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Writing A Successful Research Proposal-KPM Guidelines and Criteria

Presented by

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It is important to…

1. Understand that grant examiner is not a fool
2. Check again no. 1.
3. Novelty proven by Scopus
4. Sync from beginning to end
5. Within NPAs
6. Well written in English

KPT RESEARCH GRANTS

FRGS

- Fundamental Research Grant Scheme (FRGS)
- Generation of new theories, concepts and ideas
- Answer to "WHY?" and "HOW?"

PRGS

- Prototype Development Research Grant Scheme (PRGS)
- R&D product generation prior to commercialization

TRGS

- Transdiciplinary Research Grant Scheme (TRGS)
- Capable of establish collaboration partnership across various research clusters and transdiciplined

LRGS

- Long Term Research Grant Scheme (LRGS)
- Fundamental research that requires implementation period more than 3 years

DPF – BIDANG KEUTAMAAN TAHUN 2020

KEMENTERIAN PENDIDIKAN MALAYSIA

JPT JABATAN PENDIDIKAN TINGGI

Setiap permohonan hendaklah memenuhi salah satu NPA, Kluster Penyelidikan dan Domain Penyelidikan

National Priority Areas (NPA)	Research Cluster DP KPM 2019 - 2020
Food Security	Social & Economic Wellbeing
Energy Security	Food Safety & Security
Plantation Crops	Infrastructure
Cyber Security	Climate Change & Environment
Water Security	Health
Biodiversity	Education & Knowledgeable Civil Society
Healthcare & Medicine	National Security
Environment & Climate Change	Frontier Technologies & Advanced Manufacturing
Transportation & Mobility	

Research Domains DP KPM 2019 - 2020

- Pure and Applied Science
- Technology & Engineering
- Social Science
- Information & Communication Technology
- Clinical & Health Science
- Arts & Applied Arts
- Natural and Cultural Heritage

Penyelidik wajib untuk memilih salah satu NPA, salah satu Kluster Penyelidikan dan salah satu Domain Penyelidikan bagi setiap permohonan geran penyelidikan pada tahun 2020 (melalui MyGRANTS).

KEMENTERIAN PENDIDIKAN MALAYSIA
JPT JABATAN PENDIDIKAN TINGGI

LRGS & TRGS TAHUN 2020

Pembukaan berdasarkan 14 "Call for Proposals" di bawah 11 Focus Area (Bidang Fokus)

Focus Area
Food Availability, Accessibility, Utilization & Stability
- Enhancing Sustainable Food Security

Focus Area
Physical Infrastructure
- Towards Sustainable & Resilient Construction

Focus Area
Societal Harmony & Happiness
- Ensuring Shared Prosperity and Wellbeing for B40
- Societal Harmony and Superdiversity in Malaysia

Focus Area
Affordable & Clean Energy
- Developing Affordable & Clean Energy (ACE) Systems

Focus Area
Holistic & Integrated Water Management
- Towards Secure & Sustainable Water Resiliency

Focus Area
Frontier Technologies & Connected Intelligent Systems
- Artificial Intelligence (AI) & Internet of Everything (IoE) Technology
- Frontier Technologies in Manufacturing

Focus Area
Climate Resilience & Environmental Sustainability
- Impacts of 1.5°C/2.0°C Global Warming to Malaysia

Focus Area
Quality Education
- Quality Education Provision for Vulnerable Communities
- Holistic Education

Focus Area
National Resilience & Stability
- Towards Self-reliance in Defense & Security

Focus Area
Mental Health
- Mental Health among Malaysian Youths

Focus Area
Precision Health
- Precision Health in Malaysia

DPF – BIDANG KEUTAMAAN TAHUN 2020

Setiap permohonan hendaklah memenuhi NPA, Kluster Penyelidikan dan Domain Penyelidikan

KEMENTERIAN PENDIDIKAN MALAYSIA

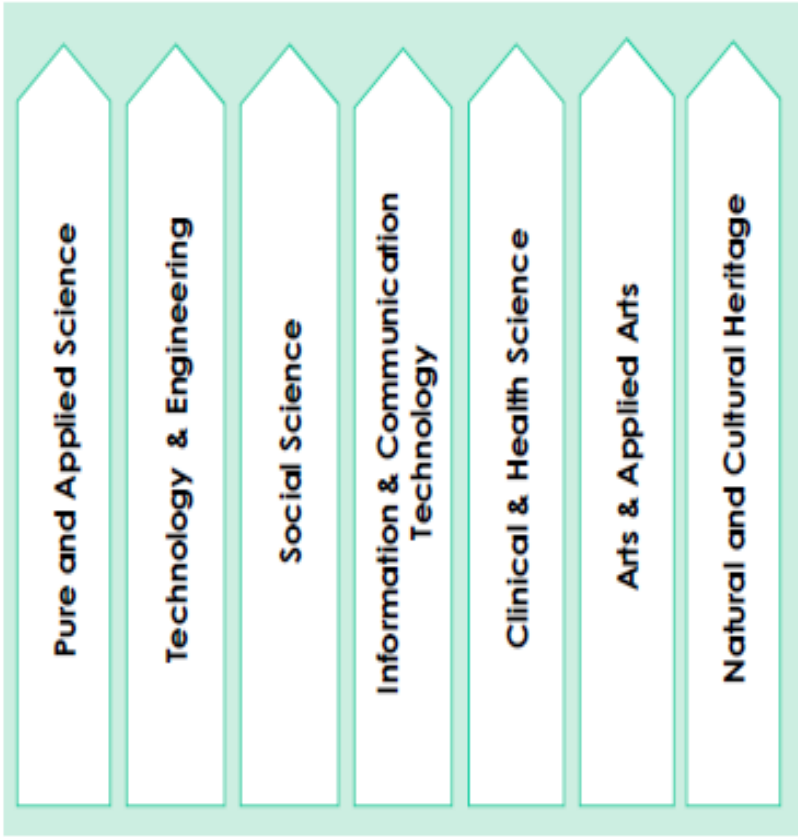
JPT JABATAN PENDIDIKAN TINGGI

PERMOHONAN
FRGS DAN PRGS

Berdasarkan

Tujuh (7) Domain Penyelidikan

Domain Penyelidikan (Research Domains)
Dana Penyelidikan KPM



Penyelidik wajib untuk memilih salah satu NPA, salah satu Kluster Penyelidikan dan salah satu Domain Penyelidikan bagi setiap permohonan geran penyelidikan pada tahun 2020 (melalui MyGRANTS).

