

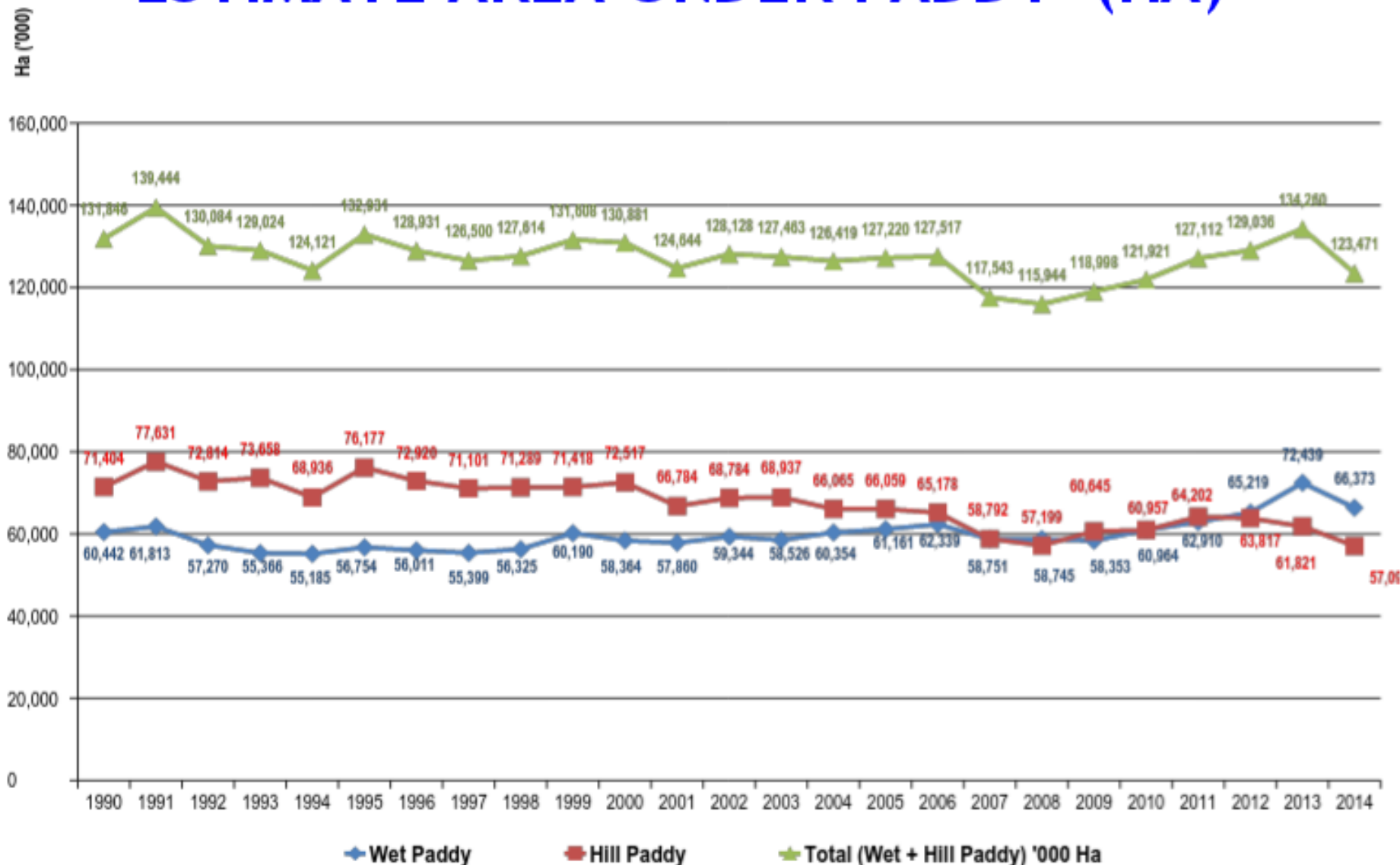
SARAWAK'S SPECIALTY RICE

Teo Gien Kheng

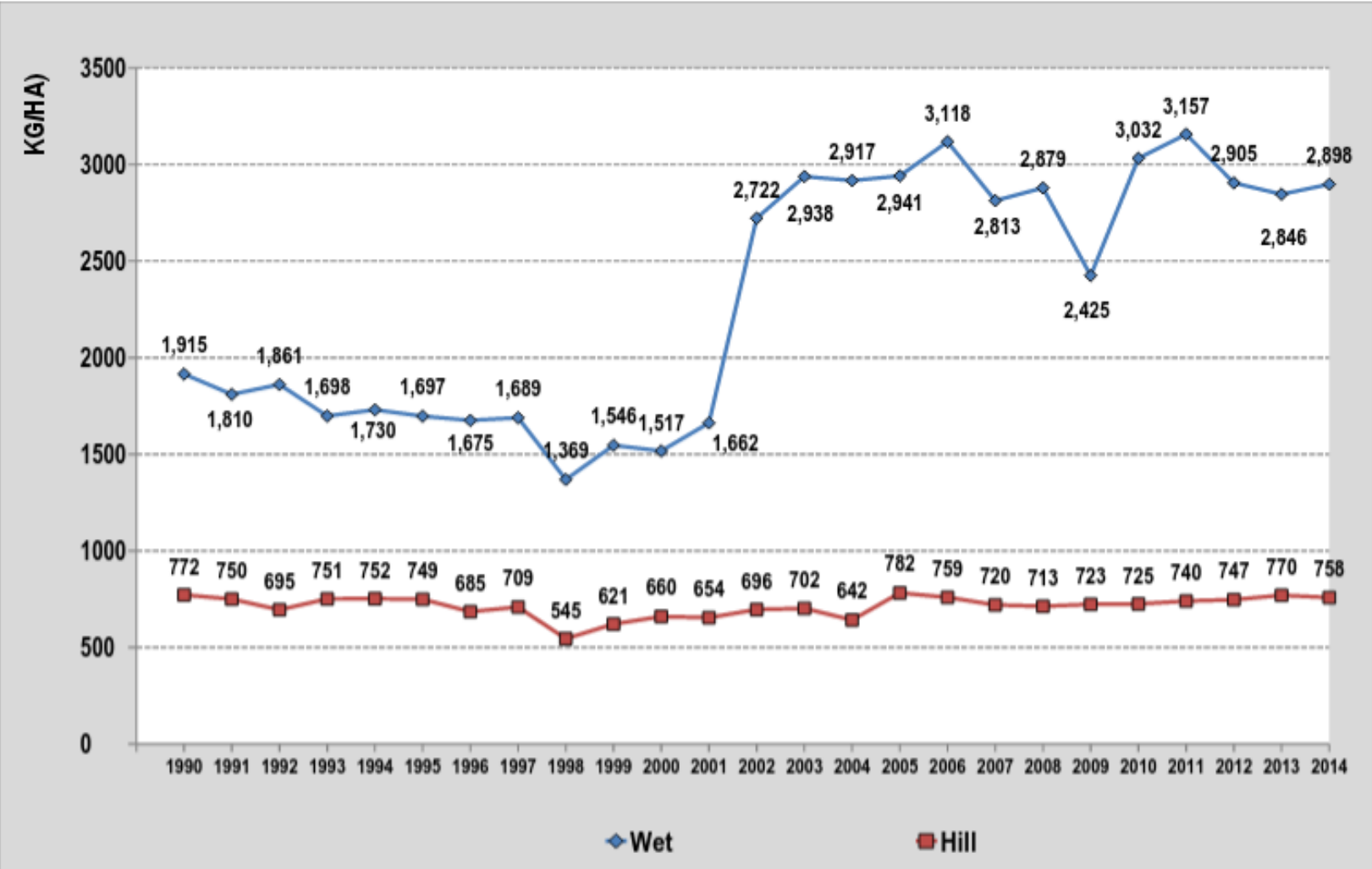
Ministry of Modernisation of Agriculture, Sarawak

