaluation Indicators

Verifiable Indicators shown in this Project Document as background data and Necessity Record/Monitoring in the Programme

Component	Item	Verifiable Indicator in PDM	Current data/situation (Section in Project Document)	Necessity record or monitoring in Programme
(Whole of Programme)	Overall goal	Total protected area	Appendix 9	New protected area prepared and IUCN category
	Programme purpose	Accomplishment report of the Programme	None	Preparation of the report
	Outputs for the programme purpose	1.1) Meetings of the steering committee and the working groups	None	Participants lists and minutes of meetings
		1.2) Operation of the monitoring system	None	Monitoring report
		2.1) No. of research results utilised for the other components	None	-A management plan of Crocker Range Park -management plan(s) for the selected key species
		2.2) No. of staff trained	Appendix 1	Record of ITBC
		2.3) Changes of awareness	No data	Results of activity 5-2 of the public awareness component
		3 No. of publicity	Appendix 12	Publicity on printed and electronic media
Research	Project purpose	1) No. of publication by researchers	Appendix 1, Table 1-1-6 (by ITBC-UMS staff)	Record of paper contributed by programme members
		4) No. of results of monitoring utilised for management plan	None	Record of monitoring in Protected area and habitat expansion component
	Outputs	1. Quarterly meeting	SITE meeting (Text Section 3.2)	Record of Working group and relative meeting or seminar
		2. Research facilities	Appendix 1, Table 1-1-8 (ITBC)	Record of facilities input in the programme
		3.1) No. of Ph D and M Sc	Appendix 1, Table 1-1-4	Record of Ph D and M Sc certificated through programme
		3.2) No. post graduates conducting taxonomy/ conservation biology	Appendix 1, Table 1-1-4	Record of post graduates including staff of implementing organizations
		4.1) No. research / studies implemented	Appendix 14, Table 14-2 (current study theme in ITBC)	Record of research theme conducted in ITBC-UMS
		4.2) No. of specimen stored	Appendix 6, Table 6-1, -4	Record of specimen stored
		4.3) No. of new species	None	Record of new species reported by implementing organizations
		4.4) No. of identified species	Appendix 6, Table 6-1, -4	Record of Data base of specimen
		5.1) No. of website page of specimen	Appendix 1, Table 1-1-7 (Data base of each taxa, ITBC-UMS)	Record of website page made under BORNEENSIS
		5.2) No. of access to the website	None	Record of access to the website
		5.3) No. of reference and loans of specimens	No data	Record of specimen loaned/ referenced
Park Management	Project purpose	No. of options: communication, public relation, fire prevention	None	"Handbook" prepared by activity no. 5-4
	Outputs	1.1) No. of illegal usage	Appendix 1-(2), text (CRP)	Record of illegal usage in CRP and Tabin WR
		1.2) No. of protest	No data	Record of district offices
		2. Management plan	There is no management plan for CRP (Text Section 3.2)	Management plan for CRP
		3.1) No. of staff trained	No data	Record of training
		3.2) No. of scientific papers by staffs	Appendix 13, Table 13-1, -2 (Major report and journals)	Record of paper contributed by programme members

Verifiable Indicators shown in this Project Document as background data and Necessity Record/Monitoring in the Programme

