



INNOVATION FOR COMMUNITY PROGRAMME (INNO4C)

Dana Pembangunan Usahawan Bumiputera



TERAJU
PENERAJU BUMIPUTERA



BJIM
Bahagian Jaringan Industri & Masyarakat
Division of Industry & Community Network



TPB2030

BUMIPUTERA DEVELOPMENT ACTION 2030

Driving Impactful Bumiputera's Agendas

Empowering Bumiputera economic and socio-economic development through strategic collaboration between Unit Peneraju Agenda Bumiputera (TERAJU) and Universiti Sains Malaysia (USM)



Community Empowerment

refers to the process of enabling the community to work collaboratively with university and subsequently take charge and improve the well-being of their own community through sustainable and impactful initiatives.



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INTRODUCTION OF PROGRAM INNO4C

Translational Research (Scale-Up Project)

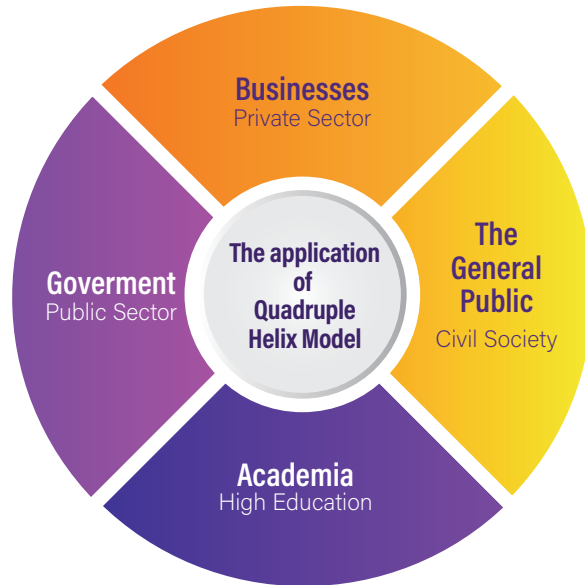
We, at Universiti Sains Malaysia (USM), believes that innovation should be an integral part in increasing the community's quality of life. We are of the position to utilize our knowledge and expertise from years of research and studies, to assist the people in acquiring new technology, proper financial management and solutions to any difficulties or challenges faced. We firmly believe that through Innovation for Community (INNO4C) Programmes, the capabilities of the community, especially under the B40 group, can be improved greatly through the adoption of science and technology. Through this, the targeted group will be able to reap the benefits for years to come from the innovations that are brought forth in INNO4C programmes.

Through the Dana Pembangunan Usahawan Bumiputera (DPUB), TERAJU has approved 8.55 Million Ringgit for USM to implement the INNO4C programme for five (5) years, which under it the focus will be on the implementation of Pepper Scale-Up Project, Madu Kelulut (Stingless Bee Honey) Scale-Up Project, Belacan Scale-UP Project, Ambatu Kelarai Project, Tiram (Oyster) Scale-Up Project and Integrated Multi-Trophic Aquaculture Farming (IMTA) Scale-Up Project for Seaweed and Lobster in spanning across the states of Sarawak, Sabah and Kedah (Langkawi Island).

The INNO4C catalog is a collection of research and innovation that has been dedicated to community, to better improved and moved away from the conventional ways of doing things. The ultimate aim of this program is to improve the well-being of the people and bridge the socio-economic gap of the Bumiputera's of Sarawak, Sabah, and Langkawi, Kedah.

INNO4C APPROACH

Translational Research (Scale-Up Project)



KEY COMPONENTS



Our Concept

Holistic and targeted approach to address community's economic value chain activities