INTRODUCTION

ESTIMATE AREA UNDER PADDY (HA)



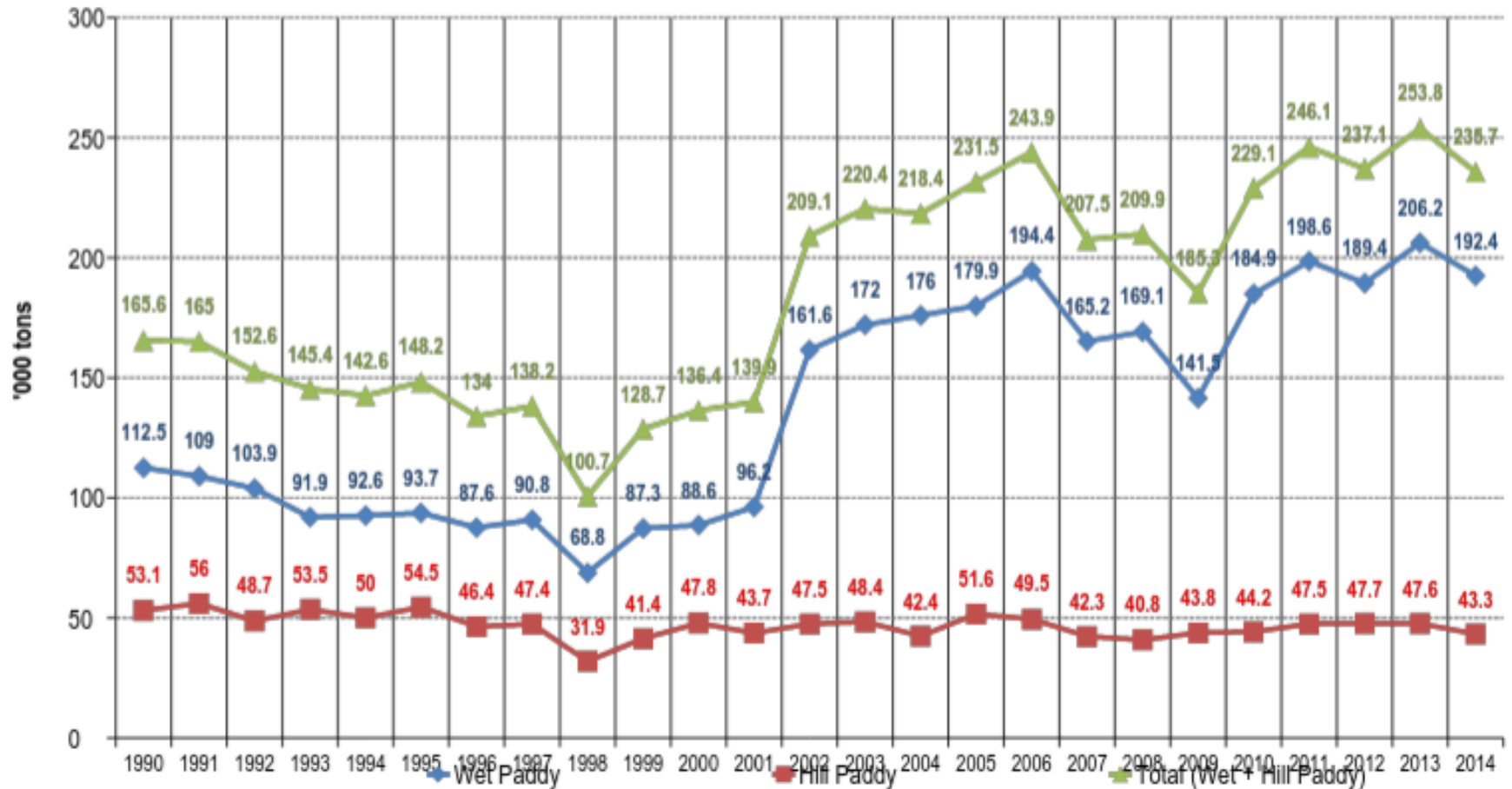
AVERAGE YIELD FOR PADDY (KG/HA)