Component	Item	Verifiable Indicator in PDM	Current data/situation (Section in Project Document)	Necessity record or monitoring in Programme
		4.1) No. of tourist	Appendix 1, Table 1-2-9; Appendix 11, Table 11-1,-5	Record of tourist of CRP
		4.2) Complain from the public	Appendix 1, Table 1-3-8 (Wildlife damage in Tabin WR)	Record of damage caused by wildlife in and around CRP
		4.3) No. key species	Appendix 5, Table 5-1 (endangered species)	Record of monitoring of key species
		4.4) Forest fire reduced	No data except rough mapping of area burned	Record of forest fire
		4.5) Forest cover around pilot protected areas	Appendix 1, Table 10-1 (forest area of each district (part))	Analysis of aerial photo/landsat data
		5. Percentage rangers appreciate handbook	No data (no handbook)	Questionnaire to rangers for the handbook prepared
		6. The proposal for new protected areas.	None	The proposal
Habitat Management	Project purpose	The model established is employed for the other areas.	None	Minutes of meeting of the working group
	Outputs	1. At least one species is determined	None	Preliminary report for the key species
		2. Manuals of the monitoring methods	None	The manuals
		3. No. of the staff trained for the monitoring methods	None	Training report
		4. A distribution map of the selected key species	None	The distribution map
		5. Document of the management plan	None	The management plan
Public awareness	Project purpose	1) Percentage Sabah populations understanding conservation	No data	Questionnaire before and after activities
		2) Increase membership in environmental organizations	Appendix 12, Table 12-3 (No. of memberships of SNC)	Record of membership of environmental organizations
	Outputs	1.1) Completion of problem analysis	None	Record of problem analysis
		1.2) Identified problems used by following activities	None	Record of study / analysis
		2. Target people understand conservation & biodiversity	No data	Questionnaire before and after activities
		3.1) No. of participants in training	None	Record of training
		3.2) No. of trained trainers	No data, however, Appendix 12, Table 12-2 shows a part of these activities	Record of training (No. of trainers certificated)
		4. Evaluation of guidelines	None	Questionnaire for user
		5.1) Percentage of populations aware of conservation	No data	Questionnaire before and after activities
		5.2) No. of school/villages targeted by the programme	No data, however, Appendix 12, Table 12-2 shows a part of these activities	Record of public awareness activities for school and villages

**Annex 6:**  
**Specification of the Major Equipment**

## Annex 5. Temporary list of Equipment and Specification

<b>Large-sized equipments</b>	
Scanning electron microscope JSM-5610LV with accessories	1
DNA sequencer + complete option*	1
Compacter for insect coll. room without cabinets	1
Cabinets for insect coll. room set	1
Insect specimen box (Germany type) Shiga Co., No. 421	2,000
Insect specimen box (Germany type) Shiga Co., No. 421-III	3,000
Insect specimen box (Germany type) Shiga Co., No. 421-2	500
Compacter for herbarium without cabinets	1
Cabinets for herbarium set	1
Insect cabint (asked by Sabah Forest Research Centre: SFRC)	60
Insect specimen box Shiga Co., No. 421(asked by SFRC)	1,440
Atomic absorption spectrophotometer	1
Gaschromatography mass spectrometer	1
<b>Medium-sized equipments</b>	
<b>(Microscopes)</b>	
Fluorescence microscope(OLYMPUS BX60-34-FLBD1+ BX-PHD-1)*	1
Compound microscope(OLYMPUS BX50-54 class)*	1
Compound microscope(OLYMPUS BX50-53-TVC class)*	1
Compound microscope(OLYMPUS BX-50-33 class)*	4
Compound microscope(OLYMPUS BX-50-13 class)*	7
Drawing apparatus (OLYMPUS U-DA class)*	7
Microscopic photograph apparatus (OLYMPUS PM20-3 class)*	4
Microscopic digital camera (OLYMPUS DP50 class)*	1
Steleoscopic microscope (OLYMPUS SZX12-1115 class)*	5
Steleoscopic microscope (OLYMPUS SZX9-1212 class)*	5
Steleoscopic microscope (SZ1145 class)*	20
Steleoscopic microscope (SZ6045 class)*	10
Camera lucida (OLYMPUS SZX-DA class)*	10
Microscopic color televi apparatus (OLYMPUS UCD 740 class)*	2
Lighting apparatus (OLYMPUS LGW class)*	41
Portable steleoscopic microscope Nikon Fabre	10
Microtome	2
Scale micrometer	
Section micrometers of varoius meshes on whole surface	
Objective micrometer	
<b>(Cameras, binoculars, etc.)</b>	
Digital camera (NIKON COOLPIX 995 class)*	20
Digital videocamera (SONY 1.3megapixel class)*	6
Camera with option of close-up lenses (OLYMPUS OM4 class)*	10
Camera trap	20
Binocular for animals and birds watching	20
Spotting scope	5
<b>(Incubator, etc.)</b>	
Incubator (Sanyo MIR-153 minus 10-50C)*	20
Freezer (specification undetermined)*	6
Drying cabinet	3
4l. Refridgerator	10
Split aircons	10
Oven	10
<b>Small-sized equipments</b>	
Densimeter	10
Digital electronic balance	10
Digital pH meter	2
Digital portable standard balances	10
Electronic microbalance ditigal	10
Electrophoresis set	10



