

UNIVERSITI SAINS MALAYSIA
GERAN PENYELIDIKAN UNIVERSITI PENYELIDIKAN
LAPORAN AKHIR

IMPACT ON ENVIRONMENTAL ASSETS: ELUCIDATING THE
NUTRITIONAL AND IMMUNOLOGICAL FACTORS AS THE
CONTRIBUTING TO HEALTH STATUS AMONG FLOOD
VICTIM IN KELANTAN

PENYELIDIK

PROFESOR DR. ROSLINE BT HASSAN

PENYELIDIK BERSAMA

AZLAN HUSIN
WAN ZAIDAH ABDULLAH
SUHAIR ABBAS AHMED
ROHANA ABDUL JALIL
RAPIAAH MUSTAFFA
CHE MARAINA CHE HUSSIN
NOOR AMAN A. HAMID
NIK NOOR FADHILAH NIK MANSOR

2017

BORANG TRGS BANJIR - P2(PROGRAM)

YEAR	2016
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FINAL REPORT
GERAN PENYELIDIKAN PENGURUSAN BENCANA BANJIR
Laporan Akhir Skim Geran Penyelidikan Transdisiplinari (TRGS)
Tahun 2015

A. PROGRAM INFORMATION

YEAR: 2016

RESEARCH TITLE: Health and Safety: Assessing Health Impacts of Floods Disaster in Kelantan Toward Developing Effective Preparedness & Response Programmes

THEME CODE: 1.0
(Please refer attachment)

SUBTHEME CODE:

Please Tick (✓)

PHASE:	01: Pre-Disaster	<input type="checkbox"/>	02: During Disaster	<input type="checkbox"/>	03: Post-Disaster	<input checked="" type="checkbox"/>
AREA:	01: Preventive	<input type="checkbox"/>	02: Preparedness	<input checked="" type="checkbox"/>	03: Rescue and Recovery	<input type="checkbox"/>
	04: Adaptation	<input type="checkbox"/>	05: Mitigation	<input type="checkbox"/>		

THEME:
SUB THEME:

START DATE: 1 April 2015
END DATE (EXPECTED): 30 April 2016

PROJECT STATUS: (ACTIVE / TERMINATED / COMPLETED)

PROGRAM LEADER: Prof Dr Rosline Hassan
I/C NUMBER: 650202035442



B. PROGRAM ACHIEVEMENT

ACHIEVEMENT PERCENTAGE				
Program progress according to milestones achieved up to this period	0 - 25%	26 - 50%	51 - 75%	76 - 100%
Percentage (please state (%))				100%
RESEARCH OUTPUT				
Number of articles/ manuscripts/ books	Indexed Journal		Non-Indexed Journal	

(Please attach the First Page of Publication)	2	3
Conference Proceeding (Please attach the First Page of Publication)	International	National
		9
Intellectual Property (Please specify)	Printed materials and audio-visual kits (2 series of flip charts, 2 series of PowerPoint slides, 3 series of health education flyers, 10-minute video with captions), 2 ISBN-printed modules (Dengue and Aedes Mosquito: Know Your Enemy, 1 in re-printing process) Book chapter 1	
Number and title of Policy Paper / SOP / Technology Solution (Please specify)	1. 2. 3.	

HUMAN CAPITAL DEVELOPMENT					
Human Capital	Number				Others (please specify)
	On-going		Graduated		
Citizen	Malaysian	Non Malaysian	Malaysian	Non Malaysian	
No. PHD STUDENT	1				
No. MASTER STUDENT	4				
No. RA/RO	5				
Total	10				

C. EXPENDITURE

Budget Approved (Peruntukan diluluskan) : RM 575,867.00
Amount Spent (Jumlah Perbelanjaan) : RM 521,034.49
Balance (Baki) : RM 54,832.51
Percentage of Amount Spent : 90.48 %
 (Peratusan Belanja)

Date : 6/6/2014
Tarikh

Project Leader's Signature:
Tandatangan Ketua Projek



F. COMMENTS, IF ANY/ ENDORSEMENT BY RESEARCH MANAGEMENT CENTER (RMC)
(Komen dan Pengesahan oleh Pusat Pengurusan Penyelidikan)

Name:
Nama:

Signature:
Tandatangan:



Date:
Tarikh:

PROF. DR LEE KEAT TEO
Pensyarah
Pejabat Pengurusan & Kreativiti Penyelidikan
Universiti Sains Malaysia

YEAR	2016
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KEMENTERIAN
PENDIDIKAN
MALAYSIA

FINAL REPORT
GERAN PENYELIDIKAN PENGURUSAN BENCANA BANJIR
 Laporan Akhir Skim Geran Penyelidikan Transdisiplinari (TRGS)
 Tahun 2015

A. PROJECT INFORMATION

YEAR: 2016

RESEARCH TITLE:

Impact on Environmental Assets: Elucidating the Nutritional and Immunological Factors as the Contributing to Health Status Among Flood Victim in Kelantan

THEME CODE:1.0

(Please refer attachment)

SUBTHEME CODE:

Please Tick (√)

