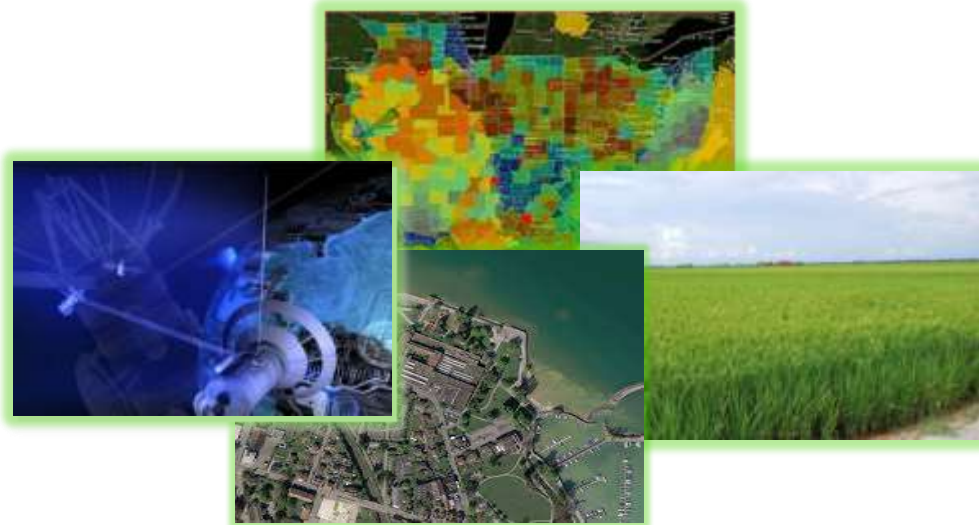


GEOSMART ASIA 2015

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PWTC Kuala Lumpur

GIS FOR RICE MANAGEMENT & MONITORING : **An Overview Of Geospatial Solution In Malaysian Agriculture**



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MINISTRY OF AGRICULTURE AND AGRO BASED INDUSTRY





MINISTRY OF AGRICULTURE & AGROBASED INDUSTRY



4 DEPARTMENTS



Department of Agriculture



Department of
Veterinary Services



Department of Fisheries

Malaysian Quarantine
Inspection Services

9 AGENCIES



Federal Agricultural
Marketing
Authority (FAMA)



Malaysian Agricultural
Research and
Development Institute
(MARDI)



Fisheries
Development
Authority of
Malaysia
(LKIM)



Farmers'
Organization
Authority Malaysia
(LPP)



Malaysia
Pineapple
Industry Board
(LPNM)



National
Entrepreneur
Economic Fund



Muda Agricultural
Development
Authority (MADA)



Kemubu
Agricultural
Development
Authority (KADA)



Agriculture
Bank

Towards the creation of a competitive agriculture industry producing quality products which are safe and environmental friendly, and export-oriented.



OBJECTIVES

- ❖ **Provision of consultation services, technical support and professional advice in various agricultural field especially in the field of food crop and downstream industry in order to ensure sufficient food production for the country's needs.**
- ❖ **Provide guidance and nurturing of progressive agriculture entrepreneurs in order to increase farming productivity and eventually increase the country's agriculture produce.**
- ❖ **Development of trained and skilled workforce to cater to the needs of the agriculture industry.**
- ❖ **Protect crops (industrial and food crops) from threat such as pests and diseases through the crop protection and quarantine services.**
- ❖ **Determine the production of crops that are safe for consumption and control environmental pollution.**
- ❖ **Regulate the agriculture resources and the country's plasma-generated materials from being transferred out of the country and from threat of extinction.**

FOCUS CROP FOR SPATIAL ACTIVITY



RICE



Staple food for Malaysia -growing demand for production



Initiative under the strategic planning of sustaining production for the growing population

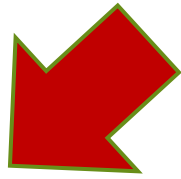


Major crop industry for Department of Agriculture

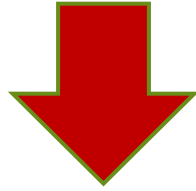


CURRENT CHALLENGES / ISSUES IN MANAGING RICE CROP?

SITUATIONAL ANALYSIS



Changes of Paddy Area into Fishing Ponds, Housing Complex and others



Data availability in heavy documentation



Conventional method- manpower for field activity monitoring

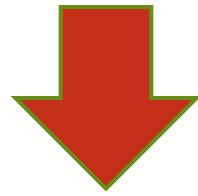
GEOSPATIAL SOLUTION?