Based on Purpose Driven

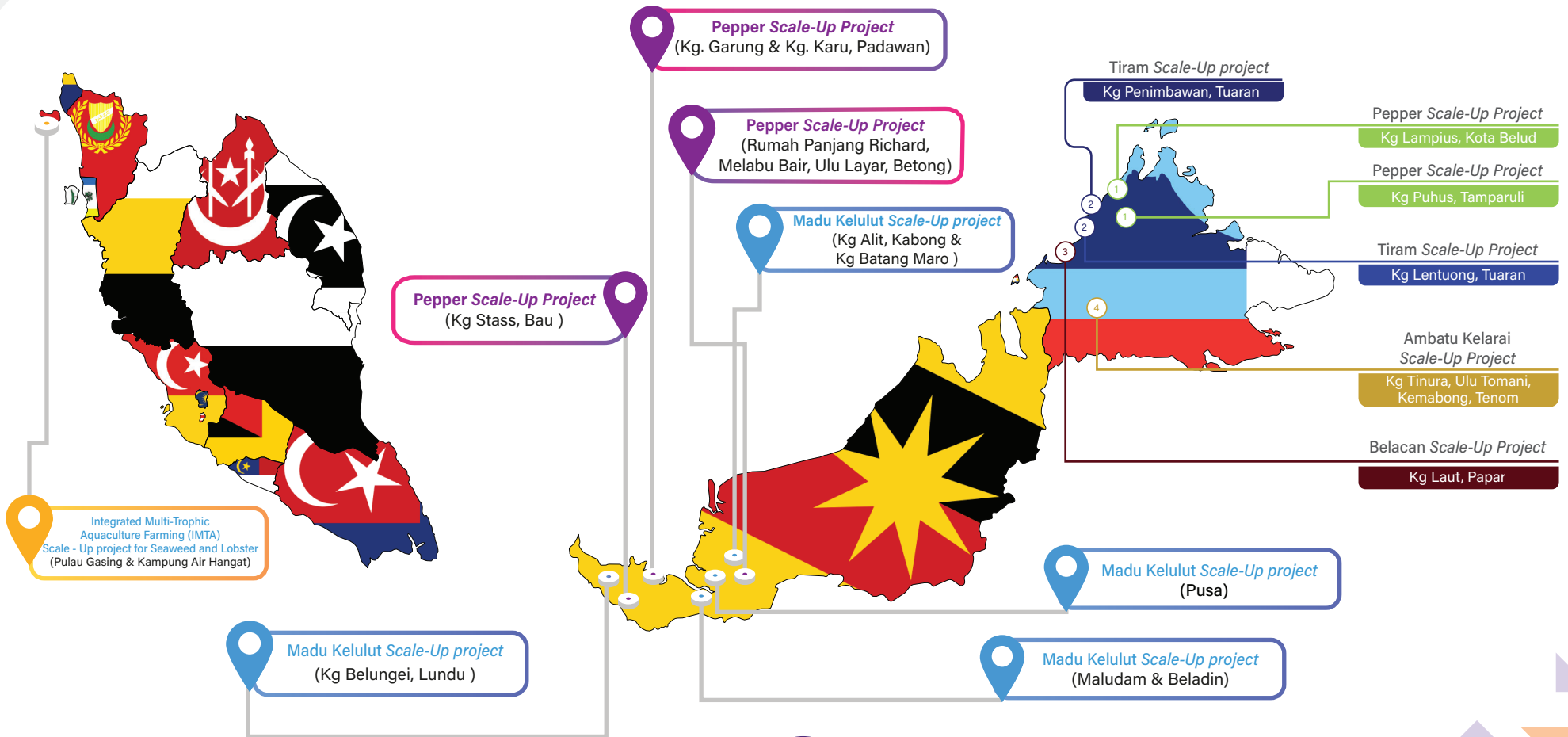
The programme/project process begins with identifying the problem statement, establishing the basis of collaboration, effective and efficient use of resources from stakeholders to achieve impactful and sustainable outcomes.

- > Demand Driven (Demand-driven is a need originating from Community and/or Government Agency)
- > Value Driven (Value-driven is initiated by Institution)
- > Value-Demand Driven (Value-demand driven is defined as a condition by which the need is initiated by Institution and Government Agency/Industry as a team)

INNO4C SUMMARY

Translational Research (Scale-Up Project)

To provide the community with the skills, knowledge, technology, financial and management support to enable them to participate in the economic activities (improving value chain activities) with the goal to increase or provide additional income, improve the standard of living and create employment opportunity in the community outcomes.