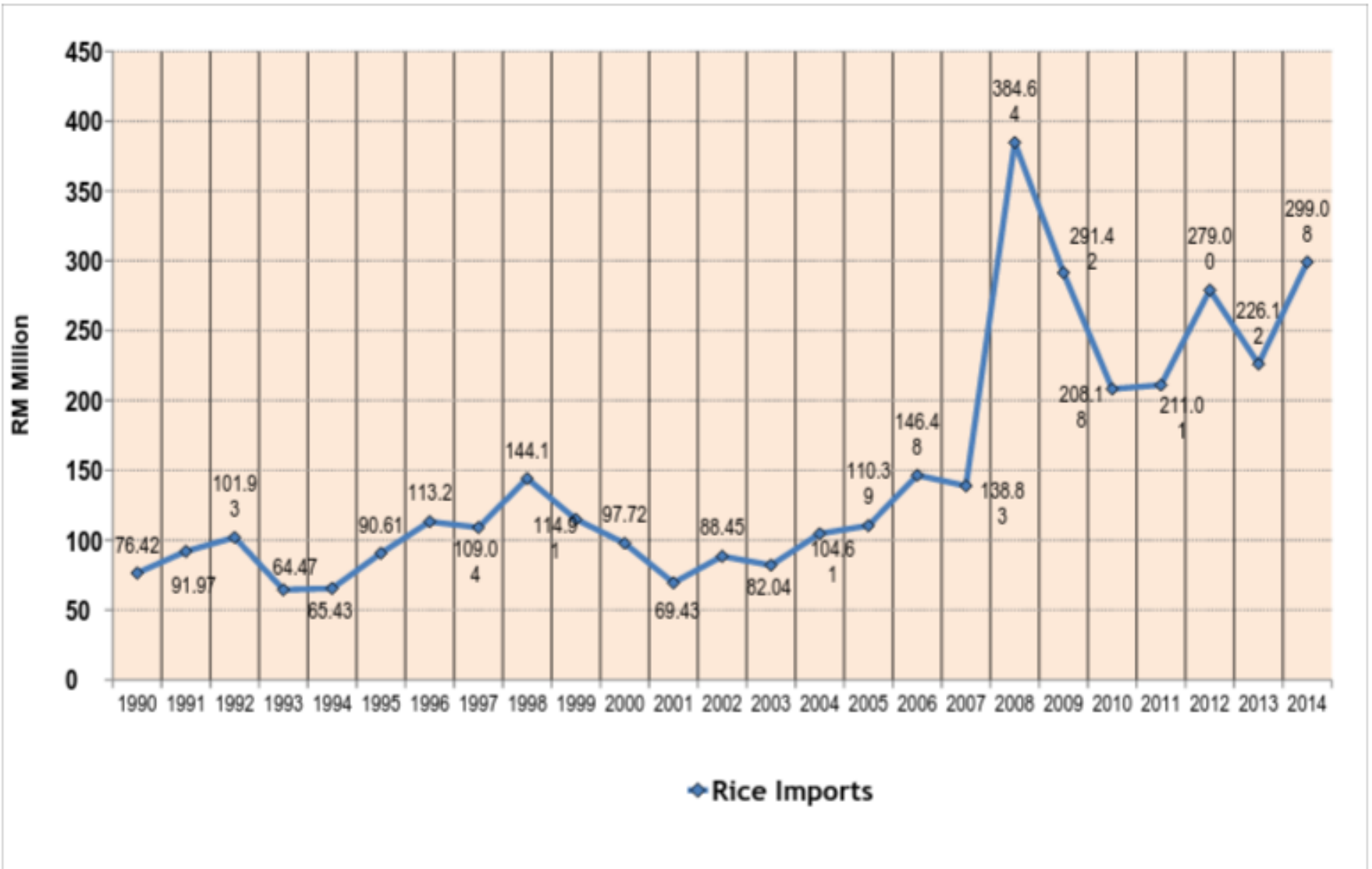
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Sarawak

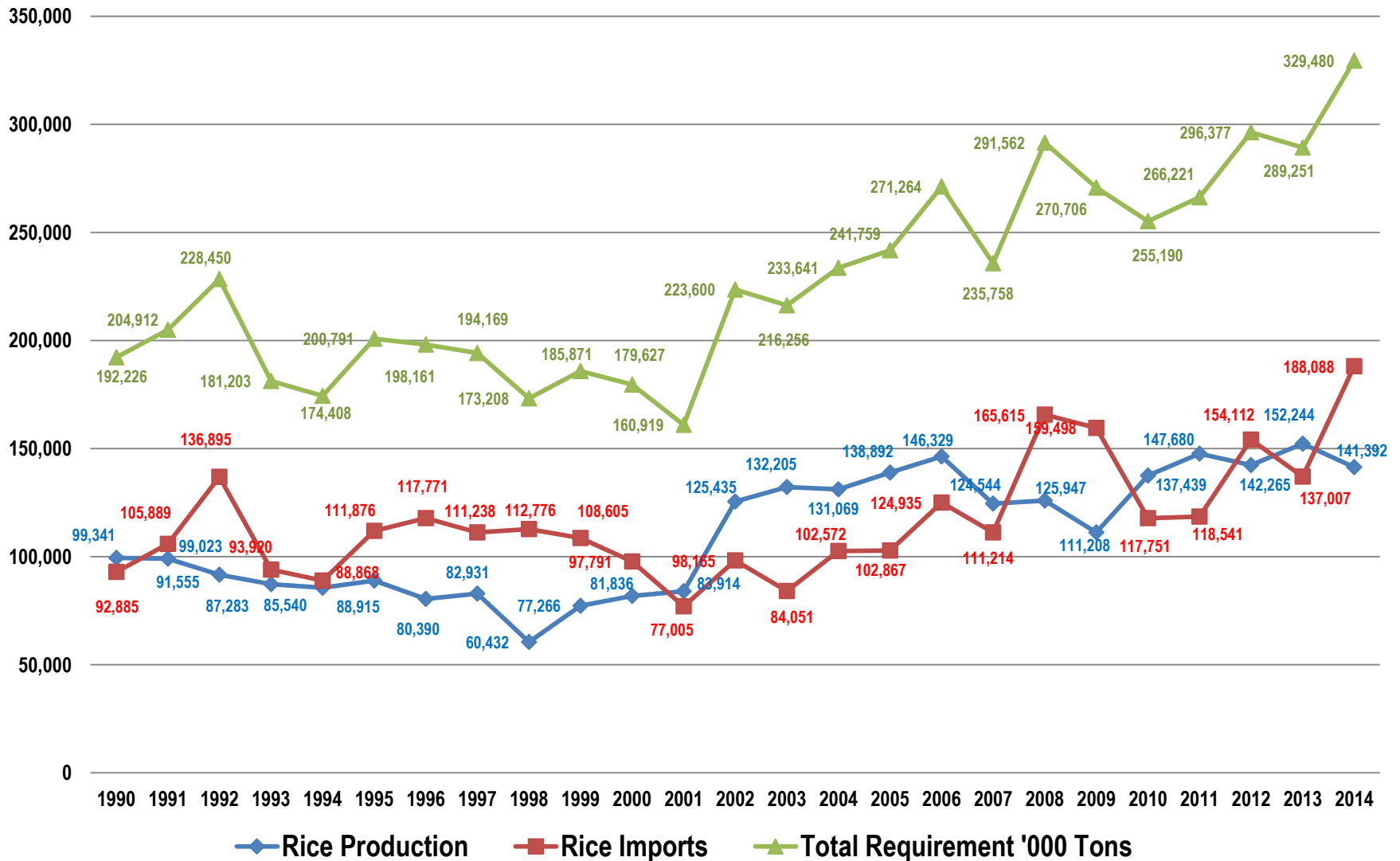
PRODUCTION ('000 TONS)



