Seed sector development in Myanmar

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Department of Agriculture
Ministry of Agriculture, Livestock and Irrigation
Myanmar

28th November, 2019
### Land Utilization in Myanmar

<table>
<thead>
<tr>
<th>Category</th>
<th>Area (mil. ha)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sown area</td>
<td>12.01</td>
<td>17.7</td>
</tr>
<tr>
<td>Fallow land</td>
<td>0.45</td>
<td>0.7</td>
</tr>
<tr>
<td>Cultivated waste land</td>
<td>5.25</td>
<td>7.8</td>
</tr>
<tr>
<td>Reserved forest</td>
<td>18.55</td>
<td>27.4</td>
</tr>
<tr>
<td>Other forests</td>
<td>14.74</td>
<td>21.8</td>
</tr>
<tr>
<td>Other</td>
<td>16.66</td>
<td>24.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>67.66</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

![Land Utilization in Myanmar](image-url)
## Major Crop Production (2017-2018)

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Item</th>
<th>Unit</th>
<th>Sown Area</th>
<th>Harvested Area</th>
<th>Yield</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Paddy</td>
<td>bsk</td>
<td>17930294</td>
<td>16699053</td>
<td>74.89</td>
<td>1250637513</td>
</tr>
<tr>
<td>2</td>
<td>Corn</td>
<td>bsk</td>
<td>1246541</td>
<td>1237041</td>
<td>62.86</td>
<td>77760591</td>
</tr>
<tr>
<td>3</td>
<td>Groundnut</td>
<td>bsk</td>
<td>2556760</td>
<td>2554963</td>
<td>55.50</td>
<td>141805657</td>
</tr>
<tr>
<td>4</td>
<td>Sesames</td>
<td>bsk</td>
<td>3928407</td>
<td>3652715</td>
<td>8.68</td>
<td>31702943</td>
</tr>
<tr>
<td>5</td>
<td>Sunflower</td>
<td>bsk</td>
<td>679811</td>
<td>679811</td>
<td>26.33</td>
<td>17896828</td>
</tr>
<tr>
<td>6</td>
<td>Peas</td>
<td>bsk</td>
<td>10969489</td>
<td>10957356</td>
<td>16.21</td>
<td>177601717</td>
</tr>
<tr>
<td>7</td>
<td>Cotton</td>
<td>Viss</td>
<td>554818</td>
<td>554489</td>
<td>436.02</td>
<td>241766063</td>
</tr>
<tr>
<td>8</td>
<td>Sugarcane</td>
<td>Ton</td>
<td>728291</td>
<td>410800</td>
<td>25.60</td>
<td>10516906</td>
</tr>
<tr>
<td>9</td>
<td>Rubber</td>
<td>lb</td>
<td>1623260</td>
<td>769389</td>
<td>693.04</td>
<td>533187292</td>
</tr>
<tr>
<td>10</td>
<td>Coffee</td>
<td>Viss</td>
<td>48578</td>
<td>30627</td>
<td>173.63</td>
<td>5317724</td>
</tr>
<tr>
<td>11</td>
<td>Oil-palm</td>
<td>Ton</td>
<td>400398</td>
<td>139936</td>
<td>3.5</td>
<td>489776</td>
</tr>
</tbody>
</table>
Overview of Agriculture Sector in GDP

- Total Population – 52.476 million
- Nearly two-thirds of the population works primarily in agriculture
- 20.1% of GDP, 61.2% of Labor Force,
- 25.5 % of Total Export Earnings

### Agricultural Export (2017-2018)

<table>
<thead>
<tr>
<th>Sr</th>
<th>Item</th>
<th>Metric Ton</th>
<th>Value (US $) mil</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rice</td>
<td>3584.60</td>
<td>1140.39</td>
</tr>
<tr>
<td>2</td>
<td>Corn</td>
<td>1437.48</td>
<td>294.48</td>
</tr>
<tr>
<td>3</td>
<td>Pulses</td>
<td>1313.04</td>
<td>883.75</td>
</tr>
<tr>
<td>4</td>
<td>Sesames</td>
<td>120.99</td>
<td>146.99</td>
</tr>
<tr>
<td>5</td>
<td>Onion</td>
<td>22.89</td>
<td>9.47</td>
</tr>
<tr>
<td>6</td>
<td>Tamarind</td>
<td>24.03</td>
<td>9.73</td>
</tr>
<tr>
<td>7</td>
<td>Rubber</td>
<td>148.62</td>
<td>193.13</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>6651.65</strong></td>
<td><strong>2677.94</strong></td>
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</table>

