

PROJECT COMPLETION REPORT

DEVELOPMENT OF DNA DATABASE FOR *GONYSTYLUS BANCANUS* IN SARAWAK

IMPLEMENTING AGENCIES

SARAWAK FORESTRY CORPORATION and FOREST DEPARTMENT
SARAWAK

COLLABORATING AGENCY

FOREST RESEARCH INSTITUTE MALAYSIA (FRIM)



ACTIVITY COMPLETION REPORT

A. Project Identification

- a. Title : **The development of DNA database for *Gonystylus bancanus* in Sarawak.**
- b. Implementing Agencies : **Sarawak Forestry Corporation
Forest Department Sarawak**
- c. Starting date : **October 2008**
- d. Project Duration: **12 months extended for 8 months without additional funding**
- e. Activity cost :
- i. ITTO : **US\$ 52,670**
 - ii. Gov. Contribution : **US\$ 59,213**
 - iii. Total Cost : **US\$ 111,883**

ACTIVITY TECHNICAL AND SCIENTIFIC STAFF

Activity Coordinator

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EXECUTIVE SUMMARY

1. Activity Identification

The aim made by the ITTO and CITES was to ensure that international trade in CITES-listed timber species is consistent with their sustainable management and conservation. One of the targeted species mentioned was *Gonystylus bancanus* that was included in CITES Appendix II in 2005.

Gonystylus bancanus is a timber tree that can only grow on peat soils of Peat Swamp Forest. Human development activities such as land conversion into agricultural plantation and human settlement have resulted in the reduction of Peat Swamp Forest coverage in the Sarawak, thus leading to the reduction in ramin production over the years. The new production scenario has been manipulated by irresponsible private agency accusing Sarawak Government of being involved in smuggling and “laundering” of illegal Indonesian ramin to a number of importing countries and failing to carry out a proper non-detriment finding for ramin export, with no effective control in place on ramin harvesting.

In response, the Sarawak Government chose to develop the DNA database for *Gonystylus bancanus* in Sarawak which is an early effort to use DNA for tracing and tracking of timber origin and verification of species. This will enhance the conservation effort to control illegal trade of ramin.

2. Activity objectives and implementation strategy

Specific objective

The specific objectives focused on developing the DNA database as the initial stage to enhance efforts for tracing and tracking of *Gonystylus bancanus* timber; to estimate the genetic diversity of ramin populations in Sarawak and to determine the extent of genetic differentiation among populations that contribute to the baseline information for tracing and tracking system using DNA markers.

Implementation strategy

The strategy applied for the implementation of this activity involved the technical and scientific, and managerial aspects. The technical and scientific matters covered the field surveys and sampling, laboratory experiments and analysis, and data analysis using various computer programs and software for genetic research.

The managerial aspect covered the recruitment of contract officer and research assistant. Training for staff was emphasized particularly for sampling techniques and laboratory experiments and analysis.

3. Activity performance: Differences between planned and realized Activity Implementation

Specific objectives: There was no major change in the specific objectives apart from the terminology used and separating Objective 1. The terminology 'genetic variation' used in the activity document was changed to 'genetic diversity' in the technical report. Objective 2 was ranked as Objective 1 in the technical report and Objective 1 was split into Objective no 2 and 3 in technical report. Details are in the technical report with detail elaboration.

Activity Personnel: The first contract research officer (RO) resigned after working for 1 ½ months

Time schedule: Delay in implementation of field activity at the start was due to the poor weather (rainy season). In addition, purchasing of chemicals and consumables items was also delayed. Time spent for microsatellite analysis took longer than expected as sampling and extraction of DNA have to be completed. It was also due to the longer time spent for optimization of PCR mix. The activity was extended for eight months.

Budget amendment: There was no amendment.

4. Project Achievements

Outputs and specific objectives achieved

To achieve the specific objectives of the Activity three main areas was focused on

- Field surveys including selection of sampling populations based on Sarawak Forest Types maps, marking of sampling points and samples collection.
- Laboratory experiments involving DNA extraction, Polymerase Chain Reaction (PCR) amplification using selected microsatellite markers for *Gonystylus bancanus* and Fragment analysis.
- Statistical analysis of the fragment data.
- Establishment of DNA database on genotype profile.

Target Beneficiaries

The DNA database developed will provide a platform for Malaysia and in particular, Sarawak Government, scientists and research institutions to establish a tracking and tracing system for *Gonystylus bancanus*, and a new system to enhance protection and conservation of the species.

The data accumulated from throughout Peat Swamp Forest in Sarawak, nine populations in all, directly benefited the timber operators, the government and the international bodies involved in the protection of CITES-listed species for determining the legality of timber sources in Sarawak in the future when the system is established.