INNO4C OUTCOMES

Translational Research (Scale-Up Project)

- 01** 284 participants have received the benefits from this program 
- 02** 205 new jobs has been created in this program 
- 03** Product production has increased by 50% prior to the project 
- 04** 25%-500% increase participant's income between RM600.00-RM7,500.00 
- 05** 68 innovations introduced by USM's academicians (low tech, high touch) 
- 06** The project has received Halal, MeSTI & MyGAP certification. 
- 07** 19 Downstream products created 
- 08** Involvement of 10 industry partners for 5 years 
- 09** 22 academicians from multi-disciplinary background are involved 
- 10** INNO4C collaboration with 12 different local agencies 
- 11** INNO4C will act as a platform to enhance the quality and standard of local product 
- 12** RM26,760,000.00 expected ROI for the next 5 years 

INNO4C

COLLABORATIONS

Translational Research (Scale-Up Project)

Sponsors



Implementing Agency



Agency Partners



Industry Partners



SNAPSHOT OF INNO4C PROJECT

Translational Research (Scale-Up Project)

PROJECT SUMMARY | PROGRAM INNO4C MADU KELULUT SCALE UP PROJECT SARAWAK

PROBLEM STATEMENT

- 1 Continuous feral colony/log hunting jeopardize pollination & Forest Ecosystem



- 2 Traditional harvesting & Poor post-harvest management



- 3 High moisture content cause to sour and foamy honey
- 4 Traditional product presentation and sales



PRODUCTION

PROCESSING

PACKAGING & MARKETING

INNOVATION

- 1 Sustainable beekeeping using Mustafa Haif & tagging system

Farming solution



MUSTAFA-HIVE

Beekeepers Management



HIVE IDENTIFICATION TAGGING SYSTEM (HITS)

- 2 SOP guide and equipment to ensure the honey quality

Training solution



17 EPISODES MOOC VIDEO

SOP solution



SOP BOOK

Quality solution



KEIFh DEVICE & KEIFh SCALE



HOPE DEVICE

- 3 Machine to reduce honey moisture content

- 4 Proper packaging & certification

Processing solution



HILDA SYSTEM



SUBJECT MATTER EXPERTISE

PUSAT PENGAJIAN SAINS KESIHATAN



DR. ZULKIFLI MUSTAFA

STAKEHOLDERS:

FUNDING



IMPLEMENTING AGENCY



PARTNERS, PARTICIPANTS & LOCATIONS



SNAPSHOT OF INNO4C PROJECT

Translational Research (Scale-Up Project)

PROJECT SUMMARY | PROGRAM INNO4C PEPPER SCALE UP PROJECT SARAWAK

PROBLEM STATEMENT

1 Seeds, Fertilization and usage of pesticide & Herbicide



2 Traditional harvesting & Poor post-harvest management

(14-20 days)



Soaking (White Pepper only)



Dissolving Fruit Stalks



Drying



Low quality and production, Lack of skills and cheap

PLANTING

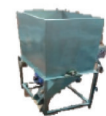
1 Pepper Planting Assistance Scheme



HANDLING & PROCESSING

2

Processing Center Develop SOP Skills (7-10 days)



Pepper Threshing Machine



Retting Machine with Enzymatic



Peel-O-Matic



Railway House



Processing House

INNOVATION

SUBJECT MATTER EXPERTISE

PUSAT PENGAJIAN KEJURUTERAAN MEKANIK



PROF MADYA DR. KHAIRUDIN MOHAMED



PROF MADYA DR. ZAHURIN BIN SAMAD

STAKEHOLDERS:

FUNDING



IMPLEMENTING AGENCY



PARTNERS, PARTICIPANTS & LOCATIONS



SNAPSHOT OF INNO4C PROJECT

Translational Research (Scale-Up Project)

PROJECT SUMMARY | PAPER SCALE UP PROJECT SABAH

PROBLEM STATEMENT

1 The use of belian wood



2 Traditional harvesting & Poor post-harvest management

(14-20 days)



Soaking (White Pepper only)



Dissolving Fruit Stalks

3 Drying for 3 -5 Days



Drying

4 Low quality and production, lack of skills and cheap



Low quality and production, Lack of skills and cheap

PLANTING

HANDLING & PROCESSING

PACKAGING & MARKETING

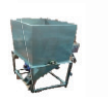
INNOVATION

1 The use of carbon fiber



2

Processing Center Develop SOP Skills (7-10 days)