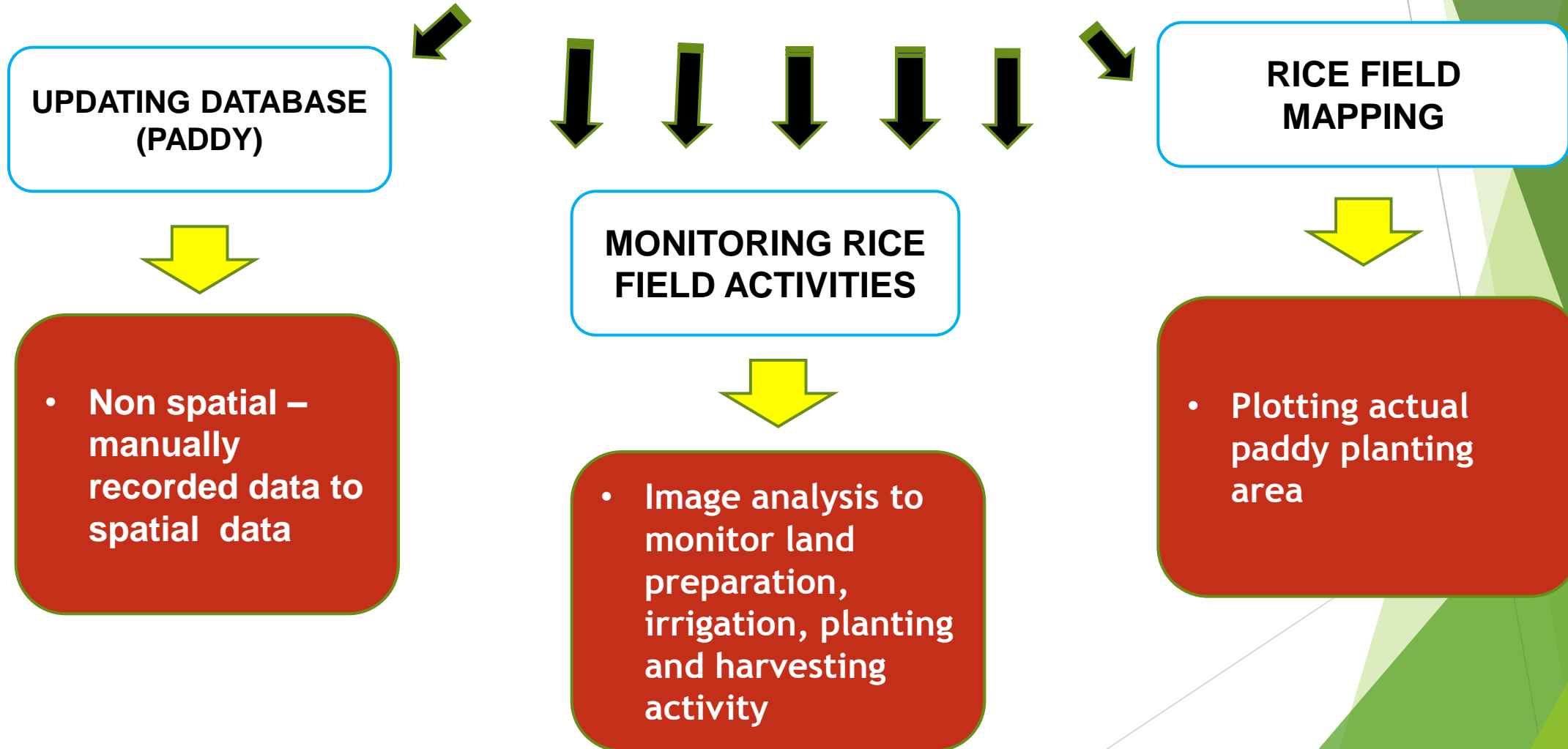
RICE SPATIAL PLANNING



Integration of GIS Technology & Satellite Imageries



RICE MAPPING & MONITORING
(Paddy Management System)



UPDATING DATABASE
(PADDY)