Through the activity two contract staff were engaged, a number of Sarawak Forestry Corporation staff were involved in accumulating data from throughout Peat Swamp Forest in Sarawak and officers were involved in the laboratory analysis with experts from FRIM.

5. Lessons Learned

To have a complete and reliable database, the plant sampling method was designed to cover the full range of Peat Swamp Forest with existing *Gonystylus bancanus* stands. The focus was on areas gazetted as protected areas, national parks and forest reserve.

Coordination and sense of responsibility among agencies involved was important in initial planning and activities implementation to ensure that activities conducted were according to the activity schedule.

The difficulties encountered during implementation were accessibility to many sampling populations, delay in supply of chemicals and consumables used for laboratory activities, the PCR and microsatellite analysis conducted in FRIM not in Sarawak and longer prior for the analysis than planned.

6. Recommendations

It is recommended that similar activities for *Gonystylus bancanus* be extended to other states in Malaysia and other regions.

It is important that the DNA database obtained be used for further analysis to develop the DNA fingerprinting for identifying timber origin and confirmation of ramin species.

PART II – MAIN TEXT

1.0 PROJECT IDENTIFICATION

1.1 Project Content

Social, economic and environment

Gonystylus bancanus (ramin) is one of the most valuable tropical hardwoods and highly sought after for furniture and other indoor ornament and uses. The high demand for ramin timber caused over exploitation of ramin from the wild in the past resulting in severe reduction of its production over the years. The habitat degradation due to land conversion into agricultural land is a massive threat and produce negative impact on the natural sources of ramin timber.

Project location

The plant materials for extraction of DNA were collected from nine populations of peat swamp forest throughout Sarawak. Partial laboratory analysis were conducted at Forest Research Institute Malaysia because of limited facilities in Sarawak.

Relevant national and regional policies and programs

The exploitation and degradation in peat swamp forest affected the overall ramin production in Sarawak. As a control measure, the Sarawak Government imposed a ban on export of ramin logs that was enforced since 1980, and a ban on export of ramin shorts and squares and restriction of export of ramin timber implemented in 1991. In addition, two areas of peat swamp forest are totally protected as national park namely Loagan Bunut National Park gazetted in 1990, covering an area of 10, 736 hectares and Maludam National Park gazetted in 2000 with a total area of 43,147 hectares.

When ramin was listed under CITES Appendix III in 2001 and later upgraded to Appendix II in 2004, the Sarawak government supported the CITES trade control by providing Customs verification on the CITES Export permit and complying with other requirements needed.

1.2 Origin and problem

The Activity “The development of DNA database for *Gonystylus bancanus* in Sarawak” was proposed in response to issues on genuine timber origin and species identification. It has been reported by foreign NGOs that in order to maintain the ramin production in the state, Sarawak was involved in smuggling and “laundering” of illegal Indonesian ramin. Worse still, Malaysia was also being accused of failing to carry out a proper non-detriment finding of ramin and has no effective control in place on ramin harvesting.

The current method on inspection of timbers is done based on wood anatomy which often enables identification of the timber into genus only. In the case of ramin, the timber is identical with other timber genus which may raise some doubt during court proceeding. The DNA method is useful and its ability to trace timber origin and timber species has been proven. Therefore, the outcome of this Activity would be an early stage in developing DNA fingerprint for tracing and tracking of ramin timber. However, the DNA fingerprinting may have its limitation for tracing and tracking the legality of ramin unless the DNA database of all ramin populations throughout the nation and region are constructed.

2.0 PROJECT OBJECTIVES AND IMPLEMENTATION STRATEGY

Project rationale

Following the urgency to secure ramin legal production according to CITES policy on protected species and to ensure legality of sources and species identity, the application of a reliable technique is necessary. Timber identification by wood anatomy expert though able to identify the genus of the timber, would not be able to determine the source of origin. Though for trading of timber listed in CITES needs verification according to CITES export permit, often the traders circumvent the CITES control by providing false declaration.

This Activity is intended to develop a DNA database as an initial stage in the tracing and tracking system for ramin timber that will enhance the sustainable management of the species by Sarawak Government and CITES control measures on the species. The DNA was extracted and amplified using microsatellite markers. The microsatellite analysis produced DNA fragment database that were then used to construct the DNA database.

At the same time genetic variation and genetic differentiation within and among populations were analysed to determine level of genetic relatedness among the ramin populations in Sarawak. It will provide results whether the populations are related,

separated or fragmented. The results contributed to the baseline information for the tracing and tracking system as well as benefits to the future sustainable management of the remaining ramin habitats in Sarawak.

Specific objective 1

To study the genetic variation and differentiation of *Gonystylus bancanus* population in Sarawak.