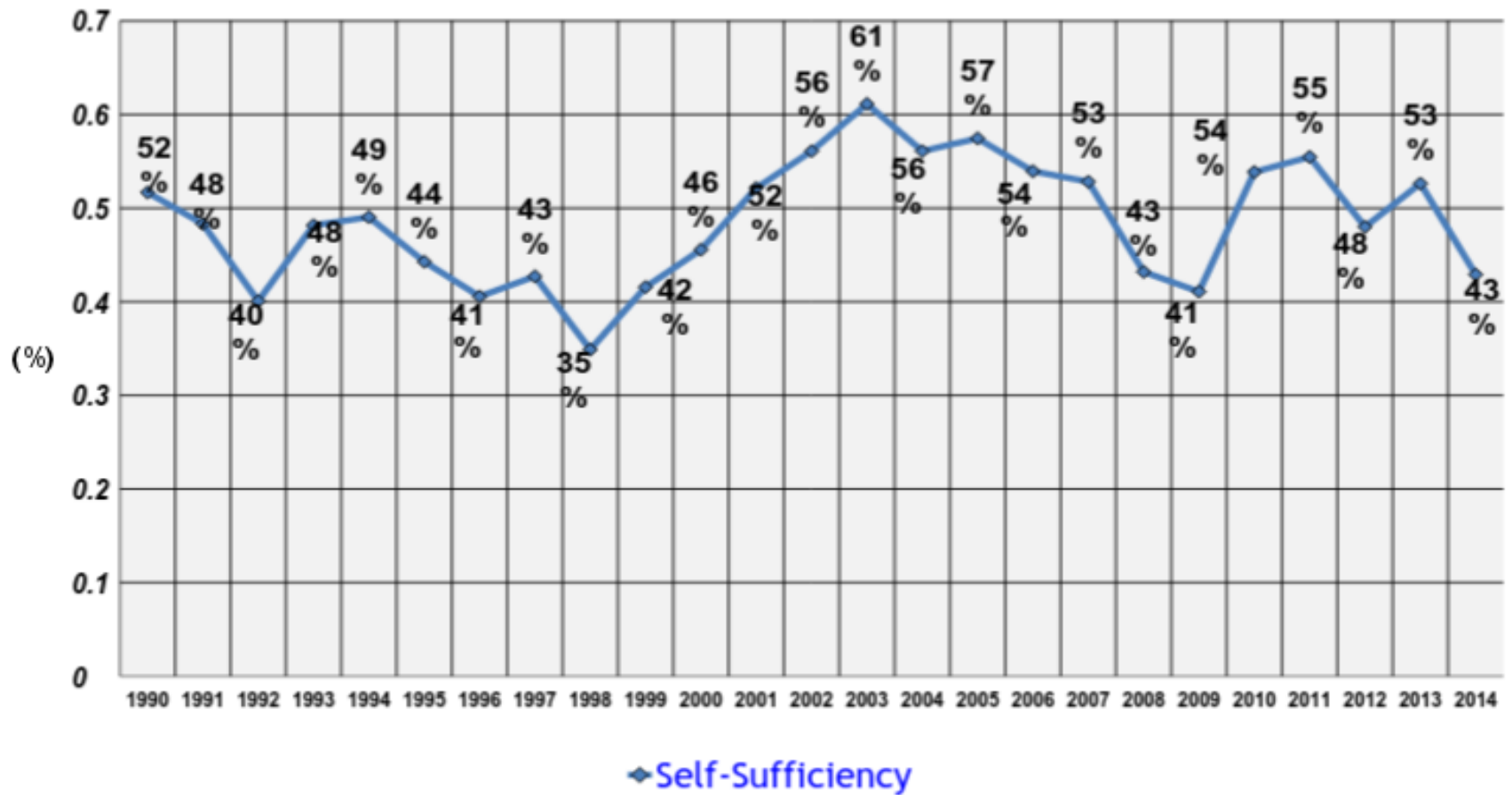
RICE IMPORT BILL



PRODUCTION, IMPORTS & REQUIREMENT



SELF-SUFFICIENCY LEVEL (%)



WET PADDY CULTIVATION



HILL PADDY CULTIVATION



RICE ENVIRONMENTS IN SARAWAK

- **Hill padi**

Slash & burn, dibbled sowing, 5 month variety

- **Upland rice**

Zero tillage, transplanting -6 month variety

- **Rain-fed rice**

Zero tillage, transplanting -6 month variety

- **Irrigated rice**

Zero tillage, transplanting -4 month variety (dry season) & 6 month variety (wet season)