PHASE: 01: Pre-Disaster

02: During Disaster

03: Post-Disaster

AREA: 01: Preventive

02: Preparedness

03: Rescue and Recovery

04:Adaptation

05: Mitigation

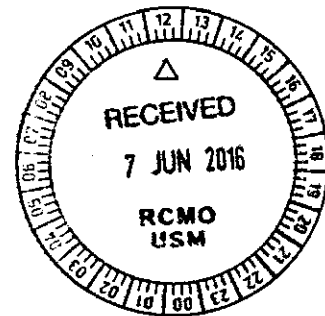
START DATE: 1 April 2015

END DATE (EXPECTED): 30 April 2016

PROJECT STATUS: (ACTIVE / TERMINATED / COMPLETED)

PROJECT LEADER: Prof Dr Rosline Hassan

IC / PASSPORT NUMBER: 650202035442



- PROJECT MEMBERS :
1. AzlanHusin
 2. WanZaidahAbdullah
 3. SuhairAbbasAhmed
 4. RohanaAbdul Jalil
 5. RapiaahBintiMustaffa
 6. CheMarainaChe Hussin
 7. Noor Aman A. Hamid
 8. Nik Noor Fadhilah Nik Mansor

(including GRA/RA/RO)

B. PROJECT ACHIEVEMENT (Prestasi Projek)

ACHIEVEMENT PERCENTAGE				
Project progress according to milestones achieved up to this period	0 - 25%	26 - 50%	51 - 75%	76 - 100%
Percentage (please state #%)				100%

RESEARCH OUTPUT		
Number of articles/ manuscripts/ books <i>(Please attach the First Page of Publication)</i>	Indexed Journal	Non-indexed Journal
		1. Immunological Effects Among Post Flood Victims After Major Flood Disaster in North East Malaysia. (International Journal of Disaster Risk Reduction. In review)
Conference Proceeding <i>(Please attach the First Page of Publication)</i>	International	National
		<ol style="list-style-type: none"> 1. A Preliminary Report on Hematological Parameters of the Flood Victims After Five Months Post Event in Tumpat, Kelantan: Nutritional, Environmental and Immunological Implications. 17th National Conference on Medical & Health Sciences, 12-14 September, USM Kubang Kerian. 2. Post Flood Impact on Nutritional and Immunological Status Based on Laboratory Profiling: A Pilot Study in North East Malaysia. Persidangan Kajian Bencana Banjir 2014. 4-6 April 2016, Pullman Putrajaya Lakeside.
Intellectual Property <i>(Please specify)</i>		
Number and title of Policy Paper / SOP / Technology Solution <i>(Please specify)</i>	<ol style="list-style-type: none"> 1. 2. 3. 	

HUMAN CAPITAL DEVELOPMENT

Human Capital	Number				Others (please specify)
	On-going		Graduated		
Citizen	Malaysian	Non Malaysian	Malaysian	Non Malaysian	
No. PHD STUDENT					
Student Fullname: IC / Passport No: Student ID: Date of appointment:					
No. MASTER STUDENT					
Student Fullname: IC / Passport No: Student ID: Date of appointment:	Norshila Binti Fauzi 911028026008 P-UM0010/16 (R) 25/5/2015				
No. RA/RO					
Student Fullname: IC / Passport No: Student ID: Date of appointment:	Nik Noor Fadhilah Nik Mansor 890314036004 PUM0004/15(R) 01/05/2015				
Total	2				

C. EXPENDITURE (Perbelanjaan) as Borang K1(RMC)

Budget Approved (Peruntukan diluluskan) : RM 137,200.00

Amount Spent (Jumlah Perbelanjaan) : RM 135,961.32

Balance (Baki) : RM 1238.68

Percentage of Amount Spent : 99.1%
(Peratusan Belanja)

D. SUMMARY OF RESEARCH FINDINGS (*Ringkasan Penemuan Projek Penyelidikan*)

Three-hundred and nine subjects were analyzed based on the result from materials and methods. The result showed the prevalence of household food insecurity among flood victim (n=71). Subject that categorized in food secure compromise of 28.4% while the rest were categorise as the food insecure groups (Household insecure (27.1%), Individual insecure (8.4%) and Child hunger (36.0%). In general, the food insecure household was characterized by household living under poverty line and had larger household size, more children, school going children and non-working. One-hundred fifty blood samples were analyzed with the age mean 47.0 ± 15.62 (age range between 18-77yr) for male and 46.6 ± 13.23 (age range between 19-87yr) for female.

- I. Based on the laboratory profiles, immunological status of the post flood victim were affected after the flood. Comparing to normal population, there were significant difference for CD4% ($p=0.015$), CD8% (0.015) and CD4:CD8 ratio ($p=0.012$).
- II. Levels of Immunoglobulin in female was higher as compared to control IgG (g/L), $p=0.000$ and IgM (g/L), $p=0.032$. However no significant different shown in male immunoglobulin.
- III. In post flood victim, TWBC and monocytes were higher among male ($p<0.05$) whereas only monocytes were higher in female ($p<0.05$).

E. PROBLEMS / CONSTRAINTS IF ANY (*Masalah/ Kekangan sekiranya ada*)

NA

Date : 6/6/2012
Tarikh


Project Leader's Signature:
Tandatangan Ketua Projek



F. COMMENTS, IF ANY/ ENDORSEMENT BY RESEARCH MANAGEMENT CENTER (RMC)
(*Komen dan Pengesahan oleh Pusat Pengurusan Penyelidikan*)

Name:
Nama:

Signature:
Tandatangan:


30/6/10

Date:
Tarikh:

PROF. DR LEE KEAT TEONG
Pejabat Pengurusan & Kreativiti Penyelidikan
Universiti Sains Malaysia