- Non spatial – manually recorded data to spatial data



MONITORING RICE
FIELD ACTIVITIES



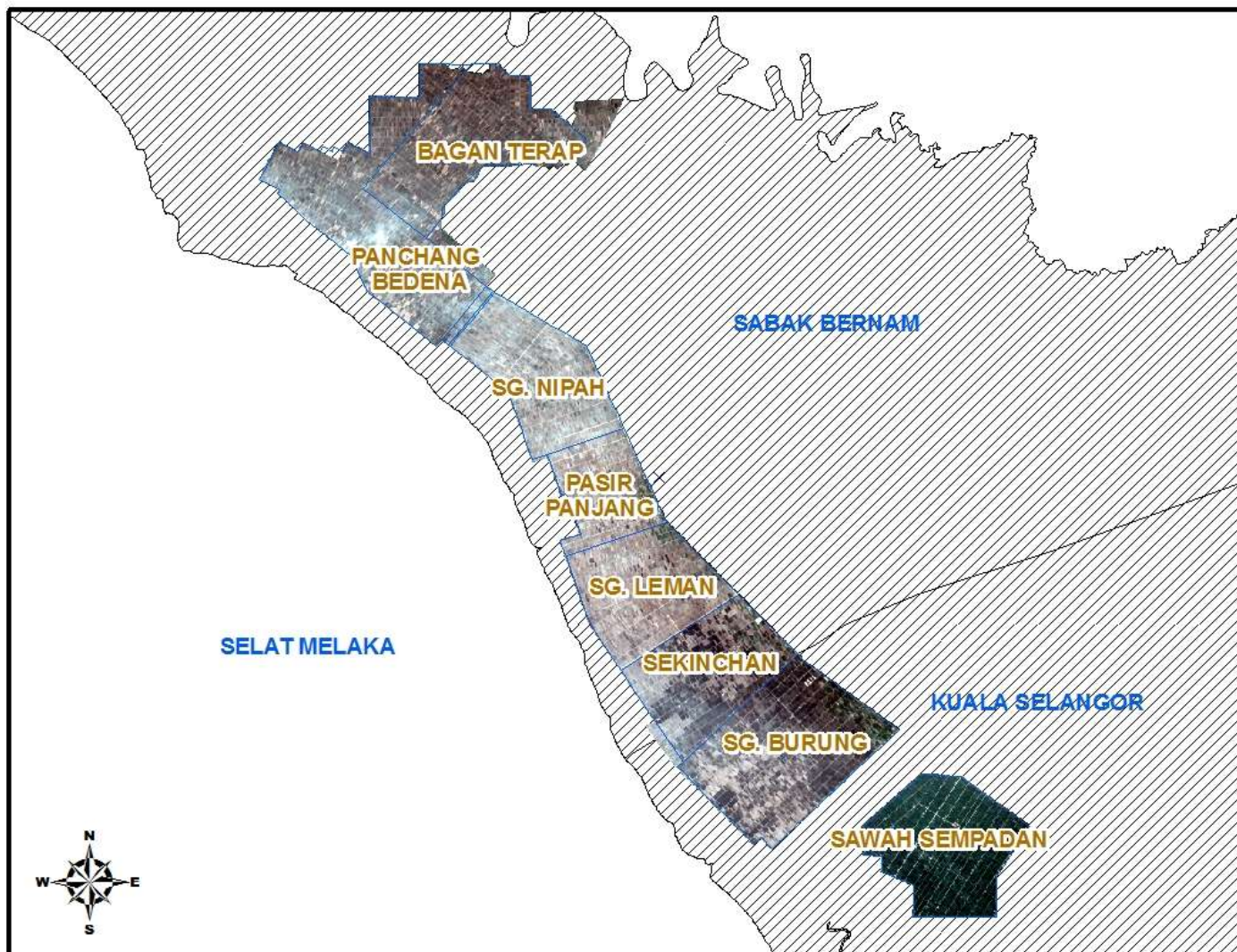
- Image analysis to monitor land preparation, irrigation, planting and harvesting activity

RICE FIELD
MAPPING



- Plotting actual paddy planting area

PILOT PROJECT : IADA BARAT LAUT ,SELANGOR (DOA – ARSM)



Cultivating Area
Season 2/2011:
18,220 Hectare

1. UPDATING (NON SPATIAL TO SPATIAL DATA)

FLAT

Info Zoom In Zoom Out Full Extent Prev Extent Next Extent Pan Reset Logout

Petunjuk Carian

Jelapang Padi

Barat Laut Selangor

- Jalan / Tali Air
- Bukan Padi
- Padi
- Rezab Padi

Click to toggle the visibility of the layers

- Barat_Laut_Selangor
 - Kawasan Pengembangan
 - Blok Pengairan
 - Blok
 - Barat Laut Selangor
 - Status Bajak
 - Status Air
 - Status Tanam
 - Status Tuai
- Imej_Radar
- Imej_Optikal

Choose Layer: [v]
Transparency: [0-100]

Info

Lot No lada : 3277
Lot No Jupem : 26609
Lot No PTD : N/A
Blok : J
Blok Pengairan : Sawah Sempadan
Luas : 1.23 ha

Bil	Nama Pengusaha	Kp Pengusaha	No Telefon
1	Hj. Mustafa Hj. Karim	481220105593	N/A