KEMENTERIAN PENDIDIKAN MALAYSIA
JPT JABATAN PENDIDIKAN TINGGI

SYARAT TAMBAHAN PERMOHONAN

Geran Penyelidikan Dana Penyelidikan KPM Tahun 2020

01 TEMPOH PERKHIDMATAN
Ketua Penyelidik mestilah berbaki sekurang-kurangnya 2 tahun di Institusi masing-masing

02 CUTI BELAJAR / SABATIKAL
Melebihi tempoh enam (6) bulan tidak dibenarkan mengemukakan permohonan. Maklumat cuti perlu dikemaskini oleh Penyelidik

03 PENYELIDIK BERSAMA
Ketua Penyelidik dimestikan mempunyai seorang (1) penyelidik bersama yang mempunyai kepakaran yang sama dan dari Institusi yang sama

04 BUKTI CARIAN PATEN
Penyelidik perlu kemukakan bukti carian paten bagi setiap permohonan projek

05 KOLABORASI INDUSTRI / AGENSI
Penyelidik perlu membuat kolaborasi dengan Industri/Agensi yang berkaitan bagi melaksanakan penyelidikan

06 PENGURUSAN RISIKO
Penyelidik perlu mengenalpasti sebarang kemungkinan / peluang yang akan berlaku sebelum, semasa dan selepas pelaksanaan penyelidikan

Additional criteria in evaluations

- Impacts:
  - Must have impacts to at least 2 elements: society, industry, government, academic.
- Outputs:
  - Indexed publication and postgrad students
  - Must have elements of Sustainable Development Goals (SDG) must be included, NPA, research cluster, research domains.
- Future Aims:
  - FRGS- must define future direction.
  - PRGS-can be commercialized or have future plan for SDG, society to benefit.

FRGS

Fundamental Research Grant Scheme

FUNDAMENTAL RESEARCH

- Basic research
- Pure research

- Fundamental research generates new knowledge (theories, concepts and ideas) and technologies to deal with **unresolved problems**.
- Fundamental Research leading to the advancement of knowledge in the areas of human and natural sciences
- The research should focus on:
  - Accumulation of theories
  - Fundamental structures
  - Fundamental processes
- It contributes towards the **advancement of knowledge**.
- It leads to new discoveries and technological inventions in science.

OBJECTIVES OF FRGS

- ✓ Fundamental research is research carried out to increase understanding of fundamental principles.
- ✓ The end results have no direct or immediate commercial benefits
- ✓ Fundamental research can be thought of as arising out of curiosity.
- ✓ However, in the long term, it is the basis for many commercial products and applied research.

Proposal in general

Successful proposal write-up

It's not about who researchers are…

It's about **what researchers do**

It's not about what researchers need…

It's about **what need researchers serve**

It's not about researchers background and history…

It's about **researchers vision and future**

Things to ponder

- UPM panel ~ looking for a way to improve
- KPT panel ~ looking for a reason to reject
- About 12% success rate in 2017, in 2018 was 24% success rate.
- Applicant - to ensure that your proposal is well written
- Apart from well written and novelty - it is vital to sync with current national agenda
- Well written fundamentally sound proposal that is not important enough / not in priority of Malaysia may not be funded
- Always follow the FRGS guideline

Proposal in general

Successful proposal write-up: Fundable idea

- Addresses the funder's target audience/group
- Advances the funder's agenda and builds on the funder's giving history or portfolio
- Should be replicable and sustainable
- Aligns with funder priorities
- Builds or expands on something of value and has potential for impact beyond as single organization or group of people
- Measures/analyzes learning, growth and movement toward a goal

Most common reasons for grant writers (GWs) not receiving funds

1. Not new or lack of original ideas
2. Diffuse, superficial or unfocused research plan
3. Lack of knowledge of published relevant work
4. Lack of experience in the essential methodology
5. Uncertainty concerning the future directions
6. Questionable reasoning in experimental app
7. Unacceptable scientific rationale
8. Unrealistically large amount of work
9. Insufficient experimental detail
10. Uncritical approach

Quality of the Proposal

- Informative **title**;
- Convincing **executive summary**;
- Clear **problem statement and objective**;
- Scientific **background** and rationale;
- Good selection of **research methods**;
- **Ethical** considerations; and
- **Realistic** budget and schedule.

Comments of the Poor Proposal

- Should thoroughly explained and presented the methodology section. It is too brief.
- Details research methodology is needed
- Weak methodology
- Can be further improved especially on the research methodology
- Not meticulous
- Unclear research methods.
- Proposal not free from grammatical and technical error
- Poorly written
- Several English and formatting problems
- Similarity showed 35% similar to another proposed from another institution
- Much errors detected from languages
- Not very clear

Proposal Evaluation

- Proposal Evaluation Method

Title (1)
Details of Researcher
Research Information
Executive Summary (2)
Research Background
Problem Statement (3)
Hypotheses
Literature Review
Research Objectives (4)
Methodology/Research Design (5)
Timeline/Schedule
Expected Results (6)
Facilities and Special Resources
Budget (7)
Resume/Brief CV
Appendices

Panel will be able to see the similarity index of the proposal including the original proposal from which the similarity is detected!

Plagiarism Checker X

- Check whether the Title, Executive summary, Problem statement, Objective, Methodology is synchronize

FRGS

EVALUATION FORM
FUNDAMENTAL RESEARCH GRANT SCHEME (FRGS)
(VER. 1/2019)

SUMMARY OF ASSESSMENT

Very Poor	Poor	Acceptable	Good	Very Good
1 - 2	3 - 4	5 - 6	7 - 8	9 - 10

NO.	ASSESSMENT CRITERIA	SCORE (1-10)	ACTUAL SCORE	(COMPULSORY IF SCORE GIVEN ARE LOWER THAN 5 FROM EACH ASSESSMENT CRITERIA)
1.	**Title* (5%)**			
	Specific in nature reflecting fundamental issues to be resolved/novelty			
	Brief and reflects the content of the proposal			
2.	**Executive Summary* (10%)**			
	Problem statement			
	Objectives			
	Methodology			
	Expected output/outcome/implication			
	Significance of output			
3.	**Research Background* (15%)**			
	Elaboration of title			
	Clarity of problem statement and research question/hypothesis/theoretical framework (if applicable)			
	Cited most recent (last 5 years) related references			
	In line with government policy, national agenda and global aspiration (can help alleviate problem at local, national or world level)			
4.	**Objectives* (15%)**			
	Specific, Measurable, Achievable, Realistic and within Time-frame (SMART)			
	Relate to problem statement/research question			
5.	**Methodology* (25%)**			
	Clear and detailed description of methodology (may consist of field work, sampling techniques, interview session, analysis, lab work of different phases, experimental protocol, statistical analysis)			
	Able to achieve research objectives			
	Include research design, flow chart, Gantt chart, activities and milestones			
6.	**Expected Results* (10%)**			
	New theory or new findings/knowledge			
	Publication in indexed journals (top tier)/Intellectual property			
	Talent - Masters or PhD			
	Impact on society, economy and nation			
7.	**Track Record and Composition of Team* (5%)**			
	Evidence of previous successful research projects			
	Qualification and rank of researchers			
	Well balanced team			
8.	**Quality of Proposal* (10%)**			
	Meticulous			
	Proper use of language (grammar, spelling, sentence construction)			
	Good formatting and presentation			
9.	**Elements of FRGS Criteria* (5%)**			
	Novel, cutting edge, high impact			
			Total Actual Score	

Title - FRGS

- Must have fundamental sense such as;
  - Elucidating correlation between…,
  - Theoretical investigation of …,
  - Mechanism …., etc

- May be using the word “New”
  - New techniques in Measurements … (but it should be really new)

- The word “Algorithms”
  - Search algorithms for ….

