



**UNIVERSITY
OF MALAYA**



This institute is rated 5 Stars
based on 8 categories.



QS Stars



QS World University
Rankings



QS WU Rankings by Subject
Development
Studies



QS WU Rankings by Faculty
Engineering and
Techno ...



Asian University
Rankings

Social innovation: issues & challenges in the university

Prof Awang Bulgiba Awang Mahmud FASc

Deputy Vice-Chancellor (Academic & International)

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Outline

- Social innovation in universities
- Changing face of research in UM
- Some examples from UM
- What we can do in the university

Social innovation in the universities

- Not much talked about
- Possibly some done but not publicized
- Reasons
 - Not mainstream
 - Not included in curricula
 - No attention paid to it
 - People are not aware what constitutes social innovation

Social Innovation moves from the margins to the mainstream



At the start of 2009 President Obama announced the establishment of a new “Office for Social Innovation at the White House“ and allocated USD 50million to a fund for social innovation. The Fund will focus on priority policy areas, including education, health care, and economic opportunity.

Slide borrowed from Prof Jürgen Howaldt's presentation



Making sense of Social Innovation!
Parallel Session C

Jürgen Howaldt

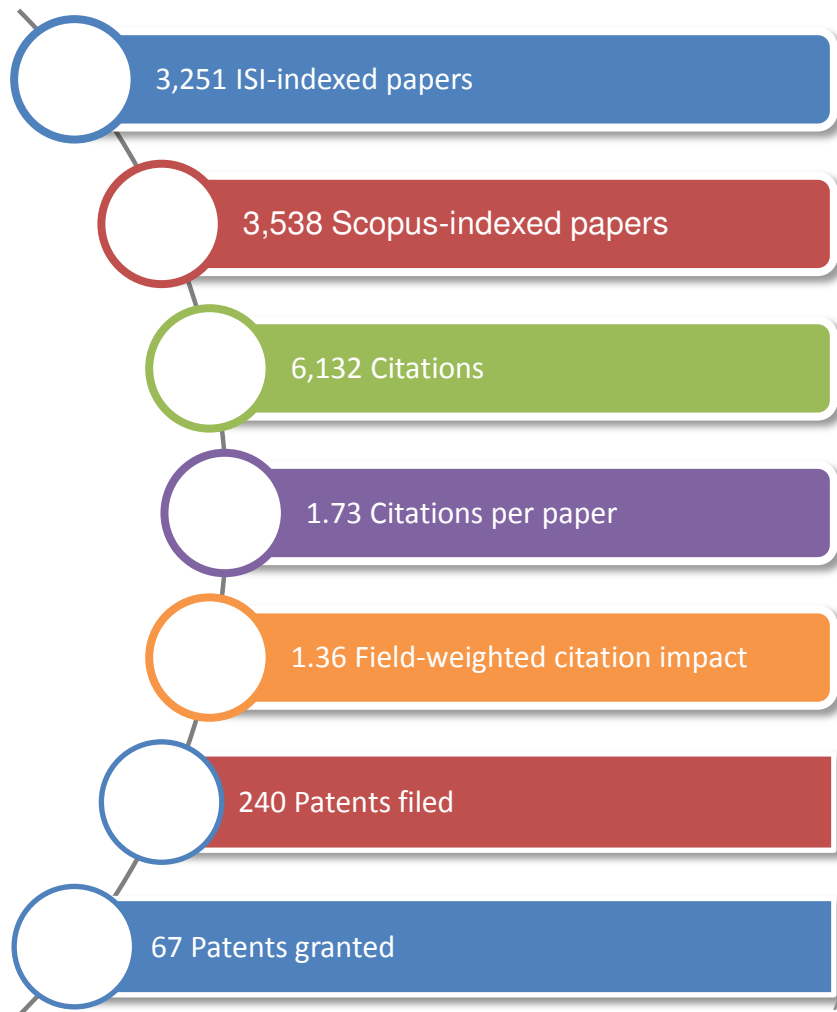
Awang Bulgiba, UM

How can social innovation be better dealt in the university?