### Gross Domestic Products (2015-2016)

- Agriculture 20.1%
- Livestock and Fishery 8.5%
- Forestry 0.20%
- Energy 0.1%
- Mining 1.2%
- Manufacturing 21.9%
- Construction 5.60%
- Electric Power 1.20%
- Trade 18.2%

### Export (2017-2018)

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With the National Strategic Plans, ministry and regional governments are to propose projects for strategic developments that could be funded not only by the government’s budget but also by other different sources of funds including but are not limited to private sector source and development assistance source.

Priorities implementing with loan/grant and Government budgets by DOA for 2018-2019

- Seed Industry Development
- Food Safety and Good Agricultural Practice (GAP) for quality crops production
- Inputs Quality Insurance and Inspection
- Research and Development
## Constitution of Farmer cooperative

<table>
<thead>
<tr>
<th>Sr</th>
<th>State &amp; Division</th>
<th>Township/District</th>
<th>No of association</th>
<th>No of members</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>NayPyiTaw</td>
<td>1</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>2.</td>
<td>Kachin</td>
<td>8</td>
<td>14</td>
<td>130</td>
</tr>
<tr>
<td>3.</td>
<td>Kaya</td>
<td>2</td>
<td>5</td>
<td>40</td>
</tr>
<tr>
<td>4.</td>
<td>Kayin</td>
<td>5</td>
<td>19</td>
<td>168</td>
</tr>
<tr>
<td>5.</td>
<td>Sagaing</td>
<td></td>
<td></td>
<td>98</td>
</tr>
<tr>
<td>6.</td>
<td>Tanintharyi</td>
<td></td>
<td></td>
<td>52</td>
</tr>
<tr>
<td>7.</td>
<td>Magway</td>
<td></td>
<td></td>
<td>454</td>
</tr>
<tr>
<td>8.</td>
<td>Mandalay</td>
<td></td>
<td></td>
<td>802</td>
</tr>
<tr>
<td>9.</td>
<td>Bago</td>
<td></td>
<td></td>
<td>558</td>
</tr>
<tr>
<td>10.</td>
<td>Rakhine</td>
<td></td>
<td></td>
<td>65</td>
</tr>
<tr>
<td>11.</td>
<td>Yangon</td>
<td>4</td>
<td>4</td>
<td>52</td>
</tr>
<tr>
<td>12.</td>
<td>Shan</td>
<td>5</td>
<td>12</td>
<td>127</td>
</tr>
<tr>
<td>13.</td>
<td>Ayeyarwaddy</td>
<td>14</td>
<td>31</td>
<td>390</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>134</td>
<td>198</td>
<td>2946</td>
</tr>
</tbody>
</table>

- Total cooperatives is 34880
- Total members is 3.2 mil
- Total Loan amount is 641.49 (Bil) kyats

### Agriculture And Rural Development Two Steps Loan

1. Current Investment (Small Agro-machinery, equipments)
2. Capital Investment (Agro-machinery, processing facilities)
Current seed production systems in Myanmar

- Formal seed system (BS, FS, RS & CS)
- Informal seed system
- Intermediary seed system

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Informal Local/Farmer</th>
<th>Intermediary Public-Private</th>
<th>Private Commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of crops</td>
<td>Major food &amp; cash crops</td>
<td>Major food crops</td>
<td>Cash crops</td>
</tr>
<tr>
<td>Key Crops</td>
<td>Rice, pulses &amp; beans, roots &amp; tubers, oilseeds</td>
<td>Rice, pulses, beans &amp; oilseeds</td>
<td>Hybrid corn/rice, vegetables, potato</td>
</tr>
<tr>
<td>Type of varieties</td>
<td>Local varieties</td>
<td>Improved</td>
<td>Improved</td>
</tr>
<tr>
<td>Seed Quality</td>
<td>Farmer selected</td>
<td>Certified, C2</td>
<td>Certified (internal QA)</td>
</tr>
<tr>
<td>Distribution &amp; marketing</td>
<td>Farmer saved &amp; exchanged; local sales</td>
<td>Local sales, barter and markets</td>
<td>Imported, Agrodealers</td>
</tr>
</tbody>
</table>
Mainly, seed production has been done by the farm under the MoALI.

