PROJECT INFORMATION SHEET

PIP No : **1230**

(To be allocated by MOP)

PART A : BASIC PROJECT INFORMATION

(Must be completed in all cases)

1. PROJECT NAME: **Investigating the Risk of Human Disease from Parasites of Small Mammals and Bats.**

2. PROJECT DATES:

PROJECT START: **12/1/2016**

ESTIMATED COMPLETION: **12/30/2020**

3. TOTAL PROJECT COST: **$1,125,000**

4. RESPONSIBLE MINISTRY: **Ministry of Agriculture, Forestry and Fisheries**

RESPONSIBLE UNIT: **Forestry Administration**

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5. PROJECT STATUS: **Completed**

DETAILED PROJECT INFORMATION

6. TYPE OF PROJECT: **Free-standing technical assistance**

7. SOURCE OF PROJECT FUNDING: **Grant**

8. THE POLICY AREA OF THE PENTAGON STRATEGY PHASE I THAT THIS PROJECT FALLS UNDER:V

Side 1. Institutional Reforms and Strengthening

9. THE CONTRIBUTION OF THE PROJECT TO ACHIEVE THE ABOVE POLICY:

• Continuing to conduct surveys for conserving wildlife resources;
• Continuing to conserve, research, and compile technical reports on presence of small mammal species (bats and rodents);
• Assessing risks, surveillance system, and measures and prevention of zoonosis outbreaks via field sampling and laboratory diagnosis.

10. SUPPORT TO CAMBODIA INDUSTRIAL DEVELOPEMENT POLICY:

Does this Project support to the implementation of the Cambodia Industrial Development Policy? **No**

11. SECTOR:

Environment and Conservation (includes Forestry sector)	**Forestry Sector**

12. PROJECT LOCATION: (Describe the location of the project and its components.)

All Provinces,

13. PROJECT OBJECTIVE: (Describe the major purpose of the project.)

• Determine the epidemiological potential, the evolution of viruses caused by small mammals, bats and potential bacteria that can transmit animal diseases (Sonotic Disease)
• Investigate the extent of parasitic transmission caused by small mammals to humans
• Produces spatio-temporal models for risk analysis of potential human-to-human parasites - small mammals, bats - humans.

14. PROJECT DESCRIPTION: (Provide a description of the project and all its components.)

The project entitled "The Investigating the Risk of Human Disease from Parasites of Small Mammals and Bats" was signed with a Memorandum of Understanding between key stakeholders encompassing the Forestry Administration (FA), the General Department of Animal Health and Animal Production (GDAHP) and DUKE University (USA), the National University of Singapore, on January 30, 2017. This project has been implemented by the Department of Wildlife and Biodiversity of the Forestry Administration.

15. PROJECT JUSTIFICATION: (Give reasons why this particular project is considered worthwhile.)

• Location for sampling in natural forest is determined.
• Laboratory equipment is supplied, easy to conduct research
• Forestry Administration Officer, General Department of Animal Health and Animal Production of the Kingdom of Cambodia, DUKE University, USA, National University of Singapore, NAMRU II Laboratory, Royal University of Phnom Penh, FFI have been trained on lethal and catch-release sampling methods, as well as laboratory tests for detecting viruses in those tissues and sera samples.

16. BENIFITS: (Who will benefit, directly and indirectly, from the project?)

This research projects have made significant contributions to the forestry sector, the conservation of wildlife resources, especially in area of developing surveillance system and emergency for the infectious outbreaks and pandemics of zoonoses in order to reduce risks resulted from viral disease spread among local communities and stakeholders.

17. FEASIBILITY STUDY

Is a Feasibility Study for the project required? **No**

If YES, has it been carried out? **Not yet**

18. SOCIAL & ENVIRONMENT IMPACT: (Briefly describe the effects of the project, if any, on the people and the surrounding enviroment. Will the project assist in alleviating poverty?)

The project has helped to alleviate poverty by training local communities via raising their awareness of viral disease attributed by wildlife trafficking, capturing wild animals for consumption to prevent wildlife-to-human transmission.

19. CLIMATE CHANGE

a. Is any activity or output of the project related to Climate Change? **Yes**

If Yes, please indicate **Adaptation**

b. How is the project relevant to Climate Change?

Please select a Climate Change related sector of the project and fill up the contribution of the climate change related expenditure compared to the total project cost.

