SARAWAK’S SPECIALTY RICE

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Ministry of Modernisation of Agriculture, Sarawak
INTRODUCTION
PRODUCTION, IMPORTS & REQUIREMENT

Ministry of Modernisation of Agriculture, Sarawak
SELF-SUFFICIENCY LEVEL (%)
WET PADDY CULTIVATION

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HILL PADDY CULTIVATION

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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.

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### PRICE SUBSIDY RM 248.10 per ton payout

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

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PRICE SUBSIDY FOR SARAWAK

SUBSIDI (RM)

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## BERNAS SARAWAK SALES 2014

<table>
<thead>
<tr>
<th>Rice Grade</th>
<th>MT</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Rice</td>
<td>211</td>
<td>0.13</td>
</tr>
<tr>
<td>Fragrant Rice</td>
<td>19,498</td>
<td>12.29</td>
</tr>
<tr>
<td>Imported White Rice</td>
<td>135,844</td>
<td>85.65</td>
</tr>
<tr>
<td>Basmathi Rice</td>
<td>541</td>
<td>0.34</td>
</tr>
<tr>
<td>Glutinous Rice</td>
<td>2510</td>
<td>1.58</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>158,604</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**BERNAS SARAWAK**

**SALES 2014**

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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

<table>
<thead>
<tr>
<th>VARIETY</th>
<th>GEOGRAPHICAL LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARIO</td>
<td>BARIO HIGHLANDS</td>
</tr>
<tr>
<td>BAJONG</td>
<td>LUBOK NIBONG</td>
</tr>
<tr>
<td>BIRIS</td>
<td>SIMUNJAN</td>
</tr>
</tbody>
</table>
IPR
GEOGRAPHICAL INDICATION CERTIFICATES

Bario
10 March 08 to 9 March 18

Biris
17 Feb 2009 to 16 Feb 2019

Bajong
17 Feb 2009 to 16 Feb 2019

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ANUGERAH MyIPO 2009 BARIO RICE GI PROTECTION AT KLCC
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

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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
LAUNCHING SARAWAK BERAS BIRIS FOR GI REGISTRATION
LAUNCHING SARAWAK BERAS BAJONG FOR GI REGISTRATION

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BERAS BAJONG CERTIFICATION SCHEME

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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

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

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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

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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. Basmathni - RM9.00 - RM18.00/kg
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."

*Ministry of Modernisation of Agriculture, Sarawak*
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 Bali.

800 HA
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