- make social innovation better known
- make students and staff understand what constitutes social innovation
- move away from research which produces **only journal publications** to research which also solves problems
- some research will solve social problems & have social innovations
- adopt a Grand Challenge approach to research

Example ... research in UM

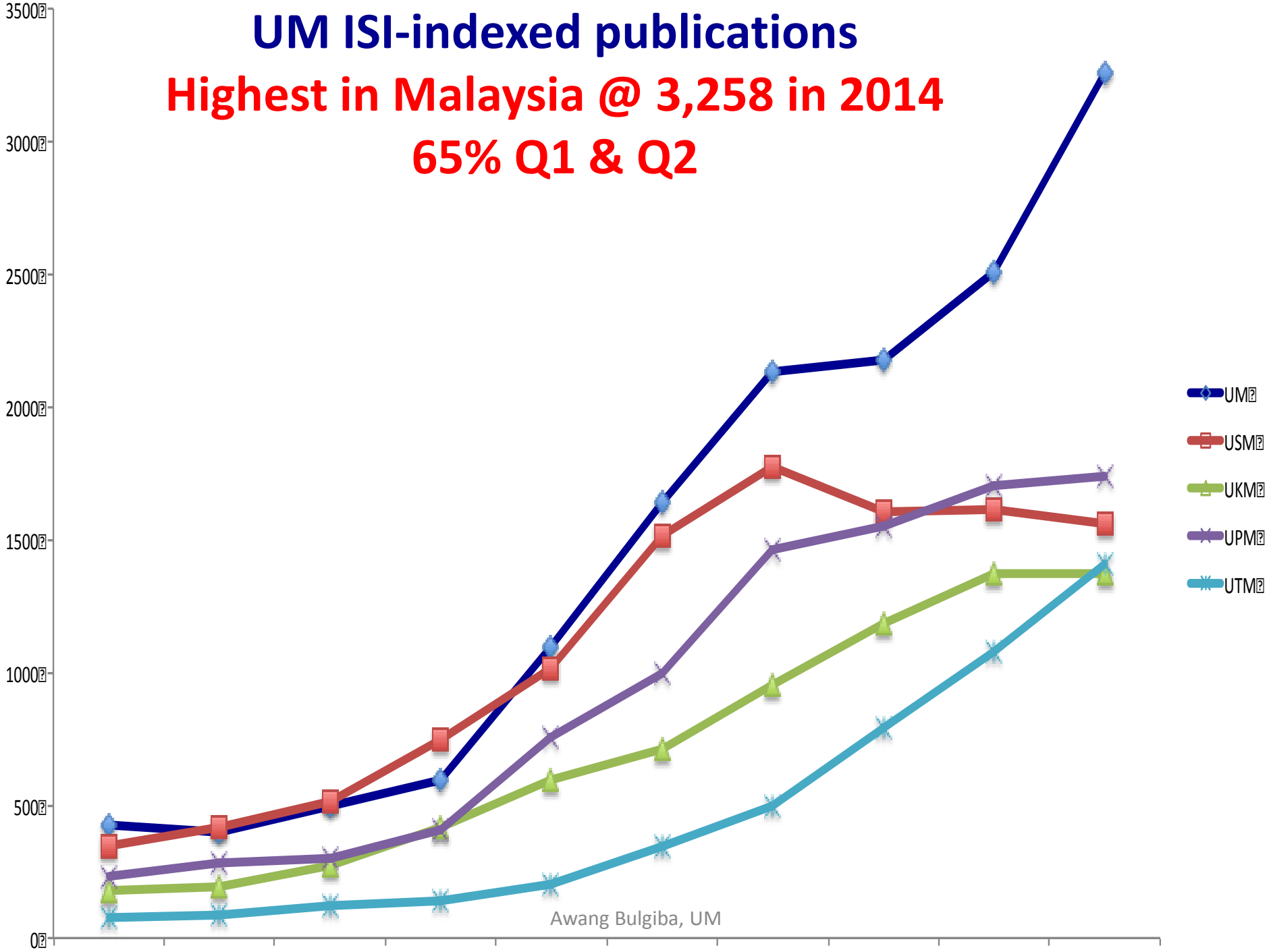
UM research output 2014



- phenomenal increase in volume from 2007 onwards
- quality lagging behind quantity but now catching up
- patent filing & commercialization growth is also phenomenal