Climate Change-Related Sector	Percentage	Climate Change Relevance
3. Disaster reduction	**100**	**Very Significant**

20. DISASTER RISK REDUCTION

Is any activity or output of the project related to Disaster Risk Reduction? **Yes**

If Yes, please indicate **Prevention**

21. GENDER ANALYSIS: (How does the project affect the roles of the men and women in the project area? Will women be actively involved in the implementation of the project?)

The project does not affect the roles of men and women in the project site, as the composition of women actively participates in the role of project officer and project activities.

22. CAPACITY TO IMPLEMENT: (Does the Ministry have the skills and experience required to implement the project?)

Project implementation officers have sufficient skills, abilities and experience to implement the project.

23. STATUS OF PROJECT IMPLEMENTION: (Provide a brief update on the progress of the project to date. Discuss any major problems causing delays in project implementation.)

The project has achieved substantial results:
• Collected 3,500 wild animals that were captured and sampled (> 2,000 animals were sampled with catch-release method) from 230 sampling sites across Cambodia;
• Collected 32929 samples including blood sera, lung, spleen, kidney, and other tissues from those animals (bats, rodents and squirrel;
• Identified 74 species of bats and more than 20 species of rodents and squirrels;
• Tissues tested with (1) 1,250 samples of lung, spleen, kidney and (2) 618 brain samples for RNA/DNA extraction;
• RNA Extraction and Testing with PCR, from RNA to cDNA for detecting the presences of viruses from (1) 1,233 samples of lung, spleen, kidney; (2) 3,451 rectal swabs; (3) 599 brain samples;
• DNA Extraction with (1) 1,232 samples of lung, spleen, kidney; (2) 1,495 sera samples;
• PCR tests with rectal swabs: (1) 1,023 samples for detecting Hepatitis (35 samples positive); (2) 3,429 samples for detecting Paramyxovirus (673 samples positive); (3) 1,874 samples for detecting Filovirus (39 samples positive); (4) 3,451 samples for detecting Coronavirus (253 samples positive); (5) 3,451 samples for detecting Astrovirus (1,040 samples positive);
• PCR Tests with samples of lung, spleen, and kidney: (1) 1,232 samples for detecting Paramyxovirus (378 samples positive); (2) 1,232 samples for detecting Leptospirosis (156 samples positive); (3) 1,233 samples for detecting Hantavirus (Tested at IPC); (4) 570 samples for detecting Filovirus (210 samples positive); (5) 1,233 samples for detecting Bartonella (214 samples positive); (6) 1,231 samples for detecting Barcoding (25 samples negative); (7) 1,248 samples for detecting Arenavirus (tested at IPC); (8) 1,231 samples for detecting Anaplasma (941 samples positive);
• PCR Tests with sera samples: (1) 1,495 samples for detecting Batonella (238 samples positive); (2) 1,534 samples for detecting Barcoding (163 samples negative); (3) 1,495 samples for detecting Anaplasma (1,401 samples positive);
• PCR Tests with brain samples: (1) 462 samples for detecting Rhabdovirus (61 samples positive).

24. PROJECT PRIORITY: (Please indicates the priority ranking of the project decided by the ministry/agency.)

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25. DONOR INVOLVEMENT: (Provide any information on current or potential donor involvement in the project.)

The project is funded by Defense Threat Reduction Agency of the Department of Defense, USA "DTRA" for a period of 5 years from 2016-2020.

PART B : PROJECT COSTS AND FUNDING SOURCES
(In US$'000)

INVESTMENT COST	2020		2021 Budget	2022 Estimate	2023 Estimate	2024 Estimate	3yr Total 2022-2024	Recurrent Cost Est.
	Budget	Actual						
Operational Expenditure	241.0	241.0	25.0	0.0	0.0	0.0	0.0	0.0
Salaries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Materials + Admin	241.0	241.0	25.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital Expenditure	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Consultancy (i.e. TA) + Admin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equipment+ Furniture	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Training	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL COST	241.0	241.0	25.0	0.0	0.0	0.0	0.0	0.0

FUNDING SOURCES	2020		2021 Budget	2022 Estimate	2023 Estimate	2024 Estimate	3yr Total 2022-2024	
	Budget	Actual						
Project Revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Government Funding	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Cash Input	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Other Resources	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Donor Funding	241.0	241.0	25.0	0.0	0.0	0.0	0.0	
United States of America	241.0	241.0	25.0	0.0	0.0	0.0	0.0	
TOTAL COMMITTED FUNDING	241.0	241.0	25.0	0.0	0.0	0.0	0.0	
FUNDING REQUIRED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
(Total Cost - Funding Available)								

Seen and Approved by Minister

(Signature)

Date :