Pepper Threshing Machine



Retting Machine with Enzymatic



Stainless Steel & Detachable Trolley For Handling Tray



Processing House



Sieving & Airing Machine

4 New Product, Packaging and Marketing



SUBJECT MATTER EXPERTISE

PUSAT PENGAJIAN KEJURUTERAAN MEKANIK



PROF MADYA DR. KHAIRUDIN MOHAMED



PROF MADYA DR. ZAHURIN BIN SAMAD

PUSAT PENGAJIAN TEKNOLOGI INDUSTRI



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DR. EFFARIZAH BINTI MOHD ESAH



DR. NORAZATUL HANIM BINTI MOHD ROZALLI



PROF DR. FAZILAH BINTI ARIFFIN



DR. MUSFIRAH BINTI ZULKARNAIN



DR. HAYATI SAMUDIN

STAKEHOLDERS:

FUNDING AGENCY IMPLEMENTING AGENCY RESPONSIBLE AGENCY



PARTNERS, PARTICIPANTS & LOCATIONS



SNAPSHOT OF INNO4C PROJECT

Translational Research (Scale-Up Project)

PROJECT SUMMARY | BELACAN SCALE UP PROJECT SABAH

PROBLEM STATEMENT

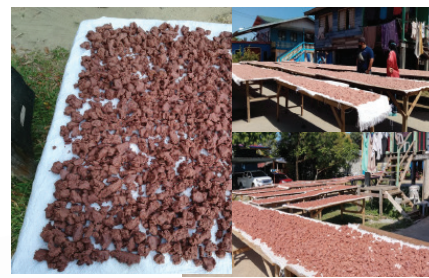
1 Conventional skill



2 Conventional technology



3 Drying



4 Storage, packaging, certification



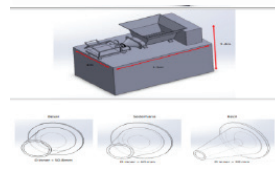
INNOVATION

HANDLING & PROCESSING

1 Standard Operating Procedure (SOP)

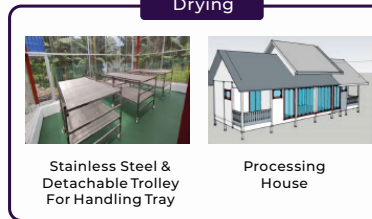


2 Belacan Forming & Cutting Machine



3

Drying



PACKAGING & MARKETING

4 New Product, Packaging and Marketing



SUBJECT MATTER EXPERTISE

PUSAT PENGAJIAN KEJURUTERAAN MEKANIK

- PROF MADYA DR. KHAIRUDIN MOHAMED
- PROF MADYA DR. ZAHURIN BIN SAMAD

PUSAT PENGAJIAN TEKNOLOGI INDUSTRI

- DR. MAIZURA BINTI MURAD
- DR. EFFARIZAH BINTI MOHD ESAH
- DR. NORAZATUL HANIM BINTI MOHD ROZALLI
- PROF DR. FAZILAH BINTI ARIFFIN
- DR. MUSFIRAH BINTI ZULKARNAIN
- DR. HAYATI SAMSUDIN

STAKEHOLDERS:

FUNDING IMPLEMENTING AGENCY



PARTNERS, PARTICIPANTS & LOCATIONS



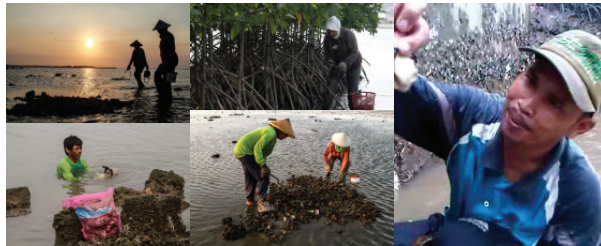
SNAPSHOT OF INNO4C PROJECT

Translational Research (Scale-Up Project)

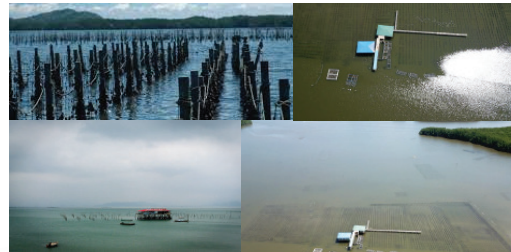
PROJECT SUMMARY | TIRAM SCALE UP PROJECT SABAH