RICE ENVIRONMENTS IN SARAWAK

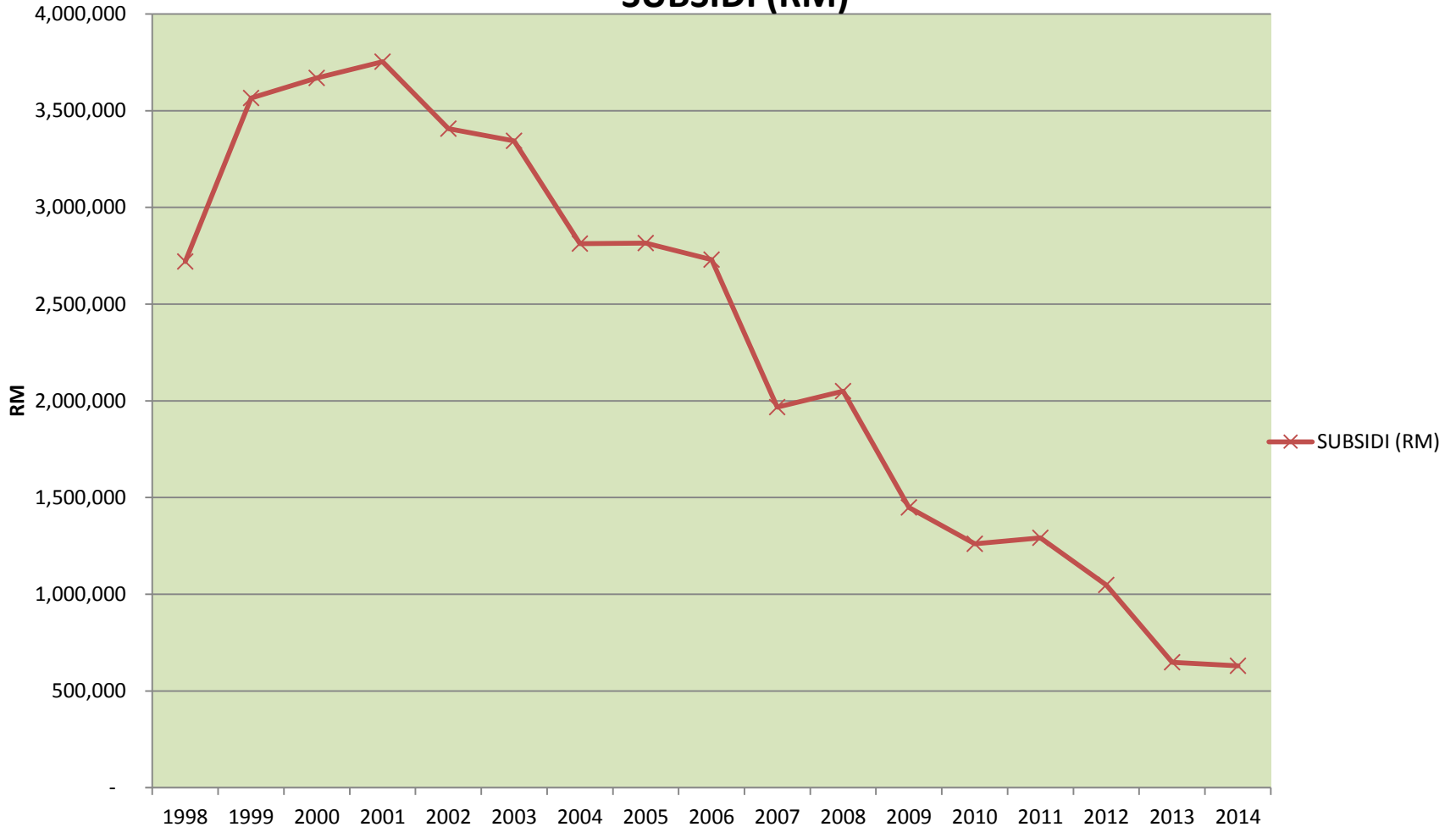
- Lacks infrastructure/ drainage schemes
- Small rice fields & scattered
- Single cropping
- Rice environment fragile and unpredictable.
- Best choice is traditional variety which has been well adapted to uncertain changes in the environment.

PRICE SUBSIDY RM 248.10 per ton payout

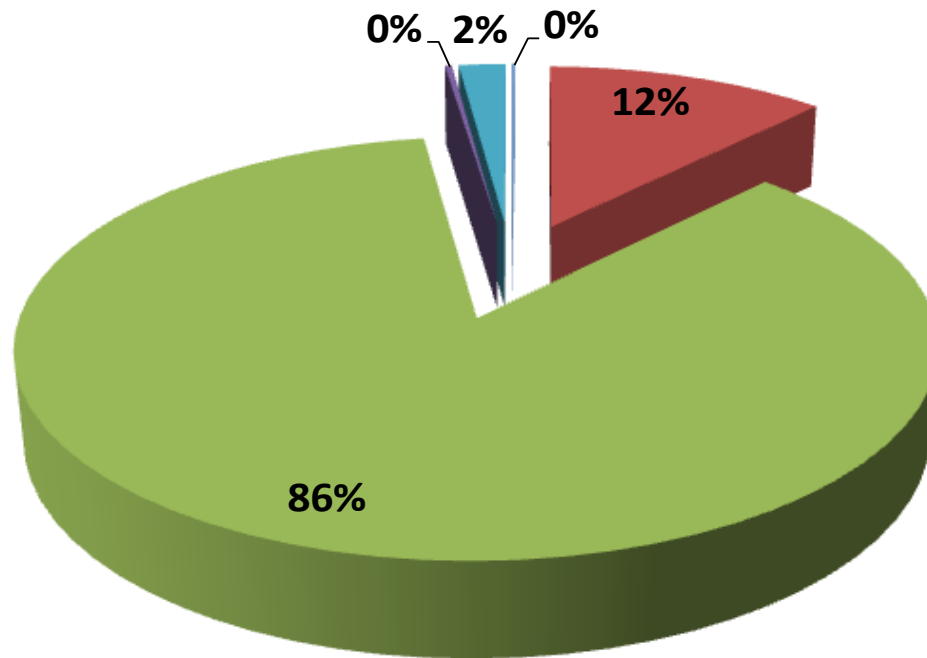
| Year | No of farmers | Dry paddy (Ton) | Subsidi (RM) |
|----------------|---------------|-----------------|------------------|
| 1998 | 9,206 | 10,960 | 2,719,337 |
| 1999 | 13,292 | 14,318 | 3,564,790 |
| 2000 | 12,985 | 14,780 | 3,668,804 |
| 2001 | 12,642 | 15,126 | 3,752,789 |
| 2002 | 10,803 | 13,697 | 3,407,260 |
| 2003 | 9,973 | 13,478 | 3,344,250 |
| 2004 | 7,663 | 11,321 | 2,812,534 |
| 2005 | 8,225 | 11,215 | 2,815,411 |
| 2006 | 7,910 | 10,987 | 2,729,498 |
| 2007 | 5,746 | 7,930 | 1,967,541 |
| 2008 | 5,697 | 8,263 | 2,050,269 |
| 2009 | 4,453 | 5,841 | 1,449,010 |
| 2010 | 4,136 | 5,082 | 1,260,914 |
| 2011 | 3,637 | 5,209 | 1,291,368 |
| 2012 | 3,095 | 4,224 | 1,047,853 |
| 2013 | 2,316 | 2,612 | 647,945 |
| 2014 | 1,972 | 2,537 | 629,492 |
| Average | 6,961 | 8,262 | 2,241,836 |