UM ISI-indexed publications

Highest in Malaysia @ 3,258 in 2014
65% Q1 & Q2

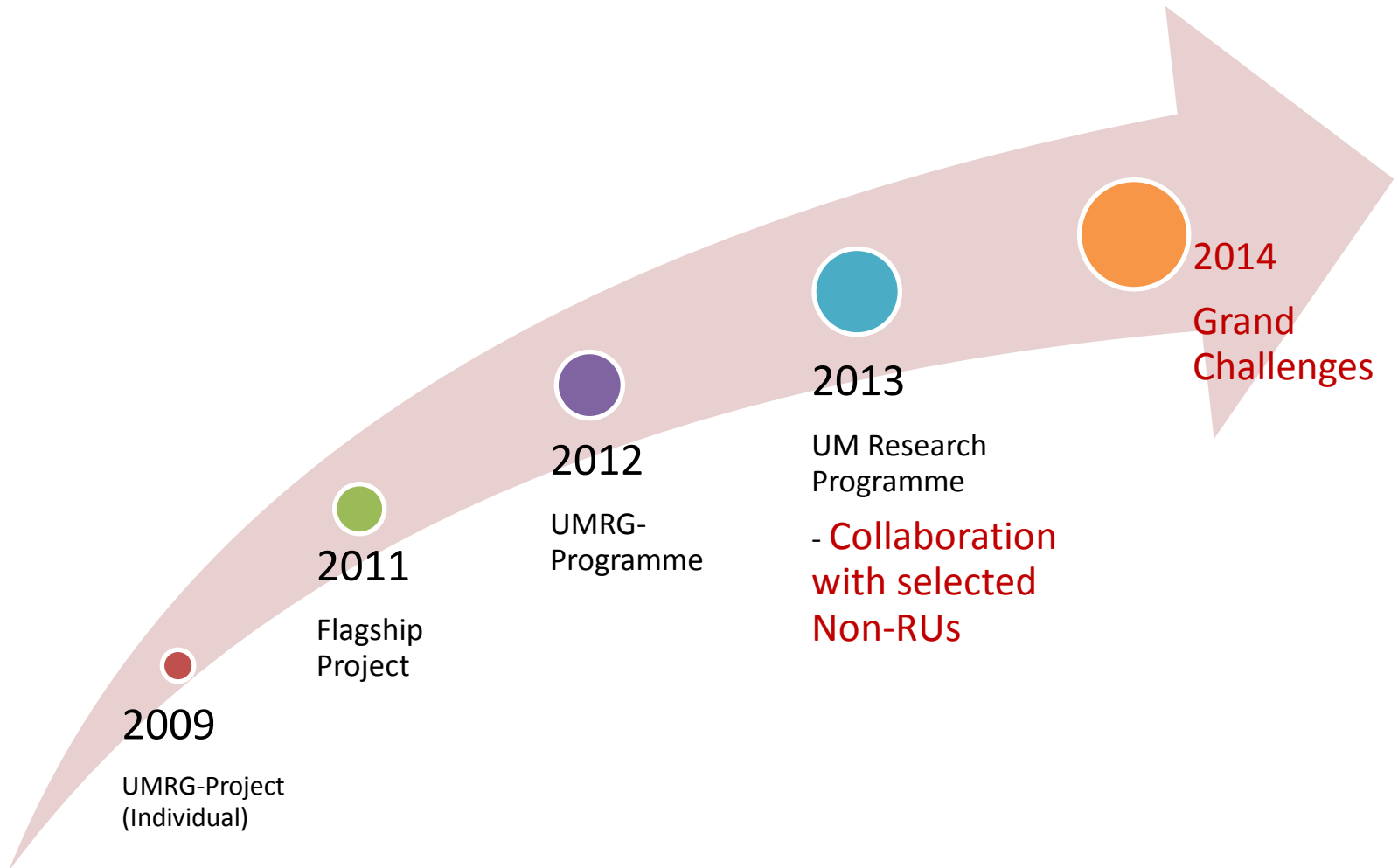


Awang Bulgiba, UM

3 years ago we decided that UM Research ...