Specific objectives 2

To develop the DNA database for *Gonystylus bancanus*

Activity implementation strategy

The activities were as follows:

- 1) Identification and notification of national expert as collaborator.
- 2) Checking and marking those existing peat swamp forest throughout Sarawak having the potential as sampling populations.
- 3) Sampling of plant materials from selected populations.
- 4) Extraction of DNA from collected plant materials.
- 5) Purification of template DNA extracted using high pure PCR template preparation kit.
- 6) Microsatellite analysis involving DNA amplification using Qiagen multiplex PCR and fragment analysis using GeneMapper.
- 7) Statistical analysis of fragment data using various computer programs.

Risk

The bad weather (raining season) at the beginning on the year caused delay in samples collection for three months. Before all the samples were extracted, an extraction protocol would need to be optimized. The DNA amplification using microsatellite markers and fragment analysis were conducted at FRIM. The researchers could not stay for a long period and thus have to travel several times to conduct the analysis. In addition, both analysis depended on availability of equipments and collaborator at FRIM. Furthermore before the actual fragment analysis could be done, markers had to be screened and only markers that able to successfully amplify DNA were selected. Thus, the laboratory work took longer than planned to complete

3.0 PERFORMANCE OF EACH ACTIVITY

Outputs and Operational Activities	Schedule (Duration)
Output 1.1 DNA for population of PSF with Ramin trees extracted	
Activity 1.1.1 Sampling of Ramin populations where leaf and/or inner bark samples will be collected from different population in the PSF	July – September 2009
Activity 1.1.2 Extraction and purification of DNA where the DNA will be extracted from the samples collected and purified using the standard established laboratory protocols	August – October 2009
Output 1.2 Genetic variation and genetic differences within and among population determined	
Activity 1.2.1 Microsatellite analysis where the genetic variation and differentiation will be studied using microsatellite markers developed from this species.	August 2009 – April 2010
Activity 1.2.2 Data analysis where a special computer software program for genetics will be used to analyse the genetic diversity and population genetic structure	October 2009 – May 2010
Output 2.1 Genotype profiles of sampled trees for each population established	
Activity 2.1.1 Generation of genotype profiles where genotype profiles will be compiled according to individual populations to create the DNA database	November 2009 – April 2010
Activity 2.1.2 Dissemination of project finding where the results of the project will be presented through publications, seminars or conferences.	November 2010

Project achievement

Specific objective 1, Output 1.1: DNA for population of PSF with ramin trees extracted.

Sampling of leaf or inner bark samples of ramin was done for 9 populations throughout Sarawak, with at least 30 samples from each population collected. Some PSF were excluded because the areas were earmarked for development. Samples collection in all populations was completed in August 2009. The DNA extraction technique has to undergo several trials before the best protocol (modified CTAB protocol) was chosen to complete the Activity. To yield the high purity DNA, the entire extracted DNA was purified using kit. The purification of DNA helps to achieve better results for the next Output. DNA extraction and purification were completed in October 2009.

Specific objective 1, Output 1.2: Genetic variation and genetic differences within and among population determined

About 25 microsatellite markers were tested, but only 18 were selected to amplify DNA for the Activity. The Activity has achieved its target to analyze genetic variation and differentiation within and among population using 3 types of softwares: FSTAT, GenePop, Genetic Distant Analysis (GDA) and Structure. Genetic variation of the populations were based on the Polymorphic information content, PIC, fixation index, Fis, and expected heterozygosity, He. Overall, most populations have high genetic variation except for Kayangeran Forest Reserve and Loagan Bunut National Park. A total of sixty seven unique alleles were detected providing useful information for tracing of ramin population origin in Sarawak. The statistic test conducted to determine if populations are differentiated from each other based on *Fst* values revealed that populations are significantly differentiated except for populations located at the tributaries of Lupar River. This proved that gene flow has occurred along the watercourse or river. Both unique alleles detected in each population and significant population differentiation is important for future tracing and tracking of ramin origin. However, further research and analysis is needed before it can be used particularly during court proceeding.

Specific objective 2, Output 2.1: Genotype profile of sampled trees for each population established.

The fragment data generated using 18 microsatellite markers was then used to develop the genotype profile for the DNA database of ramin in Sarawak. However the database should not be based on only 18 markers. In order to have a reliable database with high accuracy more markers and other marker types have to be screened and tested. At the same time, cooperation from other local government and neighboring countries with ramin populations is required to extend similar project on ramin to their respective areas. Once the ramin database is completed for the whole region it will enhance the CITES effort to combat illegal trading on ramin in this region.

The technical report for this Activity is: Developing DNA Database for *Gonystylus bancanus* in Sarawak.