PROBLEM STATEMENT

1 Collection of seeds from the wild



2 Conventional Oyster Farming



3 Storage, Packaging, & Certification



PRODUCTION & HANDLING

1 Oyster Seed Production



2 Oyster handling process



PRODUCT DEVELOPMENT & MARKETING

3 New Product, Packaging and Marketing



INNOVATION

SUBJECT MATTER EXPERTISE

- PROF IR DR. MOHD FADZIL BIN AIN**
PUSAT PENGAJIAN KEJURUTERAAN ELEKTRIK & ELEKTRONIK
- PROF DR HAMIDI BIN ABDUL AZIZ @ ABDUL RAHMAN**
PUSAT PENGAJIAN KEJUTERAAN AWAM

- DR. MUSFIRAH BINTI ZULKARNAIN**
PUSAT PENGAJIAN TEKNOLOGI INDUSTRI
- PROF DR. FAZILAH BINTI ARIFFIN**
PUSAT PENGAJIAN TEKNOLOGI INDUSTRI

- ENCIK MOHD SALLEH BIN TAHA**
FISHERIES RESEARCH INSTITUTE

STAKEHOLDERS:

FUNDING	IMPLEMENTING AGENCY	RESPONSIBLE AGENCY
PARTNERS, PARTICIPANTS & LOCATIONS		

SNAPSHOT OF INNO4C PROJECT

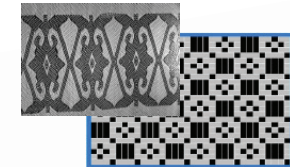
Translational Research (Scale-Up Project)

PROJECT SUMMARY | AMBATU KELARAI SCALE UP PROJECT SABAH

PROBLEM STATEMENT

- 1 Time consuming in raking the bamboo
- 2 Produces dyes from charcoal & takes a long time
- 3 Take the time to cut the bamboo into 4 layers
- 4 Parasite/flea attacks on the lice layer
- 5 Product packaging and writing are missing

Take 2 weeks to make



HANDLING & PROCESSING

PACKAGING & MARKETING

INNOVATION

- 1 Time consuming in raking the bamboo
- 2 Produces dyes from charcoal & takes a long time
- 3 Colouring
- 4 Chemical treatment pool
- 5 Product label

Speed Up Bamboo Product



Cutting Machines



Bamboo Polishing Machine



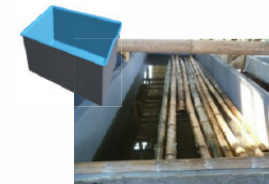
Bamboo Splitting Machine



Pedal-operated Bamboo Slicing Machine With Stand



Hand-crank Bamboo Strip Layering Machine With Movable Stand



SUBJECT MATTER EXPERTISE

PUSAT PENGAJIAN KEJURUTERAAN MEKANIK



PROF MADYA DR. KHAIRUDIN MOHAMED



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DR. MOHD NAJIB ABDULLAH SANI

STAKEHOLDERS:

FUNDING IMPLEMENTING AGENCY



PARTNERS, PARTICIPANTS & LOCATIONS



SNAPSHOT OF INNO4C PROJECT

Translational Research (Scale-Up Project)

PROJECT SUMMARY | PROGRAM IMTA SCALE-UP PROJECT FOR SEAWEED & LOBSTER KEDAH

PROBLEM STATEMENT

1 Low skill and low production



2 Seasonal Production



3 Drying (3-4 days) & low quality



4 Low quality, low nutritional value, commercial value is low and cheap



PRODUCTION

PROCESSING

PRODUCT DEVELOPMENT & MARKETING

INNOVATION

1 Seaweed Farming Using High Density Planting and Tissue Culture



2 Integrated Multi-Trophic Aquaculture Farming (Seaweed & Lobster)



3 Solar Drying System For Aquaculture By Product



4 IOT- Monitoring System For Seaweed Analyzing Properties



5 Product Development



SUBJECT MATTER EXPERTISE

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FUNDING AGENCY **IMPLEMENTING AGENCY** **RESPONSIBLE AGENCY**



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