Executive Summary

An informative abstract, giving evaluators the chance to grasp the essentials of the proposal without having to read the details .

- Applicant must present their project concisely
- State significance **Clearly**
- State Hypotheses, Research Problem, Solution
- Methods and Rationale
- Expected output
- Include socio-economic benefit or related policy

Executive summary-Example

Executive Summary
➢ **well written**

Problem statements

Objectives

Methodology

Output

...gan Eksekutif Penyelidikan (maksima 300 patah perkataan)
...lakang penyelidikan, kajian literatur, kaedah penyelidikan, objektif dan jangkaan hasil

Approximately 7% of the world's carbon dioxide (CO_2) emissions are attributable to portland cement. In addition, the burning of Portland-cement clinker is costly in terms of fossil fuel usage. This impact of cement production on environment and the depletion of the world's most valuable fossil energy resources have necessitated the exploitation of sustainable binder materials. To date, the quaternary blended cement with replacement of ordinary portland cement (OPC) up to 66% by industrial wastes has been reported. The aim of this research is to investigate the possibility of producing an alternative sustainable cementitious materials (SUCeM) with 100% local industrial by-products (slag) and biogenic wastes (rice husk ash, timber fly ash and palm oil fuel ash) by mechano-chemical activation technique without going through the calcination and clinkering stage as OPC does. Mechano-chemical activation is a process in which reactions among ingredients are caused by mechanical energy without burning at high temperature and thus reduces CO_2 emission and fuel consumption. Rice husk ash (RHA), palm oil fuel ash (POFA), timber fly ash (TFA) and slag are wastes abundantly available in Malaysia and are pozzolanic in nature. Using these wastes, a quaternary blended composite binder named SUCeM will be developed in this research. The performance of the SUCeM will be evaluated by X-Ray Diffraction (XRD), Scanning Electron Microscopy (SEM), setting time and strength tests. The quaternary blended SUCeM could significantly contribute to achieving the needed balance between the industry's quest for high-performance products and the increasingly restrictive environmental regulations. SUCeM is expected to provide a unique opportunity to produce environmentally-friendly concrete with tailor-made properties, and may indeed constitute the next generation of binder products. As a new sustainable cementitious materials, SUCeMs have much beneficial advantages in environments. Not only non-toxic wastes can be transferred into useful building materials, but also the toxic and/or radioactive waste can be solidified and stabilized safely with SUCeMs.

Project Objectives

Example : Project Objectives

Objectives not well written…
- **To analysis…**
- **2x 'To show' …**
- **Not relate to problem statements….**

Research

…t is:

To analysis the dielectric constant values at high and low frequencies at different temperatures.

- To show the correlation between DC conductivity and dielectric constant (ε') which are evaluated from the high frequency region in impedance plots.
- To show the effect of crystallite size on DC conductivity and dielectric constant (structure-property relationship)

4. Objectives			
• Specific, Measurable, Achievable, Realistic and within Time-frame (SMART)	X	X	
• Relate to problem statement / research question	X		

General objective
- **To verify…**
- **To describe…**

Specific objectives
- **To estimate…**
- **To determine…**
- **To identify….**
- **To analyze…**
- **To examine…**

Problem Statement

- The most important aspect of a research proposal is the clarity of the research problem
- The problem statement is the focal point of the research

Must have…

✓ Applicant give a short summary of the research problem that have been identified from the literature. Must be a scientific knowledge gap!

✓ The research proposal may not acceptable or credible if applicant not clearly identify the problem.

✓ Applicant present the persuasive arguments as to why the problem is important enough to study or include the opinions of others (politicians, futurists, other professionals)

✓ This section should be written like an introduction of a Q1 journal paper!

Research Background

- ✓ Applicant are not "reinventing the wheel".
- ✓ Applicant demonstrate their knowledge of the research problem.
- ✓ Applicant demonstrate their understanding of the theoretical and research issues related to their research question.
- ✓ Applicant show their ability to critically evaluate relevant literature information.
- ✓ Applicant indicate their ability to integrate and synthesize the existing literature.
- ✓ Applicant provide new theoretical insights or develops a new model as the conceptual framework for their research.
- ✓ The proposal will make a significant and substantial contribution to the literature (i.e., resolving an important theoretical issue or filling a major gap in the literature).

References

- Up-to-date (mostly last 5 years)
- Highly relevant with the problem
- Original source

- First Order : High Impact Journals (Q1/Q2 ISI) and Books

- Avoid if possible!!!
- Second Order : Indexed Proceeding Publications
- Third Order : Reputable Technical Report

Methodology

- ✓ Many **proposals are turned down** due to unsound methodology.
- ✓ Applicant must explain how they plan to carry out and measure each objective.
- ✓ Basically, applicant must provide answers to the following questions:

i. What activities needed to meet the objectives?

ii. What are the start and finish dates for the activities?

iii. Who has responsibility for completing each activity?

iv. How will participants be selected? (Check…!?)

v. What factors determine the suitability of applicant methodology?

vi. Does this project build on models already in existence? If not, how is it superior?

vii. What facilities and equipment will be required to conduct the activities?

Methodology

METHODOLOGY

- Clear and detailed description of methodology

Our collaborator from Faculty of Medicine will serve as a consultant. T dvise on how to develop the proposed segmentation technique for follicle identification based on th ants, since they will be most likely the potential technology taker. For this study, in the beginning, we abase for the pilot study. In the meantime, we will submit the ethical approval to the relevant ethical e initiation of our next activity which is to establish our own data set. Listed below are 2 phases of re d in this study. (Refer to Appendix B)

Phase 1: Implementation of well-known segmentation techniques for benchmarking purpose For tudy, the images will be taken from the benchmark database available online via http://www.radiolog o.org and www.ovaryresearch.com [2]. We will use this database to implement the benchmark segmentation that has been investigated by previous researchers. The methodology that has been put up as a flowchart in the appendix is explained. The process consists of various steps which includes the pre-processing phase involving speckle noise reduction, extraction of local minima, selection of the Region of Interest (ROI), follicle identification using Cost Map construction and the final step will involve the object growing stage where the objects are grown and the follicles are detected [4].