PRICE SUBSIDY FOR SARAWAK

SUBSIDY (RM)



BERNAS SARAWAK SALES 2014



- Local Rice
- Fragrant Rice
- Imported White Rice
- Basmathi
- Pulut

| Rice Grade | MT | % |
|---------------------|----------------|------------|
| Local Rice | 211 | 0.13 |
| Fragrant Rice | 19,498 | 12.29 |
| Imported White Rice | 135,844 | 85.65 |
| Bamathi Rice | 541 | 0.34 |
| Glutinous Rice | 2510 | 1.58 |
| TOTAL | 158,604 | 100 |

QUALITY RICE VARIETIES



QUALITY RICE

While much research has been done on common, high-yielding rice varieties, far less attention has been paid to special types of rice, even though they command higher prices...FAO 2002

Boutique -Lao varieties and others grown and consumed in Thailand and Cambodia. "Boutique" rices are considered to have the greatest potential for export markets.

Organic rice

Heritage Rice

Heirloom Rice

Indigenous Rice

SARAWAK LOCAL QUALITY RICE

- Many varieties
- Rice varieties that are well adapted to local environment
- Tolerant to pests and diseases
- Tall and lodges easily
- Long roots and can tap nutrients from soil
- Can withstand drought and tidal inundation
- Hardy
- Interesting colours and shades
- Different shapes and sizes
- Interesting characteristics with awns , glabrous
- Excellent texture and taste

IPR

GEOGRAPHICAL INDICATION REGISTRATION

| VARIETY | GEOGRAPHICAL LOCATION |
|---------|-----------------------|
| BARIO | BARIO HIGHLANDS |
| BAJONG | LUBOK NIBONG |
| BIRIS | SIMUNJAN |

ANUGERAH MyIPO 2009 BARIO RICE GI PROTECTION AT KLCC



Ministry of Modernisation of Agriculture, Sarawak

GI PROTECTION

GEOGRAPHICAL INDICATION

**For Products which possess
the following
characteristics :**

- Consistent Quality**
- Reputation**
- Location**

BENEFITS OF GI PROTECTION

- **Consumer protection**
- **Producer or Manufacturer protection & prevention of unfair competition**
- **Value added goods and marketing tool**
- **Product quality control**
- **Rural income distribution and local industry promotion**
- **Building a strong community and conservation of local intelligence**

FOUR FUNDAMENTAL VALUES OF GIs

- **Help producers obtain a premium price for their products**
- **Provide consumers a guarantee to the quality and authenticity of products**
- **Developing community and rural development**
- **Protecting local knowledge & strengthening local traditions**

BARIO RICE PUTS MALAYSIA ON THE GLOBAL MAP

**Accorded International Presidia Award by Slow
Food Foundation of Italy in 2002**



BARIO RICE CERTIFICATION



BRANDING OF BARIO RICE

- PPK involved in packaging and branding of authentic Bario rice
- Vacuum packed 1 kg bag with labeling
- Price RM 10-12 /kg



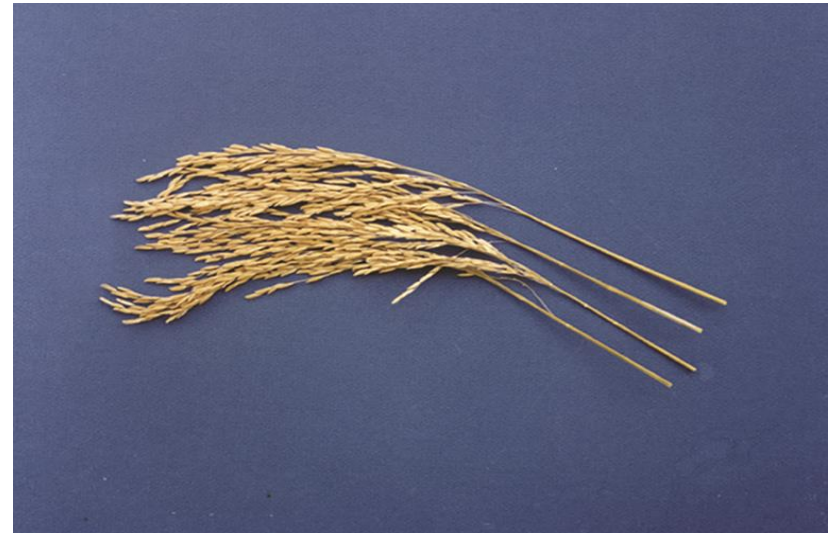
The image shows the packaging for Bario Rice. On the left is a green vertical label with the 'BUY MALAYSIA' logo and a 'NUTRITION FACTS' table. On the right is a photograph of two farmers harvesting rice in a field. The text 'Bario Rice' is prominently displayed in green with a white outline. A circular logo with 'GT' is in the top right corner of the photo.

| NUTRITION FACTS | |
|---------------------|-----------------------------------|
| Serving Size: 100g | |
| Amount per serving | |
| Calories | 360 kcal Calories From Fat: 6kcal |
| Total Fat 0g 0% | |
| Sodium | 40 mg 2% |
| Total Carbohydrate | 81 g 27% |
| Fiber | 0g 0% |
| Protein | 8g 1% |
| Calcium | 14 g 1% |
| Potassium | 77 mg 2% |
| Niacin | 5.5 mg 28% |
| Thiamin | 0% 0% |
| Iron | 0% 0% |
| Vitamin E | 0% 0% |
| Calorie 2,000 2,500 | |
| Total Fat | Less than 65 g 10% |
| Sodium | Less than 2,400 mg 2,400 mg |
| Total Carbohydrate | Less than 300 g 30% |
| Dietary Fiber | Less than 25 g 30% |
| Calories per gram: | |
| Fat 3 | Carbohydrate 4 Protein 4 |

MARKETED BY:
Pertubuhan Peladang Kawasan Kuching (Area Farmer's Organisation, Kuching)
No. 445 & 446, Lot 12E, Seksyen 10 KTLD, Jalan Rubber, 93400 Kuching, Sarawak.
Tel: 082-422870 Fax: 082-411570 Email: ppkips01@streamyx.com
Website: www.ppkkuching.com.my