Total Amount of Expenditure and Analysis

From the ITTO contribution of US\$52,670.00.00 a total of US 52,635.88 was spent with a balance of US\$ 34.12 as reflected in the 'Activity Cash Flow Statement - ITTO contribution' and the 'Activity Financial Statement - ITTO contribution' in **Annex 1**. The contribution from

the Government of Malaysia was US\$ \$59,213.00, of which a total of US\$ 58, 877.83 was spent as shown in the 'Activity Cash Flow Statement – Government of Malaysia (GoM) contribution' and the 'Activity Financial Statement -GoM contribution' in **Annex 2**.

4.0 TARGET BENEFICIARIES INVOLVEMENT

The Activity implemented could be used as a guide for implementation of similar project on ramin in other region by other local government, scientist and researchers with similar interest. This is particularly for the extraction protocol developed from a modification of CTAB method and the range of markers used. The database developed could only be used to provide information regarding ramin in Sarawak. Thus it is beneficial mainly to the Sarawak Government and Malaysia Government in general. At the same time, information related to the genetic diversity of ramin populations would benefit the private sector in the forest plantation business and conservationist looking for good sources of planting material.

5.0 ASSESSMENT AND ANALYSIS

- 5.1 The Activity design has been efficient in achieving the Activity Objectives and to answer key issues raised in the Activity Documentation.
- 5.2 Implementation strategies which have been taken through technical, scientific and managerial aspects have been effective in the execution of the Activity operational activities and produce outputs.
- 5.3 In general, the execution of the Activity has been in accordance with the expectation made during the Activity identification process, the problem to be addressed and the outputs achieved through the implementation approach.
- 5.4 The Activity was implemented on schedule with involvement of experts in scientific analysis from FRIM.
- 5.5 The expected output achieved through this Activity is necessary for the development of tracing and tracking system for Ramin wood in the supply and production chain.

6.0 LESSONS LEARNED

Activity Development

To ensure the successful implementation and completion of the Activity, cooperation and support from several stakeholders involved are required. This includes the timber concessionaires, several Ministries and government agencies. Sampling around state land outside the protected areas required knowledge of a clear land status. Forest areas that are earmarked for development should be identified and marked. Clear picture on land status would make the sampling easier.

Operational matters

Delay of activity implemented due to the bad weather (rainy season) could be avoided if the implementation of the activity could be started after the season is over. In addition the success of the project also depended on the commitment from other institutions (collaborative agencies) involved and availability of equipment and software for analysis.

7.0 CONCLUSION AND RECOMMENDATION

Development Lessons

Even though the current status for the peat swamp forest in Sarawak is still unclear the Activity objective has been successfully achieved with cooperation from respective collaborative agency, state government and relevant agencies involved. It is recommended that:

- Efforts should be made to encourage and promote interest in the conservation and research on ramin.
- The Sarawak Government, timber concessionaires and related agencies should continue to support research projects pertaining to the conservation of ramin.
- The government must clarify the status of peat swamp forest in Sarawak

Operation Lessons

The Activity Coordinator plays an important role to ensure successful execution of the Activity. The support and cooperation from the managers and researchers in Sarawak Forestry Corporation, collaborating agency (FRIM), Sarawak Forest Department and other staff as well as local people around the selected peat swamp forest has ensured the smooth operation of the activities at the planning and implementation levels.

8.0 RECOMMENDATION FOR FUTURE PROJECT

It is highly recommended that the research on ramin DNA for timber tracking and tracing be continued since it is the most reliable method to identify timber species and origin. Application on timber samples should be conducted. In addition, it is also important to encourage other state government and neighbouring countries to conduct similar project in their respective areas with ramin populations.

ACTIVITY CASH FLOW STATEMENT (in US Dollar)**ITTO CONTRIBUTION**

Programme Title: ITTO-CITES 2008

Activity No. : 5

Period covered (ending on): 30 June 2011

Activity Title: Developing DNA Database for *Gonystylus bancanus* in Sarawak.