Plasma Screen	9
Portable gas chromatograph	1
Soil analysis kit	10
Soil texture unit	10
Ultraviolet spectrophotometer	3
Altimeter	20
Analytical balance	2
Data logger (automatic) for humidity, temperature	30
Light meter (digital)	5
Compus	20
PH meter (digital and portable)	2
Chemical analysis kit to measure nutrient level	2
Antenograph	1
Collar radio telemetry	45
Radio tracking receiver	2
<b>Laboratory supplies set including those listed below</b>	<b>1</b>
Aluminium boxes (Large)	
Aluminium boxes (Small)	
Assorted vials	
Container	
Dissecting set	
Fine forceps of various kinds	
Glass slide & cover slip in box	
Metal tray	
Micro Dissecting set	
Slide holder	
Transpoders + microchip	
Petri-dishes of assorted sizes	
Plastic Vials 100ml 1	
Technical pens (5 sizes)	
<b>Collecting equipments including those listed below</b>	
<b>(For insects set)</b>	<b>1</b>
Malaise trap	
Berlese trap	
Flight interception trap	
Insect trap (Winklers bags)	
Server trap for aquatic insects	
Fogging machine with tray	
Pooter/aspirator	
Small-sized glass vials with screw lid of various sizes	
Insect brushes	
Sieve and tray	
Winkler extractor	
Beating net	
Insect net frame 50 cm (Shiga Co.No. 20A)*	
Insect net metal extensible handle 150 cm (Shiga Co.No. 30-II)*	
Insect net metal extensible handle 250 cm (Shiga Co.No. 31)*	
Insect net spring frame 42cm (Shiga Co. No.63)	
Insect net spring frame 50cm (Shiga Co. No.63)	
Insect net glassrod handle 7m (Shiga Co. No. 55-I)	
Insect nylon net 50cm (Shiga Co. No.41)	
Insect nylon net 42 cm (Shiga Co. No.41)	
Insect silk net 50cm (Shiga Co. N.41)	
Insect silk net 42cm (Shiga Co. N.41)	
Insect nylon for dragonfly 50 cm (Shiga Co. No. 41)	
Aquatic insect net (Shiga Co. No. 71)	
Butterfly ovipositing net (30 by 45cm) (Shiga Co. No. 89-I)	
Butterfly ovipositing net (25 by 25cm) (Shiga Co. No. 89-II)	
Insect killing bottle 9 by 12cm (Shiga Co., No. 152-II)	
Insect killing bottle 4.5 by 13.5cm (Shiga Co., No. 161)	
Insect killing bottle 3 by 13cm (Shiga Co., No. 162)	
Butterfly triangle case (Shiga Co., No. 187)	

Butterfly triangle case (Shiga Co., No. 189)	
Butterfly triangle paper; extra large (Shiga Co., No. 193)	
Butterfly triangle paper; large (Shiga Co., No. 194)	
Butterfly triangle paper; medium (Shiga Co., No. 195)	
Butterfly triangle paper; small (Shiga Co., No. 196)	
Insect rearing cages of various types including sleeve cage	
<b>(For mammals set including those listed below)</b>	<b>1</b>
Small mammal trap	
Collapsible live traps	
Harp trap	
Thornahawk-trap	
Mist net	
Scale, blancer	
Transmitter	
<b>(For birds set including those listed below)</b>	<b>1</b>
Mist nets (assorted size)	
Bird ring (assorted size)	
Scale, balancer	
Shot gun	
Tranquilizing gun	
<b>(For Reptilia;Amphibia; Pisces set including those listed blow)</b>	<b>1</b>
Reader & transponder (asked by Sabah Parks)	
Nets for Reptilia, Amphibia and Pisces (listed by Dr. Yoneda)	
<b>(For Plants)</b>	<b>1</b>
<b>Specimen-mounting equipments including those listed below</b>	
<b>(For Insects)</b>	<b>1</b>
Dissecting forceps type 3C (Shiga Co., No.208)	
Forceps of various kinds	
Pincette (Shiga Co., No. 210-C)	
Insect pin 00 (Shiga Co., No. 230)	
Insect pin 0 (Shiga Co., No. 230)	
Insect pin 1 (Shiga Co., No. 230)	
Insect pin 2 (Shiga Co., No. 230)	
Insect pin 3 (Shiga Co., No. 230)	
Insect pin 4 (Shiga Co., No. 230)	
Insect pin 5 (Shiga Co., No. 230)	
Insect micropin (Shiga Co. No. 251)	
Spreading boad 36 x 12.5 cm (Shiga Co., No.324)	
Spreading boad 36 x 10cm (Shiga Co., No.325)	
Spreading boad 36 x 8.5cm (Shiga Co., No.326)	
Spreading boad 36 x 7cm (Shiga Co., No.327)	
Spreading boad 36 x 6 cm (Shiga Co., No.328)	
Spreading boad 36 x 4 cm (Shiga Co., No.329)	
Spreading boad 36 x 15.4 cm (Shiga Co., No.330-I)	
Spreading boad 36 x 19.5 cm (Shiga Co., No.330-II)	
Spreading boad 36 x 12.5 cm (Shiga Co., No.324)	
Spreading boad 36 x 12.5 cm (Shiga Co., No.324)	
Spreading boad 36 x 12.5 cm (Shiga Co., No.324)	
Microlepidoptera spreading boad (Shiga Co., No.339)	
Spreading borad for beetles (Shiga Co., No. 341)	
White polyethylene boad (Shiga Co. No. 377)	
Acid free paper for labels	
Insects brushes of various sizes	
Pinning stage or block	
Oven	
<b>Specimens-storing equipments</b>	
<b>(For Insects set including those listed below)</b>	