Nett Weight 1 kg

LAUNCHING SARAWAK BERAS BIRIS FOR GI REGISTRATION



LAUNCHING SARAWAK BERAS BAJONG FOR GI REGISTRATION



BERAS BAJONG CERTIFICATION SCHEME



DIRECT BENEFIT & IMPACT TO FARMING COMMUNITY

- At the Pesta Beras Wangi in 2007 farmers sold mixed paddy at **RM 1.20/kg** or sell rice at **RM 3/kg**.
- In 2009 after training & launching of Sarawak Beras Bajong by our DCM farmers in Lubok Nibong farmers know the value and importance of purity, quality and consistency.
- Now Bajong fetches farm gate price of RM 7.00/kg and is sold at **RM 8-10 at Saratok, Pusa and Sri Aman**.
- Price increases by 200% for Sarawak Beras Bajong after launching of certification scheme in 2008
- The launching made Lubok Nibong visible
- Government developed the padi scheme

COLOURED RICE:

- Some speciality rices are prized not for aroma, but their colour, which is determined by levels of anthocyanin pigment in different layers of the pericarp, seed coat and outer grain layer. The endosperm colour of rice ranges from white and various shades to red, purple and black
- Rich in manganese and calcium.
- The purplish-black variety is said to strengthen the immune system and hasten the healing of bone fractures.

ANTIOXIDANT POTENTIAL ANALYSIS OF SARAWAK'S COLOURED RICE

Red rice has higher AOP

Purple rice has lower AOP

This is in agreement with published data which indicated that the red pigment, specifically, in plants is responsible for the high antioxidant value.

RESULTS OF TESTS FOR ARSENIC

| No. | Sample description | Source | Arsenic (mg./kg) | Remarks |
|-----|--------------------|--------------------|------------------|---------|
| 1 | Red rice | Tg. Purun | 0.088 | Low |
| 2 | Red rice | Bundong Sian | 0.22 | High |
| 3 | Red rice | Paya paloh | 0.2 | High |
| 4 | Red rice | Serikin | <0.012 | Low |
| 5 | Purple rice | Kuching (market) | 0.092 | Low |
| 6 | Purple rice | Kuching (market) | 0.079 | Low |
| 7 | Purple rice | Kuching (market) | 0.088 | Low |
| 8 | Purple rice | Kuching (market) | 0.052 | Low |
| 9 | Brown rice | Kedah | 0.17 | High |
| 10 | Polished rice | Kedah | 0.12 | High |
| 11 | White rice bran | Kedah | 0.48 | High |
| 12 | Red rice | Kedah | 0.44 | High |
| 13 | Polished rice rice | Kedah | 0.28 | High |
| 14 | Red rice bran | Kedah | 0.88 | High |

PRODUCTION OF ORGANIC OR ECO-RICE

For generations farmers in Sarawak have been growing rice under what may be termed natural farming practices, and in some localities may be equated with organic farming.

In many places paddy is grown following zero tillage practices and the absence of chemical inputs, except perhaps the use of weedicides for land preparation prior to planting.

With the correct choice of paddy varieties and well directed market promotion activities, it should be possible to produce and market a few of Sarawak's high value traditional rice varieties such as Bali, Katek Merah, Mamut and others as certified organic or eco-rice, targeting up-market consumers.

PRISTINE RICE ENVIRONMENTS



ZERO TILLAGE



CONSUMERS

Today's consumers are increasingly demonstrating the core values that chime with the ideals of sustainability.

In fact almost 80% of consumers in developed countries are practising some form of ethical shopping and one third of them recognise climate change, intensive chemical agriculture and packaging waste as issues of concern.

PRODUCTION OF SPECIALTY RICE (BARIO, BAJONG, BIRIS)

- The production of these three specialty rice offers good prospects for commercialization.
- Business need to be organized following the supply chain concept to ensure product quality and commercial sustainability.
- Anchor company to ensure the structural integrity of the value chain.
- Anchor company will provide the seeds and inputs and the products will be sold back to the company at an agreed price even before planting begins.
- The contract farming system will encourage farmers to take up the technology and farm management packages for rice seed and rice production in order to ensure purity, authenticity and traceability of produce.

PRICES OF QUALITY RICE

1. Bario rice-ex Bario RM12/kg
2. Bario Rice - RM15-19/kg
2. Mamut -RM 8.00 - RM10.00/kg
3. Bajong - RM8.00 -10.00/kg
4. Imported Fragrant rice - RM 5-6/kg
5. Basmathi - RM9.00 - RM18.00/kg

DEMAND BOOMING FOR ARTISANAL RICE

Artisanal rice is rice grown by some farmers who concentrate on quality rice and grown in small quantities, and sold at a premium price.

Instead of growing high-yielding varieties these farms concentrate on varieties that taste good regardless of their yield.

The rice is usually grown using minimum inputs or organic methods

In Japan artisanal-rice farmers are also trying out heirloom varieties of rice that had been abandoned in the postwar period. Called *kodai-mai* (ancient rice), these varieties come in intriguing natural colors such as green, red-purple and black. Most have a sticky glutinous quality like *mochi* or sweet rice.



HERITAGE RICE FROM CORDILLERA MOUNTAINS

The future of ancient rice

- This project is in the ninth year of providing a sustainable livelihood to farmers in one of the most marginal rice ecosystems in the country.
- In 2013, 29 tons of Cordillera heirloom rice were shipped to the United States, valued at \$38,079. This year, 19 tons valued at about \$26,000 have been produced.
- Benefit 272 farming families
- Farmers in the project have found a new sense of pride in their culture and their work
- Save the treasured heirloom rice of the mountains.



ROSY FUTURE

- *Speciality rices of the world* sees a rosy future for the sector:
- "With growing prosperity, consumers are looking for better quality rice. Countries that could feed themselves with marginal quality but high yielding indica or hybrids, such as Republic of Korea, have switched almost entirely to low-yielding but superior quality *japonica*."
- Similarly, in India and Pakistan, demand for high quality Basmati has risen dramatically. Asians who migrate to Middle East, European and American countries can afford the best quality Basmati or Jasmine rice at any price. Thus, the future of speciality rices is linked to the growing prosperity of people."

PRODUCTION OF SPECIALTY RICE

NKEA EPP 11

NKEA BARIO RICE INDUSTRY DEVELOPMENT PROJECT



PADDY INDUSTRY DEVELOPMENT PROJECT FOR BARIO ENGINEERING, INFRASTRUCTURE & DESIGN



PROJECT OBJECTIVES

- Increase paddy yield from 1.5 mt to 3 mt/ha
- Increase farmers income from RM2,300.00 to RM12,400 per ha/season
- Increase area under cultivation from the present 110 ha to 200 ha.
- Adopt full mechanisation in all paddy farms
- Develop D&I and field infrastructure for 200 ha of paddy farms by year 2013.