Component	Reference	Date	Amount	
			in US\$	Local Currency In RM
A. <u>Funds received from ITTO:</u>				
1. First instalment		Mar-09	35,036.71	122,992.50
2. Second Instalment		20/04/2010	17,633.29	61,899.74
3. Third instalment				
4. Fourth instalment				
5. Interest on bank deposits				
Total Funds Received:			52,670.00	184,892.24
B. <u>Expenditures (by Executing Agency):</u>				
10. Personnel				
11. Coordinator				
12. Other Personnel				
12.1 Assistant 1			9,013.81	31,642.00
12.2 Assistant 2			5,782.25	20,297.95
12.3 Other labour				
13. National Experts				
13.1 Expert 1				
13.2 Expert 2				

CASH FLOW STATEMENT (in US Dollar)
Continued

Component	Reference	Date	Amount	
			in US\$	Local Currency In RM
13.3 Expert 3				
14. International Consultant(s)				
14.1 Consultant 1				
14.2 Consultant 2 (Raw materials)				
15 Personnel Total:			14,796.06	51,939.95
16. Workshop/Seminar and Training (specify beneficiaries)				
16.1 Travel/Transportation Costs (participants)				
16.2 Daily Subsistence Allowances (participants)				
16.3 Venue and Logistics				
16.4 Workshop Materials				
16.5 Others				
17. Workshop/Seminar and Training Total:			0.00	0.00
20. Sub-contracts				
21. Sub-contract (Topic e.g. mapping, etc.))				
22. Sub-contract (Topic 2)				
29. Sub-contracts Total:			0.00	0.00

ACTIVITY CASH FLOW STATEMENT (in US Dollar)

Continued

Component	Reference	Date	Amount	
			in US\$	Local Currency in RM
30. Travel				
Daily Subsistence				
31. Allowance				
31.1 National Expert(s)				
31.2 International Consultant(s)				
31.3 Others			9,993.99	35,082.80
32. International Travel				
32.1 National Expert(s)				
32.2 International Consultant(s)				
32.3 Others				
33. Local Transport Costs				
33.1 National Expert(s)				
33.2 International Consultant(s)				
33.3 Others			1,998.70	7,016.20
39. Travel Total:			11,992.68	42,099.00
40. Capital Items				
41. Premises				
42. Vehicle(s)				
43. Capital Equipment				
43.1 Computer Equipment (specify)				
43.2 Others (specify)				
49. Capital Items Total:			0.00	0.00
50. Consumable Items				
51. Raw materials			14,999.84	52,655.30

ACTIVITY CASH FLOW STATEMENT (in US Dollar)

Continued

Component	Reference	Date	Amount	
			in US\$	Local Currency in RM
52. Spares				
53. Utilities			997.41	3,501.30
54. Office Supplies			996.19	3,497.00
59. Consumable Items Total:			16,993.44	59,653.60
60. Miscellaneous				
61. Sundry			999.15	3,507.40
62. Contingencies			7,866.93	27,616.00
69. Miscellaneous Total:			8,866.08	31,123.40
70. Others (specify)				
71. Others -Deposit to open account			-28.49	-100.00
Bank service charges & cheque stamps			16.10	56.50
79. Others Total:			-12.39	-43.50
Total Expenditures To- date:			52,635.88	184,772.45
Remaining Balance of Funds (A-B):			34.12	119.79

Average exchange rate for expenditure : 1USD = RM3.51039

- Notes:**
- (1) Amounts in U.S. dollars are converted using the average rate of exchange when funds were received by the Executing Agency;
 - (2) Amount of expenditures in US dollar should be the same as amount shown in column (c) of the Financial Statement (with direct link from the Cash Flow Statement);
 - (3) Provide a **list of all expenditure components** (listing the expenditures on excel format, showing date, payee, category/components of expenditures and the amount, both in local currency and in US dollar);
 - (4) Submit all **actual supporting payment documents/evidences** (filed in the same sequence as the entries in the list of expenditures in (3) above); and
 - (5) Submit **bank reconciliation statements** along with the bank statement to support the remaining balances/funds in the Cash Flow Statement.

ACTIVITY FINANCIAL STATEMENT (in US Dollar)
ITTO CONTRIBUTION

Programme Title: ITTO-CITES 2008

Activity No. :5

Period covered (ending on): 30 June 2011

Activity Title: Developing DNA Database for *Gonystylus bancanus* in Sarawak.

Component	Original Amount (A)	Expenditures To-date			Available Funds (E)
		Accrued (B) b/	Expended (C)	Total (D) {B+C}	
I. <u>Funds managed by Executing Agency</u>					
10. Personnel					
11. Coordinator			0.00		
12. Other Personnel			0.00		
12.1 Assistant 1	9,000.00		9,013.81	9,013.81	-13.81
12.2 Assistant 2	5,800.00		5,782.25	5,782.25	17.75
12.3 Other labour			0.00		
13. National Experts			0.00		
13.1 Expert 1			0.00		
13.2 Expert 2			0.00		
13.3 Expert 3			0.00		
International					
14. Consultant(s)			0.00		
14.1 Consultant 1			0.00		
14.2 Consultant 2			0.00		
Raw materials			0.00	0.00	
15. Personnel Total:	14,800.00	0.00	14,796.06	14,796.06	3.94