Insect specimen box (Shiga Co., No.)	
Insect specimen box or tray (Shiga Co., No.)	
Insect specimen box (Shiga Co., No.)	
Insect specimen box (Shiga Co., No.)	
Insect specimen box (Shiga Co., No.)	
Insect specimen unit box or tray(L)	
Insect specimen unit box or tray(M)	
Insect specimen unit box or tray(S)	
Insect specimen unit box or tray(SS)	
<b>(For Mammals set including those listed below)</b>	1
<b>(For Birds set including those listed below)</b>	1
<b>(For Plants set)</b>	1
Acid free papers	
<b>Camping equipments set including those listed below</b>	1
Camping bed	
Caving headlamps/ Head lamps	
Field hand lense (10 times magnification)	
Field hand lense (20 times magnification)	
Hammocks	
Hover sack	
Ladder 2 m	
Parang, scoop, and gardening tools	
Portable stove	
Portable radio & walkei talkie with accessories	
Researchers standards compass	
Sleeping bag	
Tents (4 people)	
Winkler bags	
Compass	
Harver sack	
Fly sheet	
Raincoat	
Jungle boot	
Camping equipment set	
<b>Generator</b>	10
<b>IT &amp; related equipments, etc.</b>	
Power Mac-G3 400 MHz	1
Notebook Pc + accessories	15
Computer ( for Component 3)	30
Colour laser printer	1
Laser printer	1
Printer	5
Equipments for Component 4 (video, etc.)	1 set
Database + software (BRAHM)	1
Fax machine	1
GIS & software	5
Hand-held GPS	15
Image analizer	7
Image capture software	1
Mini-server	1
Opaque projector	1
Plasma screen	?
Scanner	10
Photocopy machine	4
Taxonomy softwares	5
Touch screen	?
Touch screen computer	?
Biodiversity Preservation Program - sysem config.	1

Digital audeo recorder	5
Tape recorder	10
Directional microphone	2
Exhibition equipment (for Component 4)	1 set
<b>Chemicals set including those listed below</b>	1
Naphthalene	
Ethanol	
Ethyl acetate	
Chroloform	
Acetic acid	
Pybuthrene (asked by Mr. Bakhtiar)	
KOH	
NaOH	
Eosin	
Haematoxyline	
Glycerol	
<b>II. Books</b>	
Entomology	1800
Zoology excluding entomology	200
Botany	200
Conservation biology	100
<b>III. Vehicles</b>	
Vehicle 4x4 (for Component 1)	2
Vehicle 4x4 (for Component 2)	1
Vehicle 4x4 (for Component 3)	1
Vehicle 4x4 (for Component 4)	1
Van (mobile lab )	1
Mobile unit (vehicle+equipments (multimedia)	1
Larry pick-up	1
Motorcycle	6
Fiber glass boat (16 feet) with 30 CV 4 stroke engine	1
Inflatable boat Zodiac Mork & engine 15 hp	1