- ethical approval applications

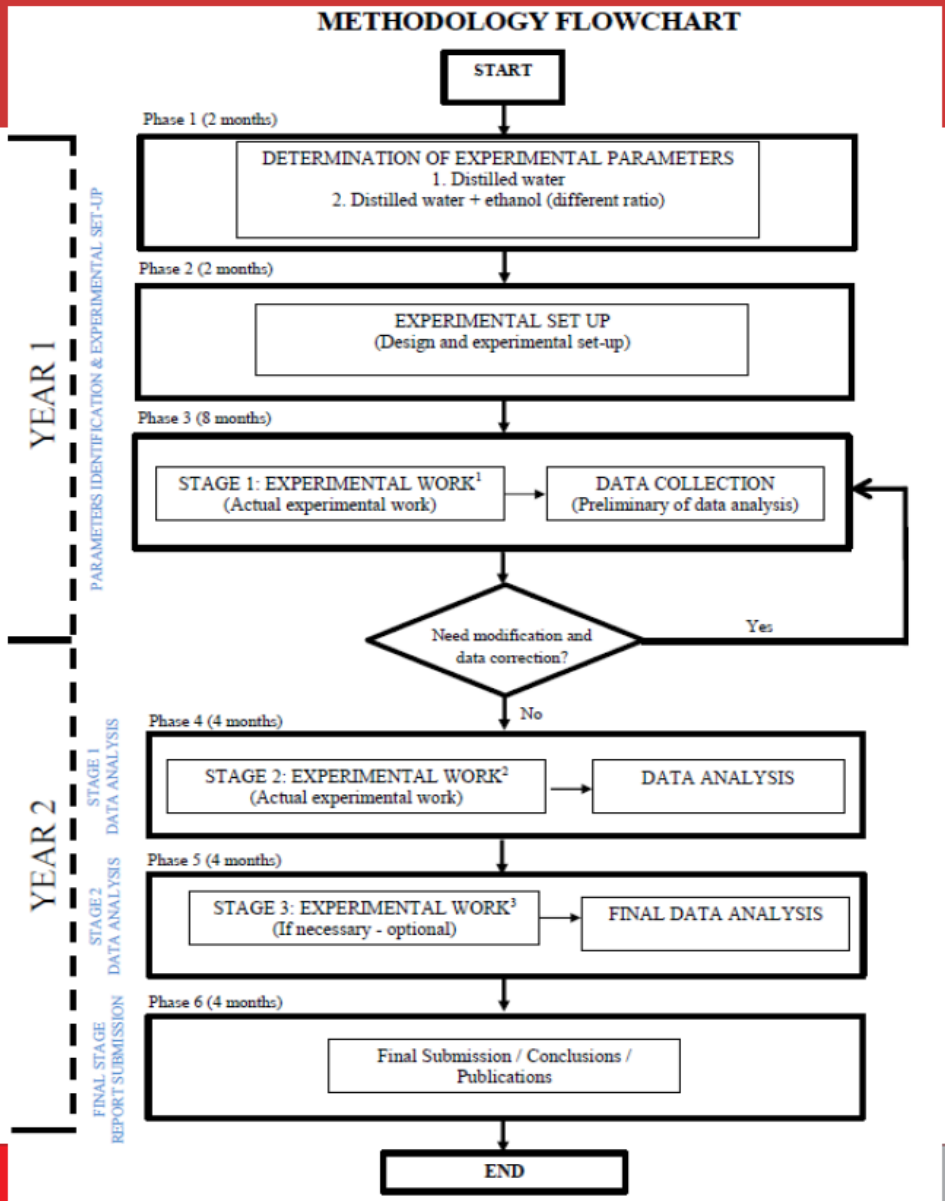
Phase 2: Continuation of data collection and initiation of a proposed algorithm A new approach is proposed for computerized follicle detection using Collinear and Triangle Equation technique in order to allow for rapid identification and measurement of individual follicles with the ability to differentiate between the borders of adjacent follicles and the boundary between the follicle. Collinear equation algorithm is used to find centroids of all contours so that the resulted contour is closer to the actual boundary. While, the use of triangle equation is to close the borders one can utilize the small corner angle. The new algorithms will be coded in MATLAB.

Methodology

Title: Thermal distribution mechanism at Critical Heat Flux (CHF) and Leidenfrost Temperature for Heat Transfer Optimization.

- Clear and detailed description of methodology

- Include research design, flow chart, Gantt chart, activities and milestones



Flowchart

- ✓Applicant must clearly show the research activities and milestones
- ✓Reflection of the project objectives, methodologies, outputs, etc.
- ✓Very important!

FRGS requirement: Novelty, Cutting Edge, High Impact

- ✓Does the research use novel techniques, tools, and procedures?
- ✓Is new data required?
- ✓Is data gathered in a new way?
- ✓Is existing data utilised in a new way?
- ✓Can an existing application be used in a new way?
- ✓Is the proposed research potentially patentable and publishable?

Why grants fails…

- Problem: The planning process is not well organized, resulting in a poorly written proposal

➢ The grant proposal is difficult to read or is not concise

➢ The applicant uses incorrect grammar or incorrect terms

➢ The flow of the proposal is not logical and is hard for reviewers to follow

➢ Applicant does not collect the relevant information for planning

➢ Applicant does not delegate tasks

➢ Applicant does not develop a timeline

Research outcome

- Impact factor journal. Mentioned the journal name and prospective paper title. Showing that you have a plan.
- Must train minimum 1 PhD (3 yr) or 1 Master (2 yr)
- Elaborate potential application
- Elaborate new knowledge

Budget

- Try to keep 11000 around RM36k for 2 yrs and RM54k for 3 yrs
- Restrain the T&T to RM10k
- Don't buy equipment
- Limit the research materials strictly according to the method
- Provide details
- Guide limit for Engineering in 2016 & 2017 was RM100~130k, in 2018 (~RM100k)
- Limit is not same for each cluster: Clinical and health RM250k

E. Budget

Budget Type	Description	Year 1	Year 2	Grand Total
11000 - Salary and Wages	1 x MSc student @ RM1600/month. 1 PhD student salary paid by MyBrain15. Refer appendix.	19200	19200	**38400**
Vot-Total		**19200**	**19200**	**(37.72%) 38400**
21000 - Travelling and Transportation	1 x local conference @ RM2000	2000		**2000**
Local				
Sub-Total		2000	0	(1.96%) 2000
Overseas	1 x international conference @ RM7000		7000	**7000**

Costing ..