Agensi Remote Sensing Malaysia © 2011

2. PADDY ACTIVITY MONITORING

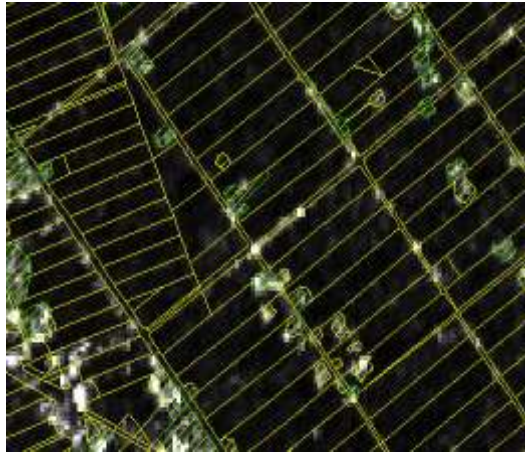
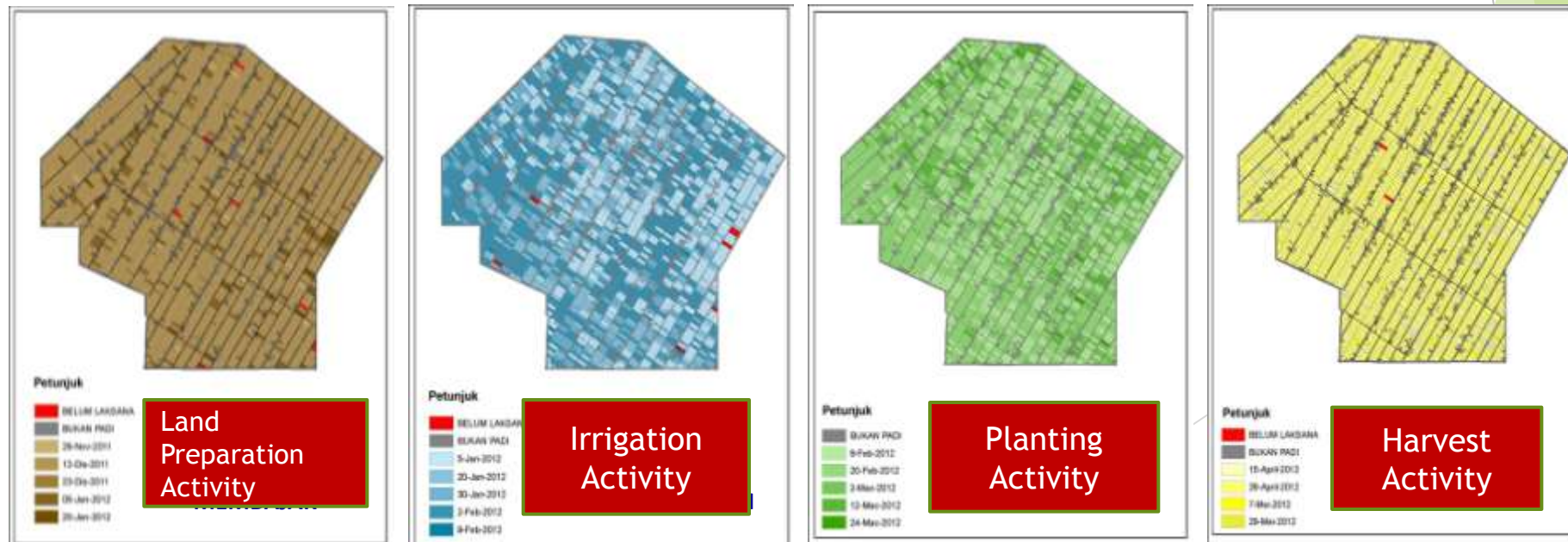
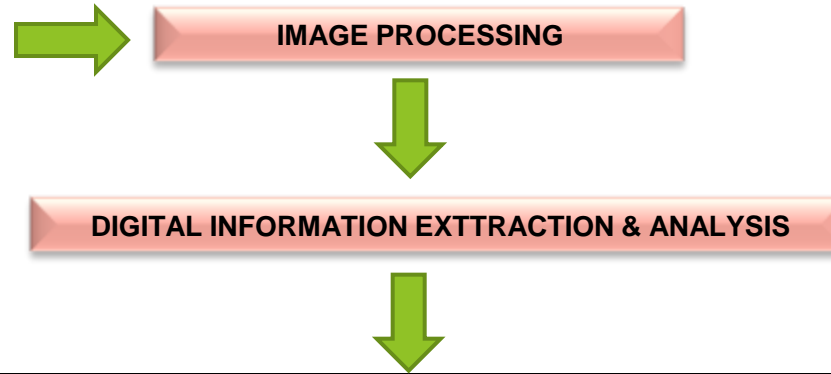
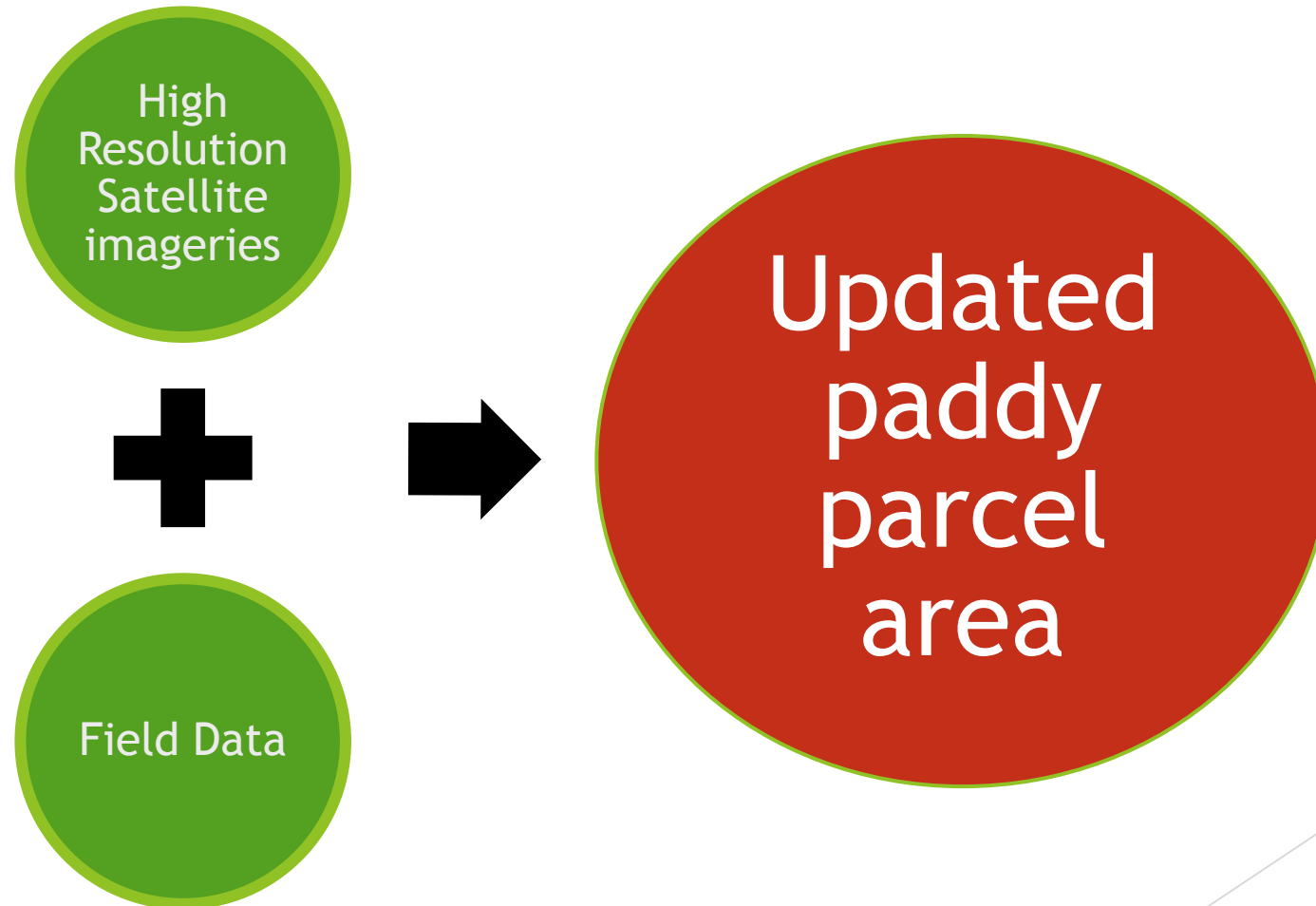