PROJECT BENEFICIARIES

- 176 families from 9 villages in Bario



NKEA DEVELOPMENT CONCEPT

- ✿ Government appoints anchor company to design and construct project infrastructure and facilities under terms of Turnkey contract.
- ✿ Company promises to deliver agreed project outcomes, referred to as project Key Performance Indicators (KPIs)
- ✿ Portion (5%) of project payments are retained by Government as KPI Bond and only released to company upon achievement of KPIs
- ✿ Company will manage and maintain project infrastructure and facilities
- ✿ Company is obligated to provide various agriculture services to farmers

NKEA BARIO KPIs & COMPANY SERVICES

✿ PROJECT KPIs

1. Paddy yield increase from 1.5 - 3.0 tons/ha
2. Cultivated area of 180 ha each season

✿ COMPANY SERVICES TO FARMERS

1. Farm mechanization (land preparation, transplanting, pest control, harvesting)
2. Farm transportation
3. Post-harvest handling (paddy drying and milling)
4. Marketing and promotion



PRODUCTS FROM NKEA

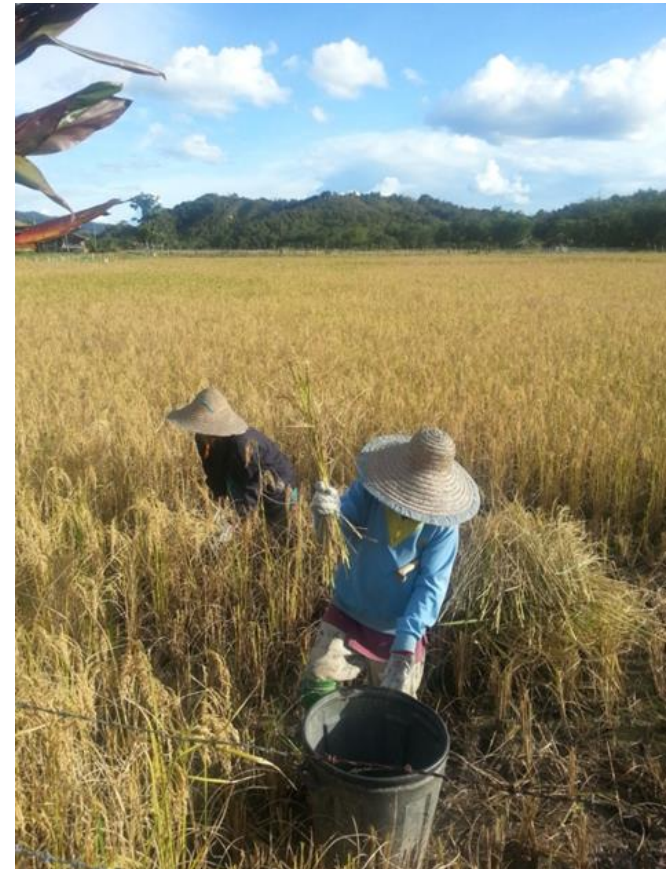
BARIO WHITE RICE & BARIO BROWN RICE



PLAN IN ACTION NOW



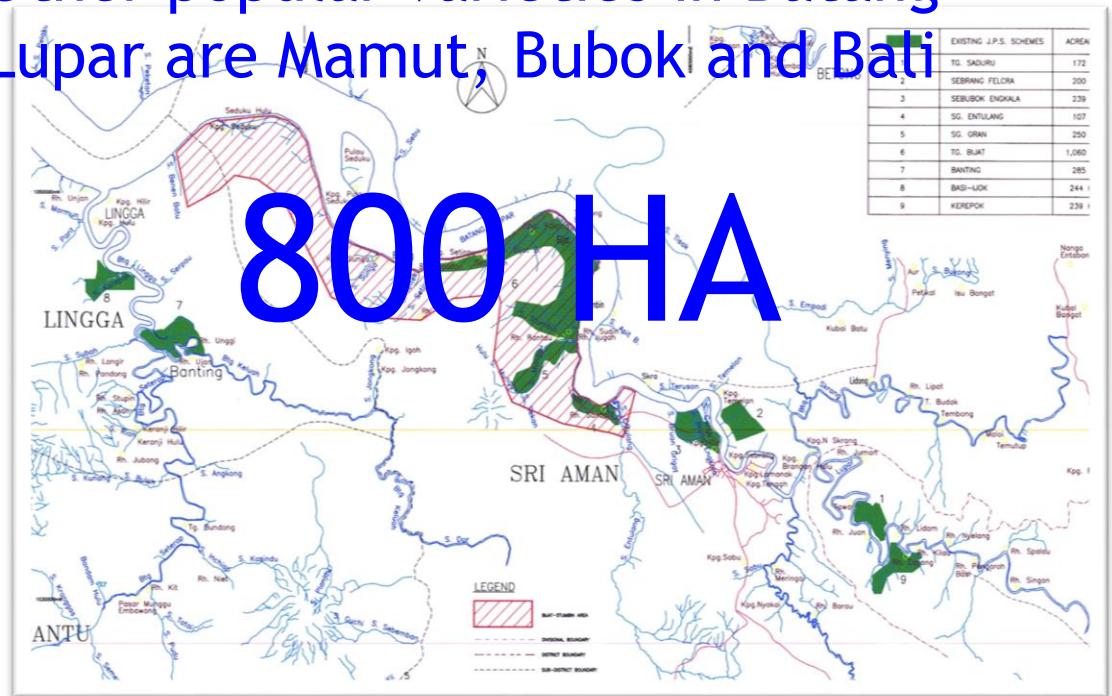
BAKALALAN 200ha Padi Adan



NKEA PADDY - EPP 11 BATANG LUPAR

NKEA Batang Lupar to grow Bajong and Biris GI protected rice for premium market

Other popular varieties in Batang Lupar are Mamut, Bubok and Bati



CONCLUSIONS

- Rich diversity in rice varieties
- The pristine environmental backdrop gives Sarawak a competitive advantage in the production of organic and eco-rice that possess health properties safe and suitable for baby foods
- Sarawak has the potential to be a leader in the marketing of branded GI Rice

THANK YOU