- Related to the project objectives and research activities
- Reasonable - Appropriateness of cost estimates
- Oversea travelling (conference) – year 2 onwards
- Vote 35000 – must have quotation and justification

Example : Costing 1 (rejected)

Budget Type	Description	Year 1	Year 2	Year 3	Grand Total
11000 - Salary and Wages	Untuk Pembantu Penyelidik Siswazah (GRA) 1 research assistant (master student)at RM1800 per month 1 research student PhD student at RM2300 per month	49200	49200	49200	147600
Vot-Total		49200	49200	49200	(59.13%) 147600
21000 - Travelling and Transportation Local	Meeting, conference, data collection and exhibition	8000	8000	8000	24000
Sub-Total		8000	8000	8000	(9.62%) 24 000
Overseas	Meeting and conference	15000	15000	15000	45000
Sub-Total		15000	15000	15000	(18.03%) 4 5000
Field work					0
Sub-Total		0	0	0	(0.00%) 0
Vot-Total		23000	23000	23000	(27.64%) 6 9000
24000 - Rental					0
Vot-Total		0	0	0	(0.00%) 0

Example : Costing 2 (ok)

Budget Type	Description	Year 1	Year 2	Year 3	Grand Total
11000 - Salary and Wages	I Phd @ 2300/month & 1	27600	27600	27600	82800
Vot-Total		27600	27600	27600	(38.02%) 82800
21000 - Travelling and Transportation (Local)	National Conference		2000	2000	4000
Sub-Total		0	2000	2000	(1.84%) 4000
Overseas	International conference - International Conference on the Metal Injection Molding of Metals, Ceramics and Carbides (USA)		15000		15000
Sub-Total		0	15000	0	(6.89%) 15000
Field work					0
Sub-Total		0	0	0	(0.00%) 0
Vot-Total		0	17000	2000	(8.72%) 19000
24000 - Rental					
Vot-Total		0	5000	10000	(6.89%) 15000
27000 - Research Materials and Supplies	Copper Powder - 30kg @ RM500/kg	15000			15000
	Graphene Nanoplatets - 1.5kg @ RM1000/100g	15000			15000
	Binder system - PEG, PMMA, SA	5000			5000
	Gas - Agron, Hidrogen for debinding and sintering		5000	5000	10000
Vot-Total		35000	5000	5000	(20.66%) 45000

Synchronization

- The proposal must by sync from start to end
  - Literature review to support problem statement
  - Research question, hypothesis ~ related to objective
  - Method answering objective
  - Method reflecting member contribution
  - Flowchart summarized the method
  - Outcome must follow the FRGS criteria
  - Budget must be reflected in the methodology

Assessment Criteria : FRGS

- The research must be **FUNDAMENTAL**.
- Applicants must have good research track records: publications & previous findings.
- Are young academic staff encouraged to apply?
  - Special consideration will be given based on the viability of the project.

Assessment Criteria : FRGS

- Research leader and team capability.
- Viability of research plan.
- The budget proposed must be reasonable.
- Utilization of existing / available infrastructure.

Other Assessment Criteria

- **Track Record and Composition of Team**
  - Evidence of previous successful research projects
  - Qualification and rank of researchers
  - Well balanced team

  REMINDER: Team members need to update their profiles in the MyGrants System

- **Quality of proposal**
  - Meticulous
  - Proper use of language (grammar, spelling, sentence construction)
  - Good formatting and presentation