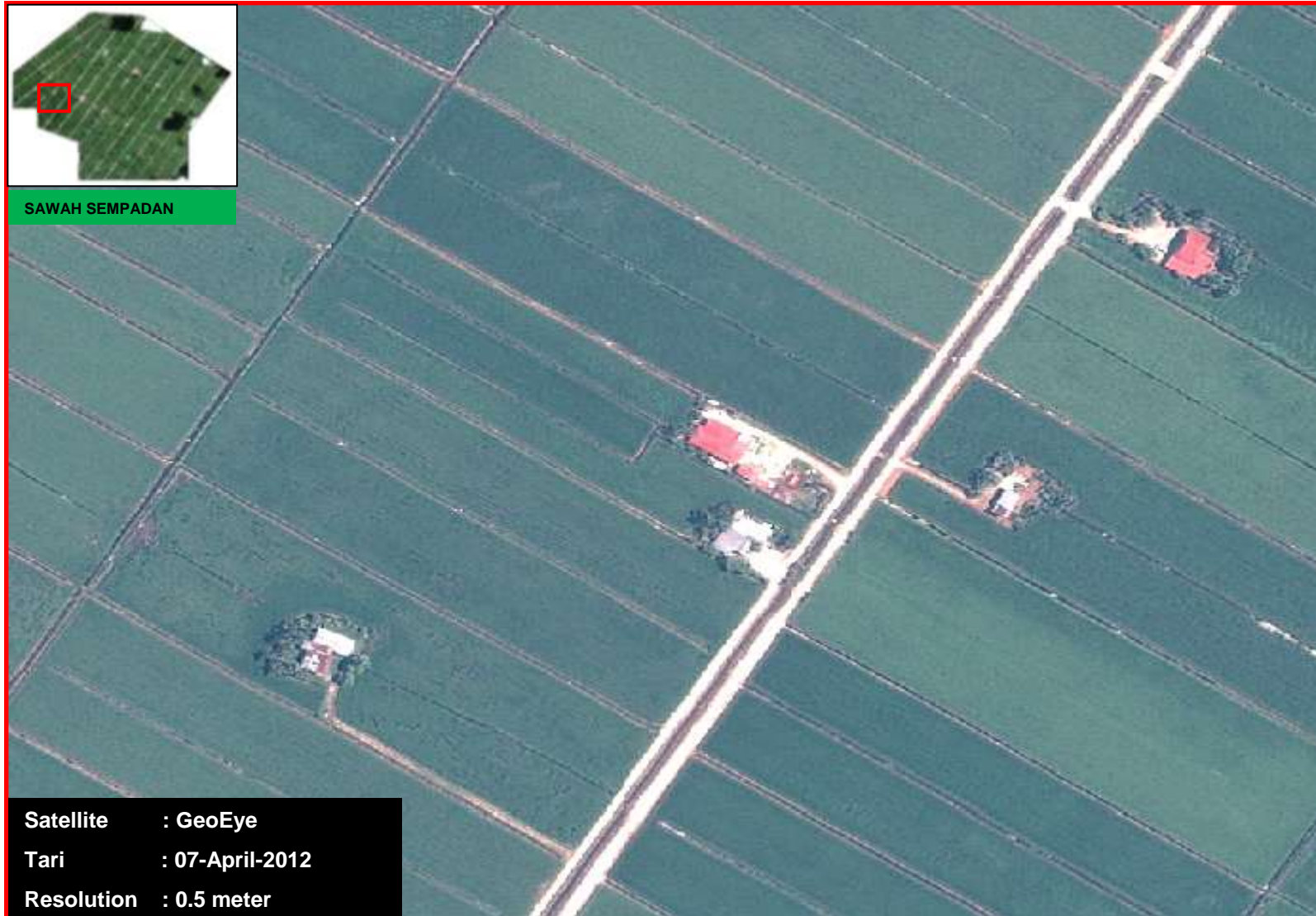
IMAGE : RADARSAT-2



3. FIELD MAPPING



UPDATING PADDY AREA



SAWAH SEMPADAN

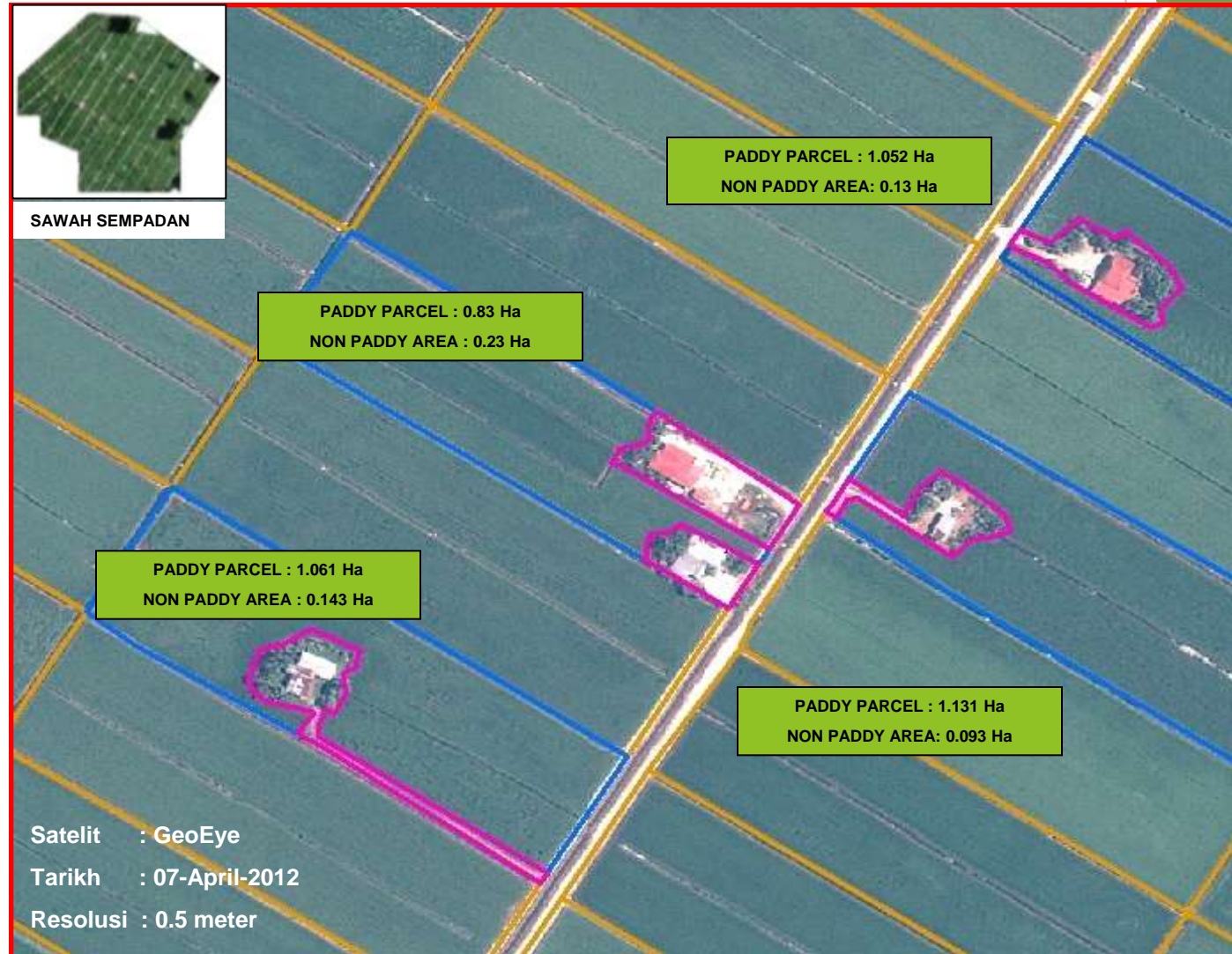
Satellite : GeoEye
Tari : 07-April-2012
Resolution : 0.5 meter

UPDATING PADDY AREA (CONTINUE..)



UPDATING PADDY AREA (CONTINUE..)

UPDATED
PADDY PARCEL
/PLANTING
AREA



ANALYSIS : QUERIES AND REPORTS



QUERY : LOCATING FARMER'S LOT

Menu Utama x -Padi x +

apps2.remotesensing.gov.my/BLS/ncceGIS_gis/map2.php

YAHOO! Search LIVE +

SISTEM PENGURUSAN TANAMAN PADI

Petunjuk Carian Ukuran

Lot Pengusaha

Blok Pengairan: SG BURUNG

Nama Pengusaha: AZMI BIN EHSAN

Can

Jumlah Lot = 8

Lot IADA	Blok	Blok Pengairan
7229	C2	SG BURUNG
7223	C2	SG BURUNG
7211	C2	SG BURUNG
7218	C2	SG BURUNG
7222	C2	SG BURUNG
7216	C2	SG BURUNG
7226	C2	SG BURUNG
7231	C2	SG BURUNG