ACTIVITY FINANCIAL STATEMENT (in US Dollar)

Continued

Component	Original Amount (A)	Expenditures To-date			Available Funds (E)
		Accrued (B) b/	Expended (C)	Total (D) {B+C}	
16. Workshop/ Seminar and Training (specify beneficiaries)			0.00		
16.1 Travel/ Transportation (participants)			0.00		
16.2 Daily Subsistence Allowances (participants)			0.00		
16.3 Venue and Logistics					
16.4 Workshop Materials					
16.5 Others					
17. Workshop/ Seminar and Training Total:	0.00	0.00	0.00	0.00	0.00
20. Sub-contracts					
21. Sub-contract (Topic e.g. mapping, etc.)	0.00	0.00	0.00	0.00	0.00
22. Sub-contract (Topic 2)	0.00	0.00	0.00	0.00	0.00
29. Component Total:	0.00	0.00	0.00	0.00	0.00

ACTIVITY FINANCIAL STATEMENT (in US Dollar)

Continued

Component	Original Amount (A)	Expenditures To-date			Available Funds (E)
		Accrued (B) b/	Expended (C)	Total (D) {B+C}	
30. Travel					
31. Daily Subsistence Allowance					
31.1 National Expert(s)			0.00		
31.2 International Consultant(s)			0.00		
31.3 Others	10,000.00		9,993.99	9,993.99	6.01
32. International Travel					
32.1 National Expert(s)			0.00		
32.2 International Consultant(s)			0.00		
32.3 Others			0.00		
33. Local Transport Costs					
33.1 National Expert(s)			0.00		
33.2 International Consultant(s)			0.00		
33.3 Others	2,000.00		1,998.70	1,998.70	1.30
39. Travel Total:	12,000.00	0.00	11,992.68	11,992.68	7.32

ACTIVITY FINANCIAL STATEMENT (in US Dollar)

Continued

Component	Original Amount (A)	Expenditures To-date			Available Funds (E)
		Accrued (B) b/	Expended (C)	Total (D) {B+C}	
40. Capital Items					
41. Premises			0.00		
42.. Vehicle(s)			0.00		
43. Capital Equipment					
43.1 Computer Equipment (specify)			0.00		
43.2 Others			0.00		
49. Capital Items Total:	0.00	0.00	0.00	0.00	0.00
50. Consumable Items					
51. Raw Materials	15,000.00		14,999.84	14,999.84	0.16
52. Spares			0.00		
53. Utilities	1,000.00		997.41	997.41	2.59
54. Office Supplies	1,000.00		996.19	996.19	3.81
59. Consumable Items Total:	17,000.00	0.00	16,993.44	16,993.44	6.56
60. Miscellaneous					
61. Sundry	1,000.00		999.15	999.15	0.85
62. Contingencies	7,870.00		7,866.93	7,866.93	3.07
69. Miscellaneous Total:	8,870.00	0.00	8,866.08	8,866.08	3.92

ACTIVITY FINANCIAL STATEMENT (in US Dollar)

Continued

Component	Original Amount (A)	Expenditures To-date			Available Funds (E)
		Accrued (B) b/	Expended (C)	Total (D) {B+C}	
70. Others (specify)					
71. Others -stamp duty			-28.49	-28.49	28.49
Refund of deposit			16.10	16.10	-16.10
79. Others Total	0.00	0.00	-12.39	-12.39	12.39
100. GRAND TOTAL:	52,670.00	0.00	52,635.88	52,635.88	34.12

Average exchange rate for expenditure: 1USD = RM3.51039

Note: Budget Components are those detailed in the Activity Document.

- a/ The **Cash Flow Statement must be completed first**, before the other inputs into this Financial Statement;
- b/ Accrued expenditure: expenditures incurred during the reporting period, but not yet settled;
- c/ Amounts under the "Expended" column will be transferred automatically from the Cash Flow Statement (with direct link); and
- d/ Refer to the notes in the Cash Flow Statement for the supporting **information and documents** that are to be submitted to the ITTO Secretariat.

ACTIVITY CASH FLOW STATEMENT (in US Dollar)
GOVERNMENT OF MALAYSIA CONTRIBUTION

Programme Title: ITTO-CITES 2008

Activity No.: 5

Period covered (ending on): 30 June 2011

Activity Title: Developing DNA Database for *Gonystylus bancanus* in Sarawak.