- needed to move away from quantity to quality
- needed to move away from single to multi- and trans-disciplinary
- needed to be more translational
- needed to move towards having greater impact on society
- needed to be funded differently

Research grants – change in thrust



Research leading to social innovation

- The Grand Challenge approach is changing UM research in a way that was unknown before
- Program centred around a real problem - social or industrial or economic
- Stakeholder involvement is compulsory
- Outcomes are identified right at the beginning
- An innovation is part of the research

UM Power Energy Dedicated Advanced Centre (UMPEDAC)

UMPEDAC the first research centre recognised by the Ministry of Higher Education (MOHE) as a national Higher Institution Centre of Excellence (HICoE) in the niche of renewable energy (solar) on 30th October 2009. Currently, UMPEDAC has sixty three (63) postgraduate students; forty six (46) PhD students and seventeen (17) MPhil/MEng.Sc students. Since its establishment, thirty three (33) PhD and twenty seven (27) M.Eng Sc. students have been produced. In year 2014, Human Life Advancement Foundation's (HLAF) awarded a **Human Lifetime Achievement Award**, presented by HLAF's Chairman, Tun Dr. Mahathir Mohamad. In the same year, our researchers placed second in the **2014 IEEE Industry Application Society (IAS) award** for the paper entitled "Asymmetrical Transistor Clamped H Bridge Cascaded Multilevel Inverter". Apart from that, we were also honoured with the **2008 AKSA (Anugerah Kualiti Sektor Awam)** award bestowed by MAMPU (Modernisation of Administration and Management Planning Unit), for our collaboration with M. S. Elevators Sdn. Bhd.

CORE BUSINESS

Research Activity.

Professional Testing in Solar Farm certified by government agency, Sustainable Energy Development Authority, SEDA Malaysia.

Specialist Research Facilities in Solar PV Inverter and PV Module.

Offering Postgraduate Programs (PhD, MPhil, & Master by course, Renewable Energy, joint collaboration with Kyoto University)

Professional Training and Courses in engineering fields.

Consultancy to local industry & private sector.

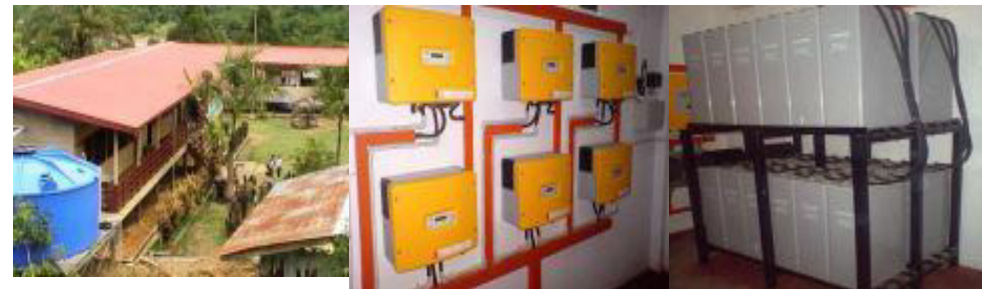


UMPEDAC & Rural Electrification in Malaysia

Solar hybrid power-generation station, Kampung Pak Kaleh, Pulau Pemanggil



Sek. Keb. Tudan, Sabah



Sek. Keb. Panginatan, Sabah

Case Study I – Postharvest Storing and Packaging of Bananas (Jah Hut Orang Asli)

Introduction

- Jah Hut is one of the 18 tribes of indigenous people in Malaysia
- they mostly live in Temerloh, Pahang, Malaysia.
- the community in selected villages in Kuala Krau plants Nangka and Abu bananas as one of their source of income source and they sell their bananas harvest to the nearest morning or night market.



Figure 1 Map of peninsular Malaysia

Figure 2 Map of Temerloh, Pahang

Problem

- Jah Hut Orang Asli community highlighted that they require assistance in acquiring postharvest strategies to extend the shelf life of bananas which they cultivate for income
- in the absence of any knowledge on postharvest handling of bananas and technology which can extend shelf life, villagers will only store the bananas for only a period of maximum period of 24 hours before deploying the harvest for sale at the nearby markets

- The packaging and storage conditions established from this study could be introduced to the Orang Asli community which has indicated that they highly appreciate any technology that can improve their crop shelf life

Packaging	Cost of Packaging	Storage condition	Effectiveness (Abu bananas)	Effectiveness (Nangka bananas)
Clear plastic (loosely packed)	RM 5 (per100)	Cold room	Yes	Yes
		Room temperature	Yes	Yes
		Glass house	Yes	Yes
		Water	Yes	No
Cling wrap tightly packed)	RM 8 (1 box)	Cold room	Yes	Yes
		Room temperature	No	Yes
		Glass house	Yes	No
		Water	Yes	No
Banana leaf	Free	Cold room	Yes	Yes
		Room temperature	No	No
		Glass house	No	No
		Water	Yes	No