- **Elements of FRGS Criteria**
  - Novel, cutting edge, high impact

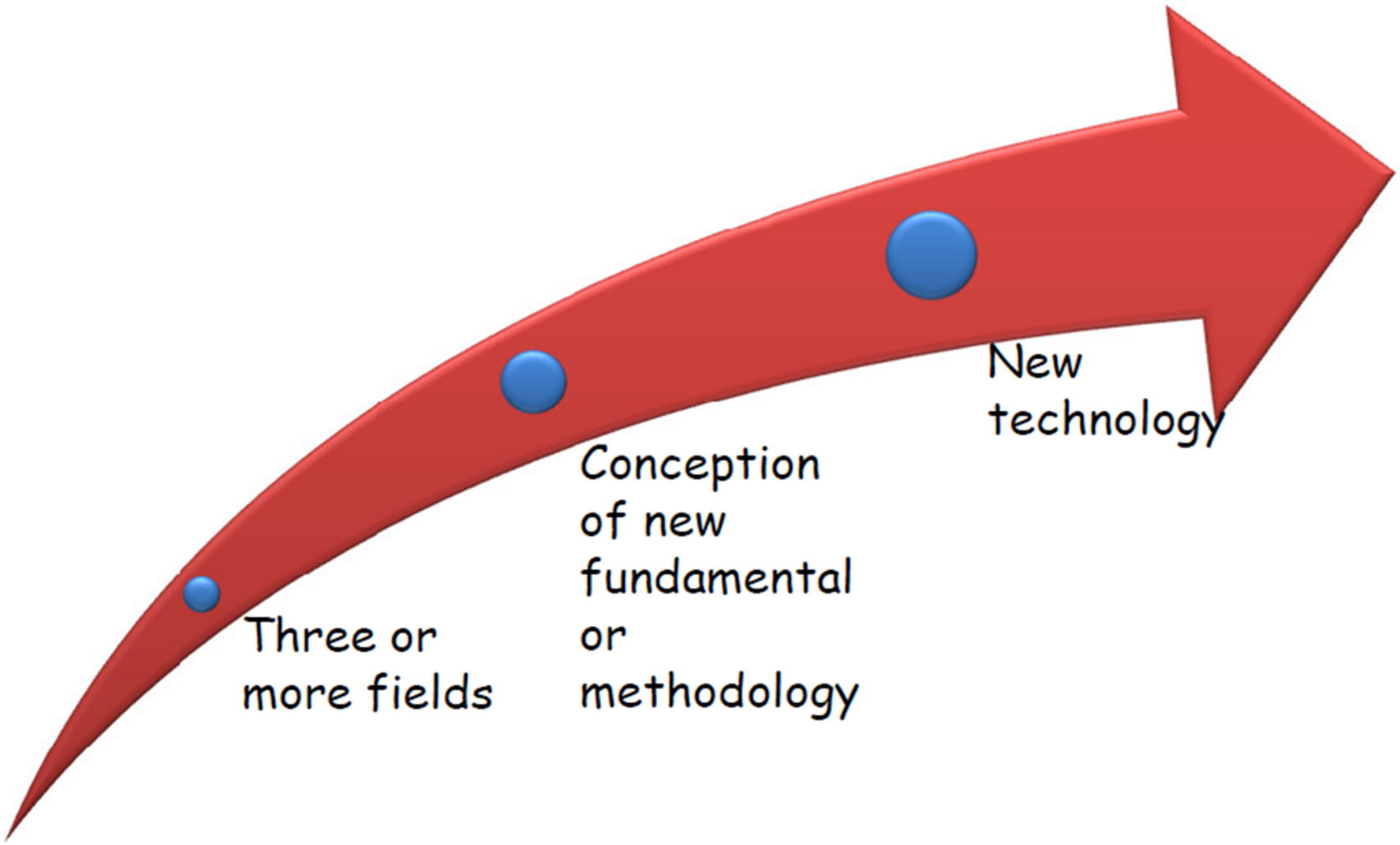
TRGS

Transdisciplinary Research Grant Scheme

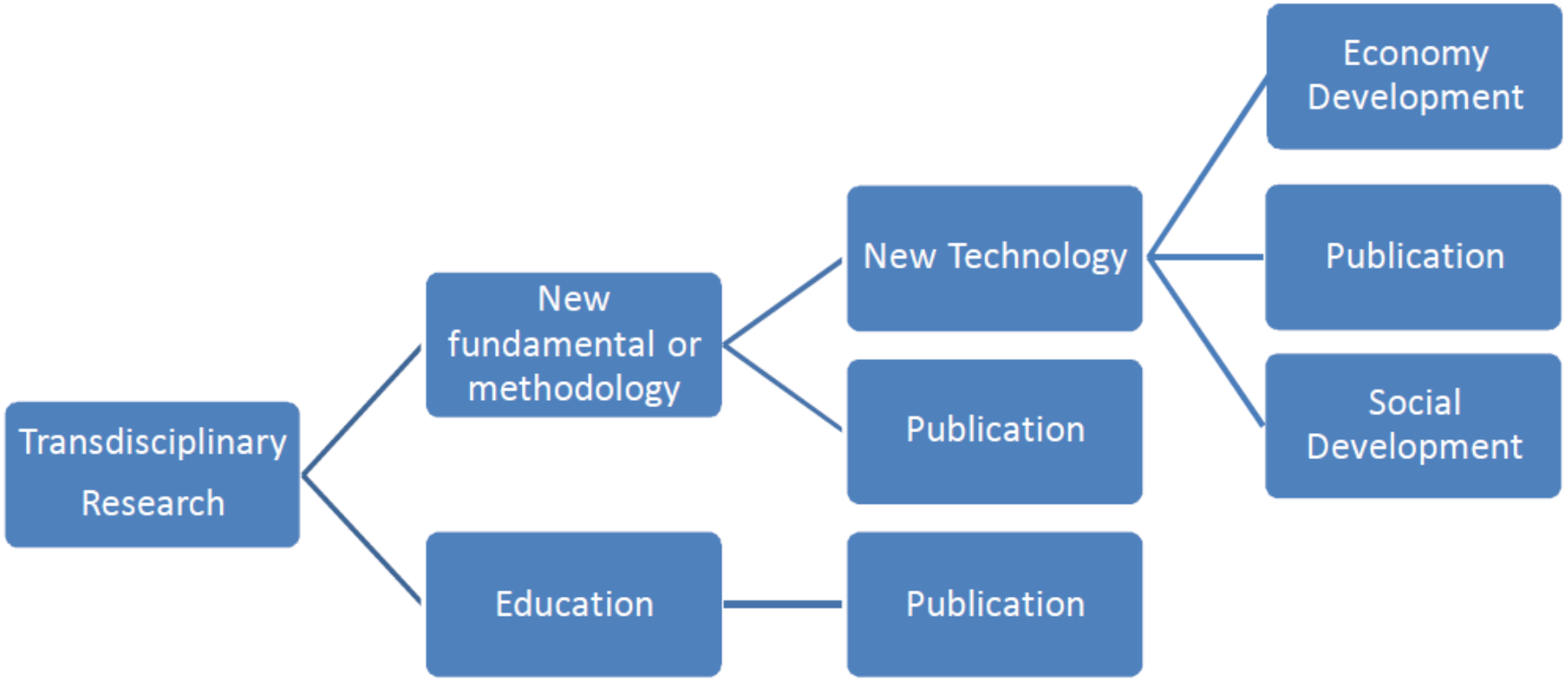
TRGS

- Mini FRGS ~ 3 different research clusters, same institute
- Is a FUNDAMENTAL research - fundamental and exploratory research that produce theories, concepts, and ideas for the advancement of knowledge.
- Evaluated by FRGS Panel
- Follow exactly the TRGS guideline
- Must show connection between project
- It is good to address the economic & social science issue
- TRGS can build collegial collaboration across multiple clusters and trans-disciplinary research, to put Malaysia on the world map in terms of fundamental research in a particular research cluster.