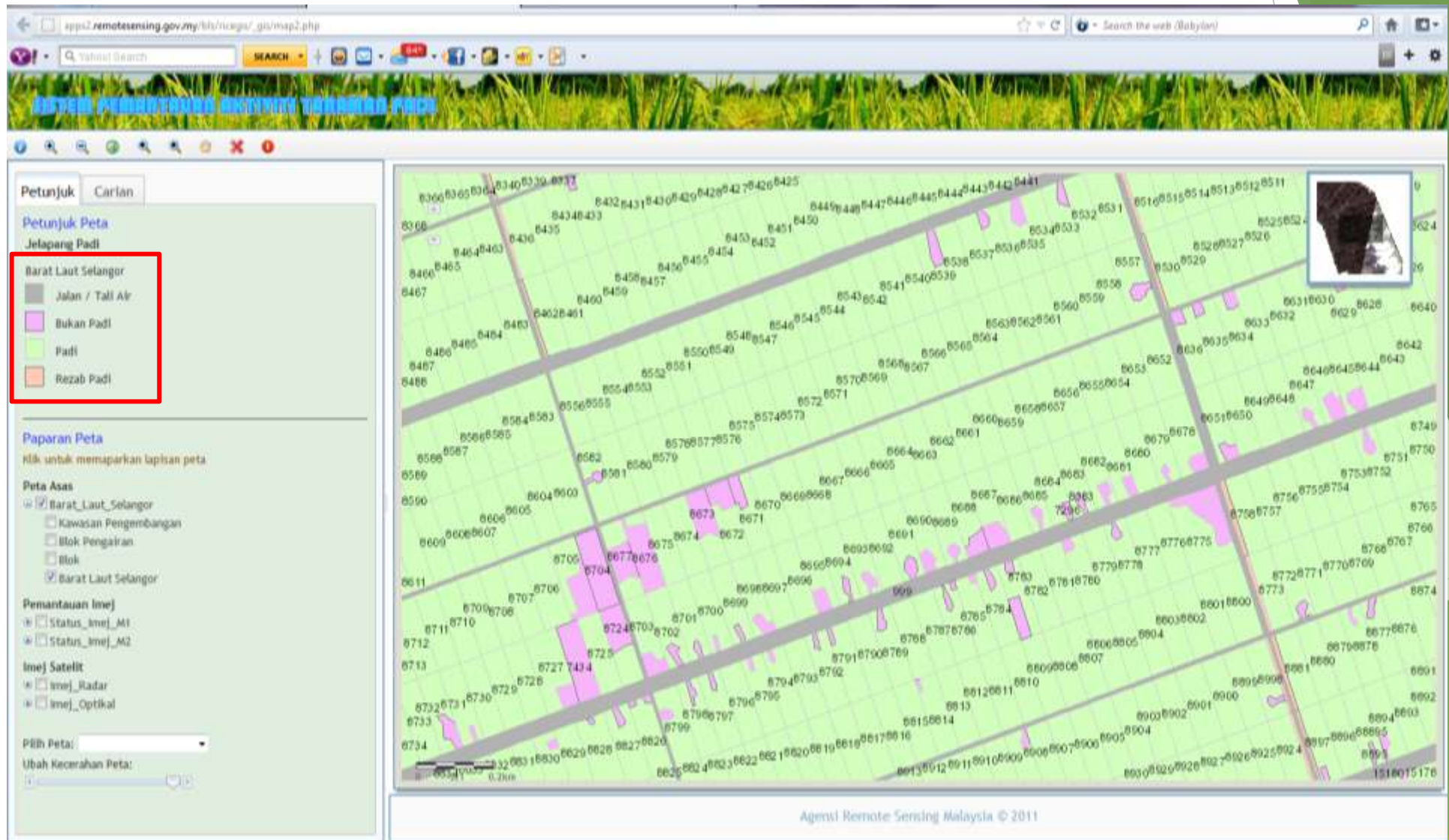
Kad Pengenalan

Luas Kawasan

Bilangan Lot

Agensi Remote Sensing Malaysia © 2011

QUERY: PADDY & NON PADDY



REPORT

YIELD REPORT ACCORDING TO SEASON



SISTEM PEMANTAUAN AKTIVITI TANAMAN PADI



LAPORAN HASIL MUSIM 2 BAGI SETIAP BLOK PENGAIRAN

TAHUN 2011

BLOK PENGAIRAN	HASIL (TAN)	LUAS PADI	KURANG 4 TAN	4 - 55 TAN	56 - 75 TAN	76 - 10 TAN	LEBIH 10 TAN	PURATA
SG BURUNG	9.024.473	1.399.388	48	72	368	616	74	6.449
BAGAN TERAP	435.468	137.96	68	34	15	1	0	3.156
SAWAH SEMPADAN	9.596.112	2.127.948	510	383	646	212	10	4.511

REPORT

NUMBER OF FARMERS ACCORDING TO LOT



SISTEM PEMANTAUAN AKTIVITI TANAMAN PADI



LAPORAN BILANGAN PENGUSAHA MENGIKUT JUMLAH LOT

BLOK PENGAIRAN	BILANGAN PENGUSAHA	1 LOT	2 LOT	3 LOT	4 LOT	LEBIH 4 LOT
SAWAH SEMPADAN	1,133	682	242	98	42	69
SG BURUNG	1,631	987	422	118	46	58
SEKINCHAN	829	404	217	105	45	58
SG LEMAN	1,441	823	349	124	69	76
PASIR PANJANG	902	408	245	108	65	76
SG NIPAH	948	500	233	111	50	54
PANCHANG BEDENA	1,716	754	464	241	132	125
BAGAN TERAP	1,268	432	377	214	111	134

OUTCOME

- ▶ The field monitoring activity is more efficient - on time reports
- ▶ Improved data keeping / resources for paddy database
- ▶ Widen the scope of analysis - more analysis options



SUMMARY

SATELLITE IMAGERIES



FIELD DATA (PADDY)



❖ STATUS OF FIELD ACTIVITIES FOR THE PADDY AREA

❖ FIELD MAPPING (HA)



- To observe the changes in paddy area
- To monitor the status of field activity by area
- Improved data keeping
- Improved paddy analysis report





THANK YOU