Component	Reference	Date	Amount	
			in US\$	Local Currency in RM
A. <u>Funds received from GoM:</u>				
1. First installment		Mar-09	59,213.00	207,860.72
2. Second Installment				
3. Third installment				
4. Fourth installment				
5. Interest on bank deposits				
Total Funds Received:			59,213.00	207,860.72
B. <u>Expenditures (by Executing Agency):</u>				
10. Personnel				
11. Coordinator			7,192.93	25,250.00
12. Other Personnel				
12.1 Assistant 1			5,298.56	18,600.00
12.2 Assistant 2			1,210.69	4,250.00
12.3 Other labour			5,212.44	18,297.71
13. National Experts				
13.1 Expert 1			3,857.12	13,540.00
13.2 Expert 2			2,817.35	9,890.00
13.3 Expert 3			2,364.41	8,300.00
14. International Consultant(s)				
14.1 Consultant 1				
14.2 Consultant 2				
15 Personnel Total:			27,953.51	98,127.71

ACTIVITY CASH FLOW STATEMENT (in US Dollar)

Continued

Component	Reference	Date	Amount	
			in US\$	Local Currency in RM
16. Workshop/Seminar and Training (specify beneficiaries) 16.1 Travel/Transportation Costs (participants) 16.2 Daily Subsistence Allowances (participants) 16.3 Venue and Logistics 16.4 Workshop Materials 16.5 Others				
17. Workshop/Seminar and Training Total:			0.00	0.00
20. Sub-contracts				
21. Sub-contract (Topic e.g. mapping, etc.)				
22. Sub-contract (Topic 2)				
29. Sub-contracts Total:			0.00	0.00
30. Travel				
31. Daily Subsistence Allowance				
31.1 National Expert(s)				
31.2 International Consultant(s)				
31.3 Others				
32. International Travel				
32.1 National Expert(s)				
32.2 International Consultant(s)				
32.3 Others				
			1,566.78	5,500.00

ACTIVITY CASH FLOW STATEMENT (in US Dollar)

Continued

Component	Reference	Date	Amount	
			in US\$	Local Currency in RM
33. Local Transport Costs 33.1 National Expert(s) 33.2 International Consultant(s) 33.3 Others			2,350.17	8,250.00
39. Travel Total:			3,916.94	13,750.00
40. Capital Items				
41. Premises				
42. Vehicle(s)				
43. Capital Equipment				
43.1 Computer Equipment (specify)				
43.2 Others (lab equip)			13,443.24	47,191.00
49. Capital Items Total:			13,443.24	47,191.00
50. Consumable Items				
51. Raw materials			5,505.09	19,325.00
52. Spares			205.11	720.00
53. Utilities			1,837.63	6,450.80
54. Office Supplies			2,022.80	7,100.80
59. Consumable Items Total:			9,570.62	33,596.60
60. Miscellaneous				
61. Sundry			1,281.91	4,500.00
62. Contingencies			2,711.62	9,518.84
69. Miscellaneous Total:			3,993.53	14,018.84

ACTIVITY CASH FLOW STATEMENT (in US Dollar)

Continued

Component	Reference	Date	Amount	
			in US\$	Local Currency in RM
70. Others (specify)				
71. Others (specify)				
79. Others Total:			0.00	0.00
Total Expenditures To-date:			58,877.83	206,684.15
Remaining Balance of Funds (A-B):			335.17	1,176.57

Average exchange rate for expenditure : 1USD = RM3.485

Notes:

- (1) Amounts in U.S. dollars are converted using the average rate of exchange when funds were received by the Executing Agency;
- (2) Amount of expenditures in US dollar should be the same as amount shown in column (c) of the Financial Statement (with direct link from the Cash Flow Statement);
- (3) Provide a **list of all expenditure components** (listing the expenditures on excel format, showing date, payee, category/components of expenditures and the amount, both in local currency and in US dollar);
- (4) Submit all **actual supporting payment documents/evidences** (filed in the same sequence as the entries in the list of expenditures in (3) above); and
- (5) Submit **bank reconciliation statements** along with the bank statement to support the remaining balances/funds in the Cash Flow Statement.

ACTIVITY FINANCIAL STATEMENT (in US Dollar)
GOVERNMENT OF MALAYSIA CONTRIBUTION

Programme Title: ITTO-CITES 2008

Activity No.: 5

Period covered (ending on): 30 June 2011

Activity Title: Developing DNA Database for *Gonystylus bancanus* in Sarawak.