TRGS


New technology
Conception of new fundamental or methodology
Three or more fields

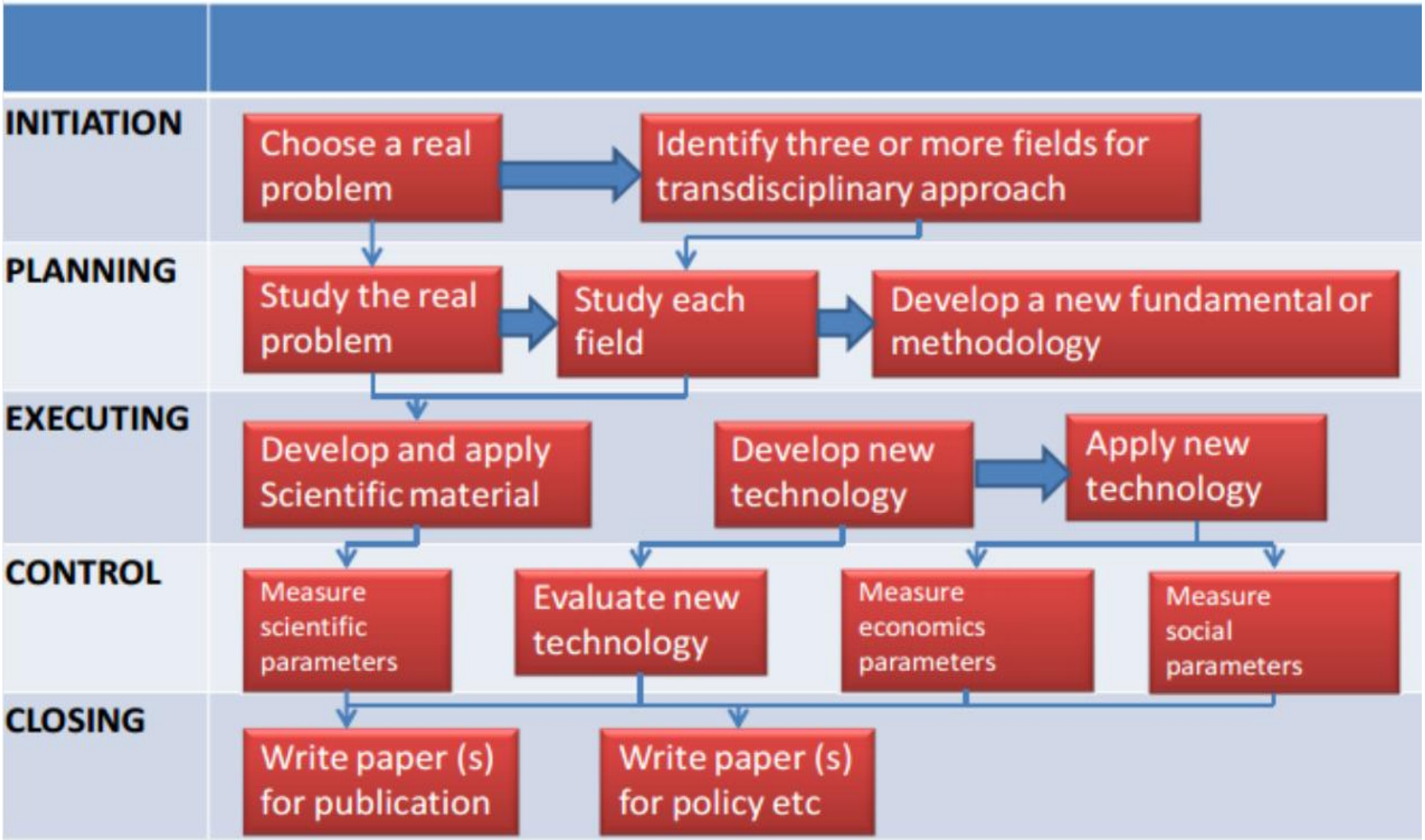
TRGS


Transdisciplinary Research
New fundamental or methodology
Education
New Technology
Publication
Publication
Economy Development
Publication
Social Development

Application budget limit

BIL	PERKARA	FRGS	TRGS	RAGS	LRGS	ERGS	PRGS
1	Siling Permohonan	RM250,000	RM1,500,000	RM50,000 – RM80,000	RM3 juta/tahun	RM300,000	RM500,000
2	Tempoh Penyelidikan	1 hingga 3 tahun	3 tahun	1 hingga 2 tahun	3 hingga 5 tahun	3 tahun	2 tahun
3	KPI	• 1 PhD • 3 papers in index link journal (2 years)	• 4 PhD or 8 sarjana • 8 jurnal terindeks (2 Q1) • 1 paten		• 10 PhD (3 years) • 50 papers (3 years) • 3 IP (per program) - number of researchers with Citation Index of 100)	• 1 PhD • 3 papers in index journal • 1 IP (filed)	•1 IP/project

TRGS – PROJECT MANAGEMENT



TERMS OF APPLICATION

This grant is open to academic staff in Higher Education Institutions (HEI) with the following conditions :

Head of Programme should be Malaysian citizen, permanent academic staff (Professor or Associate Professor) and lead one of the projects in the program;

Minimum two (2) Project Leaders should be Malaysian citizens ;

For Project Leaders who are not citizens ,they must have co-researchers who are citizen and permanent academic staff from the same institution .

Project Leader on a contract , he/she must have a co- researchers who are permanent academic staff from the same institution .

TERMS OF APPLICATION

Applicants are only allowed to be Project Head for only one project .

New applications for TRGS for those with TRGS grants from the previous phase will be considered with proof of completion of the project at the rate of 75 %.

The total allocation requested should not exceed the set ceiling of RM1.5mil.

Each proposed should aim to create human capital development . Therefore, for a three (3) year research, there is a requirement to train at least four (4) Ph.D student or eight (8) students of Master or a combination of both.

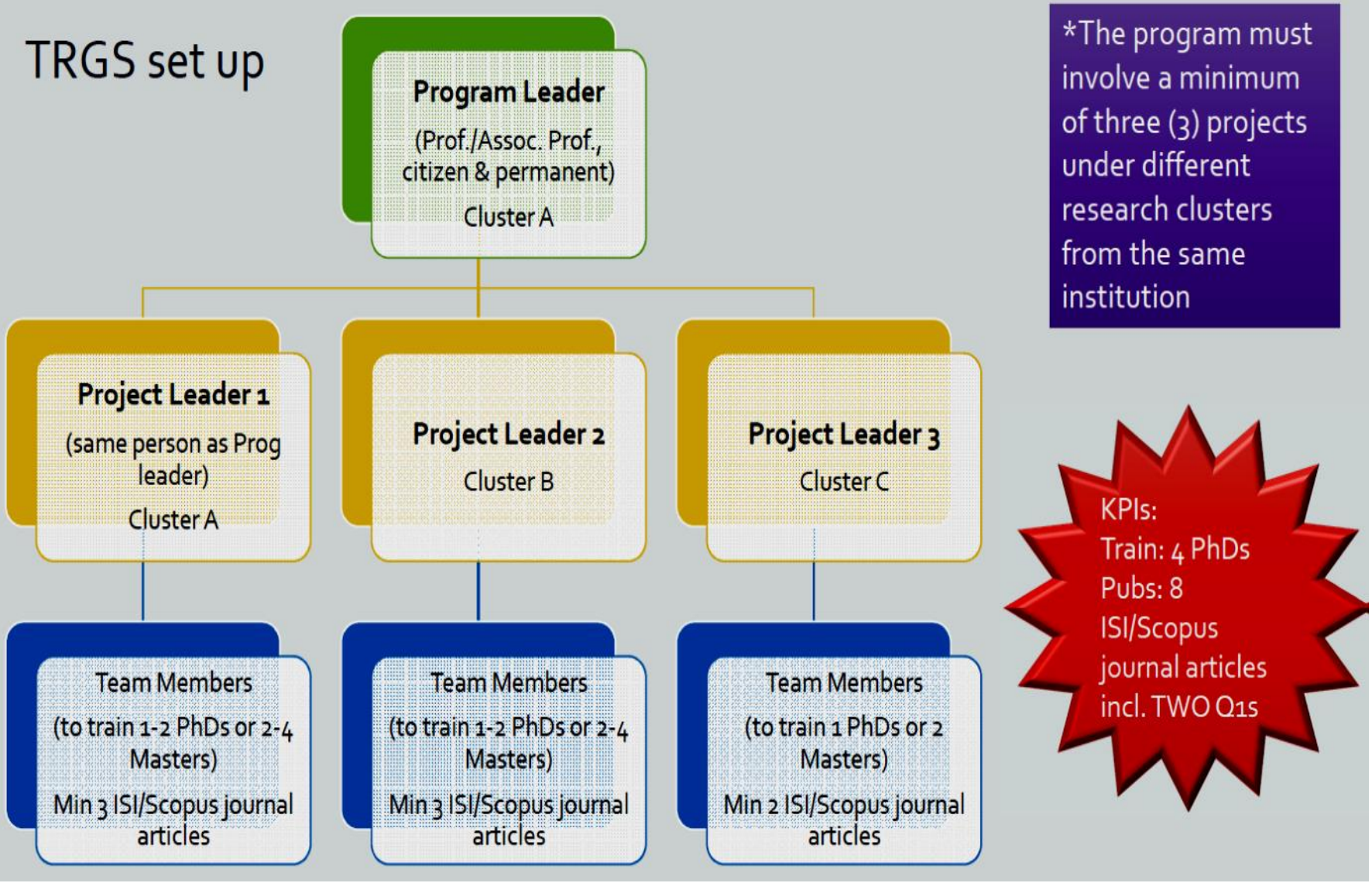
Lecturer on study leave should not serve as Head of Programme / Project but can remain as a member of the research group .