Myanmar Investment Law allows international private agency for 100% investment in the seed production.

Myanmar’s encouraging Private Lead Seed Industry

Creating EBA
The Regulatory frame Works for Seed Industry Development

- Plant Variety Protection Law for Breeder Right (Option)
- Seed Law for Seed Consumers’/ Seed users’ Right (Compulsory)
- GI, Trade Marks
Became CBD/WTO 1994/95

Participated to the UPOV-INGER Workshop

✓ Participated to conduct DUS test (INGER)

Member of EAPVP Forum

2004

2006

2007

2010-11

WG organized with 10 participants to enact PVP Law

Forum Framework is to promote mutual cooperation for Members
Activities: capacity building, developed harmonized PVP system, seminar and information share

Started to go systematic approach for pvp implementation

PVP law enacted 20.1.2016 & new PVP law enacted 24.9.2019

Aware on IP rights

Started to go systematic approach for pvp implementation
PVP Law for BR

- PVP law enacted at 20th January, 2016 by The Pyidaungsu Hluttaw Law No. 15
- PVP law enforced at 20th January, 2017
- New PVP Law in line with UPOV 1991, enacted in Sept 24th 2019,
- Meet the standards & Positive Reflection, Implementation has not yet!!!
Seed Law, Amend of Seed law, Regulations & National Seed Policy (for Seed Sector Development in Myanmar)

<table>
<thead>
<tr>
<th></th>
<th>Seed Law</th>
<th>Amending the Seed Law</th>
<th>Regulations</th>
<th>National Seed Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enforcement</td>
<td>7th Jan 2013</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Core objective
- Farmers can use truth in labeling seeds

Seed Policy
- GM Crops not allow for Food Crops, partially allow for non food crop (Cotton)
Procedure for Seed Business Investment in Myanmar

START

Company Registration

Importer & Exporter Registration

Variety Registration Application

Adaptable test
Documents
Parental lines

Application for Seed Business License

Application for Recommendations on Import & Export

DICA
Directorate of Investment and Company Administration

MOC

MOALI

www.myanmarseedportal.gov.mm
Three technical working groups with representation from public and private sector

Steering Committee

National Seed-related Committee

Technical Seed Committee

Technical Working Groups

Field Crop Specialist group

Horti Crop specialist Group

Industrial Crop specialist group
Progress of Seed Sector

- Major steps taken in Myanmar’s seed sector development: Seed Sector Road Map approved (2016), Seed Sector Action Agenda (2017), (ISSD Project, WUR)

- Main policy directions: enhance private sector investments with government focusing on:
  - quality assurance
  - research/breeding
  - early generation seed production for food security crops
Achievements 2017-2019

- National Seed Platform meeting was held biannually with private sector to strengthen public private collaboration.
- Reduction in priority crops required for variety testing & release
- Crop Group Based Licence, only 3
- Pilots on alternative quality assurance models like PGS
- Simplification of seed import procedures
- New PVP law in line with UPOV 1991
- Seed demand forecasting system in place in the Delta
Collaboration with world seed partnership
Achievements 2017-2019

EGS multiplication,

- **SD** is collaborated with DAR focusing on the **nine** main production crops including cereal, food legume and oil seed crop.

- To elaborate local seed producers and seed producing cooperation, private seed companies collaborate with WHH to develop seed production and training of seed production technologies to the local seed producers and seed production cooperatives.

- **GAP** Guidelines in line with ASEAN for 15 Crops & implementing process

- For Seed Trade, **PRA for 82** Crops by G to G and **ISPM-38**

- Myanmar Seed Association 2019 Nov: (MSA, Private)
Achievements 2017-2019

- With the aid of IFC, amending the seed law was acted to smothering and hastening of seed registration process and so improving the collaboration of private seed company leading the development of seed production process.

- In order to give information for seed production and the semi autonomous online registration, Myanmar Seed Portal Website was set up on December, 2018.