Component	Original Amount (A)	Expenditures To-date			Available Funds (E) { A - D }
		Accrued (B) b/	Expended (C)	Total (D) { B + C }	
I. Funds managed by Executing Agency					
10. Personnel					
11. Coordinator	5,000.00		7,192.93	7,192.93	-2,192.93
12. Other Personnel					
12.1 Assistant 1	4,000.00		5,298.56	5,298.56	-1,298.56
12.2 Assistant 2	1,000.00		1,210.69	1,210.69	-210.69
12.3 Other labour	3,000.00		5,212.44	5,212.44	-2,212.44
13. National Experts			0.00	0.00	
13.1 Expert 1	3,000.00		3,857.12	3,857.12	-857.12
13.2 Expert 2	3,000.00		2,817.35	2,817.35	182.65
13.3 Expert 3			2,364.41	2,364.41	7,600.00
14. International Consultant(s)			0.00		
14.1 Consultant 1			0.00		
14.2 Consultant 2			0.00		
15. Personnel Total:	19,000.00	0.00	27,953.51	27,953.51	-8,953.51

ACTIVITY FINANCIAL STATEMENT (in US Dollar)

Continued

Component	Original Amount (A)	Expenditures To-date			Available Funds (E) { A - D }
		Accrued (B) b/	Expended (C)	Total (D) { B + C }	
16. Workshop/ Seminar and Training (specify beneficiaries)			0.00		
16.1 Travel/ Transportation Costs (participants)			0.00		
16.2 Daily Subsistence Allowances (participants)			0.00		
16.3 Venue and Logistics			0.00		
16.4 Workshop Materials			0.00		
16.5 Others			0.00		
17. Workshop/Seminar and Training Total:	0.00	0.00	0.00	0.00	0.00
20. Sub-contracts					
21. Sub-contract (Topic e.g. mapping, etc.)			0.00		
22. Sub-contract (Topic 2)			0.00		
29. Component Total:	0.00	0.00	0.00	0.00	0.00

ACTIVITY FINANCIAL STATEMENT (in US Dollar)

Continued

Component	Original Amount (A)	Expenditures To-date			Available Funds (E) { A - D }
		Accrued (B) b/	Expended (C)	Total (D) { B + C }	
30. Travel					
31. Daily Subsistence Allowance					
31.1 National Expert(s)			0.00		
31.2 International Consultant(s)			0.00		
31.3 Others	3,000.00		1,566.78	1,566.78	1,433.22
32. International Travel					
32.1 National Expert(s)			0.00		
32.2 International Consultant(s)			0.00		
32.3 Others			0.00		
33. Local Transport Costs			0.00		
33.1 National Expert(s)			0.00		
33.2 International Consultant(s)			0.00		
33.3 Others	2,000.00		2,350.17	2,350.17	-350.17
39. Travel Total:	5,000.00	0.00	3,916.94	3,916.94	1,083.06

ACTIVITY FINANCIAL STATEMENT (in US Dollar)

Continued

Component	Original Amount (A)	Expenditures To-date			Available Funds (E) { A - D }
		Accrued (B) b/	Expended (C)	Total (D) { B + C }	
40. Capital Items					
41. Premises			0.00		
42.. Vehicle(s)			0.00		
43. Capital Equipment			0.00		
43.1 Computer Equipment (specify)			0.00		
43.2 Others	15,200.00		13,443.24	13,443.24	1,756.76
49. Capital Items Total:	15,200.00	0.00	13,443.24	13,443.24	1,756.76
50. Consumable Items					
51. Raw Materials	6,000.00		5,505.09	5,505.09	494.91
52. Spares	2,000.00		205.11	205.11	1,794.89
53. Utilities	2,500.00		1,837.63	1,837.63	662.37
54. Office Supplies	2,000.00		2,022.80	2,022.80	-22.80
59. Consumable Items Total:	12,500.00	0.00	9,570.62	9,570.62	2,929.38
60. Miscellaneous					
61. Sundry	1,513.00		1,281.91	1,281.91	231.09
62. Contingencies	6,000.00		2,711.62	2,711.62	3,288.38
69. Miscellaneous Total:	7,513.00	0.00	3,993.53	3,993.53	3,519.47

ACTIVITY FINANCIAL STATEMENT (in US Dollar)
Continued

Component	Original Amount (A)	Expenditures To-date			Available Funds (E) { A - D }
		Accrued (B) b/	Expended (C)	Total (D) { B + C }	
70. Others (specify) 71. Others (specify)			0.00		
79. Others Total	0.00	0.00	0.00	0.00	0.00
100. GRAND TOTAL:	59,213.00	0.00	58,877.83	58,877.83	335.17

Average exchange rate for expenditure : 1USD = RM3.485

Note: Budget Components are those detailed in the Activity Document.

The **Cash Flow Statement must be completed first**, before the other inputs into this
a/ Financial Statement;

b/ Accrued expenditure: expenditures incurred during the reporting period, but not yet settled

c/ Amounts under the "Expended" column will be transferred automatically from the
Cash Flow Statement (with direct link); and

d/ Refer to the notes in the Cash Flow Statement for the supporting **information and**
documents that are to be submitted to the ITTO Secretariat.