Project Leader who transferred to another university shall relinquish his/her position as the leader but can remain a member of the research group

ASSESSMENT CRITERIA

- The proposed research must be able to produce an idea / theory / concepts / methods / models / processes, and
- The research could improve a policy, methodology and model the existing solutions, or
- The research covers issues of humanitarian and community for the purpose of increasing the life of the nation and the universe
- The research has the potential to contribute to the country's strategic agenda

TRGS set up



*The program must involve a minimum of three (3) projects under different research clusters from the same institution

KPIs:
Train: 4 PhDs
Pubs: 8 ISI/Scopus journal articles incl. TWO Q1s

Outcomes

- Must train minimum 4 PhD or 8 MSc
- Must publish 8 journals (minimum 2 in Q1)
- At least 1 IP

TRGS subject template

Main issue

What is the significant topic, issue or content to be approached in an transdisciplinary fashion?
For example, climate change, seeing, the body…

Integrative structure

What is the aim of taking this transdisciplinary approach? What are researchers expected to produce?
For example, deeper understanding, balanced judgement, solution, tangible product

Reason for the transdisciplinary Approach

Why is an transdisciplinary approach valuable or necessary for this topic?
What difference will an transdisciplinary understanding make?

Transdisciplinary operation

What sort of transdisciplinary moves will researchers need to make to produce this integrating structure?
For example, translation, balancing, synthesis or accommodation

TRGS subject template

Disciplines to be integrated

Which disciplines will be integrated in the subject?
For each discipline:
Why is it important for transdisciplinary work on this issue?
What substantial contribution does it make?
How is it centrally relevant to and illuminating of the issue?
How does it present a clearly distinct perspective, representing a different way of knowing?
What would be missing if this discipline were not represented?

TRGS team

- ✓ Multidiciplinary membership including engineering, science social science
- ✓ Member must show h-index and must have different expertise (need a proof)
- ✓ Project leader and program leader must have a reasonable citations & h-index (proven)
- ✓ A choice of a reputable and holistic research leader ~ better chance of success
- ✓ Research leader must be able to defend the project
- ✓ Program leader must be able to defend the whole program and must understand everything for all project
- ✓ 3 tier of researchers (experience >20 yrs, 10-20 yrs, <10 yrs)
- ✓ Brainstroming session while writing the proposal is useful

TRGS program leader

- **Program leader is critical. Choose:**

✓ Must have a reasonable **H-indexs**

✓ Can see **the bigger picture**

✓ Can present and defend

✓ Can answer rigorous questioning

✓ Non-defensive & not easily upset

✓ Can accept negative comment and spin to make it positive

✓ Can communicate in English and Malay

✓ Can give a convincing answer to question

Title

- Must be aligned with funding provider's priority.
- Should show depth of research.
- Use a cross breed terminology to show your strength.
- Do not use a out-of-date or overused words/sentence.
- Must show the research is cutting-edge.

TRGS research mapping example

Must be integrated and connected.
Realistic, achievable in 3 years.
Fundamental.
Not too ambitious.

Objectives:	Project 1	Project 2	Project 3	Project 4	Project 5	Project 6
1. To identify and analyze the drivers and links between global warming and factors that directly and indirectly impact extreme climatic events, resilience, vulnerability and adaptation for human well-being and security.	√	√	√			
2. To optimize utilization of natural resources to promote low carbon economy through sustainable green technologies and practices that will reduce GHG emissions and enhance carbon sinks.				√	√	√
3. To recommend policies that will adapt and mitigate the effect of global warming in a holistic manner, taking into account social, economic, health, safety and lifestyle factors as well as enhanced public awareness and engagement.	√	√	√	√	√	√
4. To formulate creative financing for bringing back nature	√					

TRGS

Methodology

- ✓ Use flowchart
- ✓ Use schematic diagram
- ✓ Current up-to-date method
- ✓ Cutting-edge
- ✓ Reflecting the objective

Mostly similar to the way to write FRGS, just that this is a program with several projects

Don't do

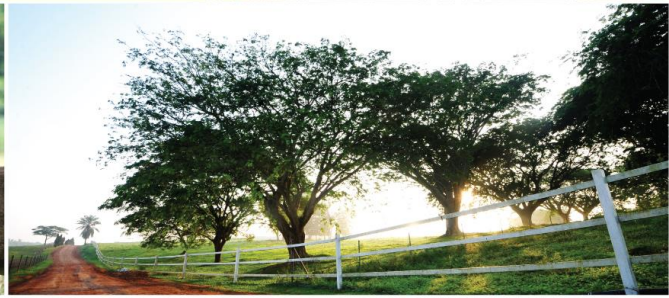
- ➢ Shallow title
- ➢ Penyelidikan yang basi, over cycle
- ➢ Too focus into a dicipline
- ➢ Not seeing the bigger picture (syok sendiri)
- ➢ Cost too high, unreasonable
- ➢ Don't ask for budget to build a lab or buy equipment


THAT'S THE END OF
PRESENTATION




#WeLoveUPM


Perpustakaan
Sultan Abdul Samad

THANK YOU



UPM



As of June 2015