- One-stop-shop (OSS) is fully digitized system for all seed applications: seed export/import, variety registration & seed business license, both at Union and Regional level (March, 2020).
Other achievements of the Seed Division

- New Seed Testing Lab in NPT to be a ISTA accredited lab:
- Upgrading Regional Seed Labs.
- Rice Pure Seed & Certified Seed Production
- Rice Seed Production by contract farming
- Rice Seed Sector Development (RSSD, LIFT)
- 2018 Seed Fair & 2019 Seed Fair
- 2020 Seed Fair, under preparation
- Risk based Management study (IFC, WBG)
**Risk Based Inspection of Seeds**

- In 2018, a study was conducted on vegetables and maize seed
  - Mu Se and Myawady (as borders)
  - Main markets: Yangon, Mandalay and Taunggyi
  - DOA inspectors at regional, district & township level

2. **Major findings**: Wholesalers, traders, seed shops

   a) Variety registration

   ![Pie charts showing variety registration for Tomato, Chili, Watermelon, and Hybrid corn varieties]
B) Labelling

Only Thai Language, Thai Calendar Dates, no variety name

Chinese language

Hardly any information
Counterfeit seed

Original hybrid corn seed  Counterfeit hybrid corn seed
At the border

Difficult to control the border. At Myawady: 32 crossings in 20 miles

- Very difficult to control illegal imports at the land borders
- Current focus is mainly on phytosanitary issues and less on seed quality
- There is no Seed Division staff at the border, e.g. checking for counterfeit seed, variety registration or seed quality issues.
What are the Risks? WHERE are the risks?

- Counterfeit seeds (abroad and domestic)
- Low quality seeds
- Poor quality due to poor quality EGS Non-Authentic seed source
- No traceability documents
- Improper labelling
- Border inflow of illegal seeds
- Seed shops, Wholesalers
- Seed Companies & NGOs
- Seed Farms
- Seed Growers (DOA contact farmers and independent)
What can be done?

A] Discussion with private, public and development partners took place

- National workshop in Nay Pyi Taw (11 December 2018)
- Mandalay workshop (13 December 2018)
- Yangon workshop (14 December 2018)

B] Key recommendations from the stakeholders

➢ Development and implementation of a post-control inspection system in Myanmar, guided by risk measures

- Inspection on variety registration, packaging/labelling and variety purity
- Inspection to control the irregularities in seed shops, wholesalers, traders and seed farms level
- Capacity building & training to the inspection service team (also at custom point)
- Development of guidelines/checklist
Feedbacks from Public – Private Sectors

Presentation of Risk based Inspection of Seeds for public and private sectors
• Yangon (17 September 2019)
• Nay Pyi Taw (20 September 2019, DOA)
• Mandalay (30 September 2019)
• Shan State (2 October 2019)

Key Feedbacks from Public – Private Sectors

1) Post Control Test Guideline
2) Post Certification Analysis Guideline
3) Seed Shop Inspection Guideline
Future: National Seed Investment Plan
(Introduced in 6th NSPlatform, 6.11.19)

➢ **Ambition** government to increase private sector investment and **become seed export country in** next 5 years

➢ **Investments needed** from public, private sector & development partners
Government wants to establish **Myanmar Seed Valley**: a cluster of seed companies and seed services

Cluster can consist of a location of > 400 ha with:

- Domestic and foreign seed production companies
- Research & development (R&D)
- Regulatory services: Variety testing (VCU and DUS)
- Postharvest infrastructure: seed lab & seed processing facilities
Myanmar Seed Valley

Main questions:

➢ **Roles and responsibility** division between public and private? Who does what? Criteria for involvement?

➢ **Which activities and services** should the Seed Valley have?

➢ **Who/Which** seed production companies and development partners can co-invest in the Seed Valley?
Needs of Myanmar

- To build capacity and cooperate seed sector such as **harmonization of plant seed trade policies** among region and LMI countries.

- **Systematic seed trading is still challenging.** Responsible persons, professionals and staffs in this area must be **trained** in relevant expertise and build their capacity by giving chance to study **suitable degree, post grad diploma and higher degree** for effective applying of seed trade regulation, guidelines and SOPs.
Needs of Myanmar (Continued)

- Competent knowledge, and suitable HR programs and higher learning opportunity for **VCU examiners**
- Likewise, for the seed inspection task and operating OSS system, build **capacity on field inspection, lab technicians, Post control Inspectors and database management**
- The capacity of, **DUS examiner, DUS test report analysis** must have sound skill and knowledge upon their field. They needs well knowledge about **PVP related software application** in order to assist **the preparation of National TG of main crops**.
- **More advanced in seed technology;** we strongly support to share and learn system.
- **EDV, PVP Awareness & Clarification Technique**
- We can negotiate to sign **MOU for technical cooperation**, so that, DUS test report **may purchase** through MOU, and some application or software system **may exchange** among us.
Thank You