Table 1 Cost effectiveness of packaging under different storage conditions in extending shelf life of Abu and Nangka bananas

Case Study 2 – Postharvest Handling of Fresh Produce (Orang Kuala)

- Orang Kuala is another tribe amongst the indigenous community in Malaysia
- they mostly live in Senggarang, Batu Pahat, Johor, Malaysia
- unlike the Jah Hut community, the livelihood of the Senggarang Orang Asli community mainly revolve around exporting agricultural & food products to Singapore



Figure 3 Map of peninsular Malaysia

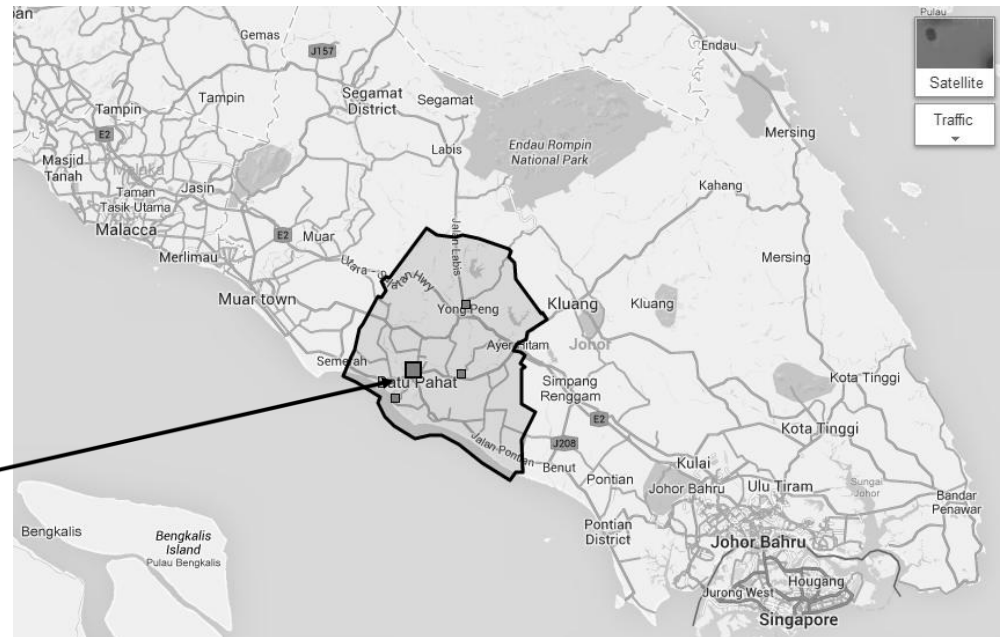


Figure 4 Map of Batu Pahat, Johor

Problem

- community specifically indicated that they required assistance in basic postharvest handling & processing
- after some discussion, community highlighted that the shelf life of their agricultural produce & food products were not satisfactory due to hastened spoilage & they were unable to keep products long enough for better profit

Solution

- Through a postharvest handling workshop, the villagers were introduced to all the general aspects of postharvest handling including transportation, cleaning and storing of crops as well as maintaining cleanliness of the processing area
- Workshop also covered methods of washing, packing and storing of fresh vegetables
- Following the washing step, fresh vegetables were packed appropriately

Knowledge and Technology Transfer of an Innovative 'SPOKOJANtm Mosquito Coil & Holder System for Outdoor Deployment' to Orang Asli Community in Jelebu, Negeri Sembilan



KTP grants monitoring at
Orang Asli community,
Jelebu



Mosquito coil in a holder
placed outside the Orang
Asli house can attract
mosquito and trap them

Ultrafiltration Mobile Unit to Communities in Need of Clean Water



Water treated by the UF system to produce clean and safe water for consumption

What we can do in the university ...

- make social innovation “mainstream”
- change the way research is funded to enable social innovation to take place
- mandate identifiable outcomes right from the beginning so that innovations can be created
- make social innovation part of the curricula
- after all ... community engagement is already part of the Malaysian university UG curricula

Thank you
for your

