1.0 General agricultural machines in PNG, 2012
(By Nosare Maika, National Agriculture Research Institute (NARI), PNG)

<table>
<thead>
<tr>
<th>Focus Area</th>
<th>Number in use (amount)</th>
<th>Source of data</th>
<th>Average Age (years)</th>
<th>Source of data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Tractors</td>
<td></td>
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<tr>
<td>4-wheel tractor</td>
<td>1350 (4-wheel)</td>
<td>World bank country report 2009\textsuperscript{1}, 1968-2008 (2012)</td>
<td>Below 20 years</td>
<td></td>
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<tr>
<td>Paddy Threshers</td>
<td>Rice sector: 2% of rice farmers own or use a \times 700 rice farmers \approx 13 threshers</td>
<td>NARI\textsuperscript{3}</td>
<td>85% of 7 million population = 5.95 million subsistence farmers. There are 0.86 million subsistence farming households</td>
<td></td>
</tr>
<tr>
<td>Hand Tools (manly for vegetables)</td>
<td>1. Bushknives – There were 15,000 Bushknives in 2011. Basic household tool in every houses and there are 0.86 million bush knives 2. Spade – The amount of spade is 11,515 in 2011. Basic household tool in every house and there are 0.86 million spade. 3. Digging fork – The amount of digging fork</td>
<td>Farmset Ltd\textsuperscript{4} (2011) NARI\textsuperscript{3}</td>
<td>Under 10 years</td>
<td>100% imported from other countries Estimate based on survey</td>
</tr>
</tbody>
</table>
is 2,995. Basic household tool in every house and there are 0.86 million digging forks.

4. Axe – There were 255 axes in 2011. Basic household tool and there are 0.86 million axes.

5. Handrake – The amount of hand rake was 12,000 in 2011. 50% of 0.86 million household = 0.43 million hand rakes.

6. Wheelbarrow – The amount of wheelbarrow was 60,000 in 2011. 50% of 0.86 million household = 0.43 million wheelbarrows.

7. Grass knives – There are 17,500 grass knives in 2011. Basic household tool in every houses and there are 0.86 million grass knives.

8. Hand shovel – The amount of hand shovel was 8,500. 50% of 0.86 million household = 0.43 million hand shovel.

9. Sickle – There were 205 sickles in 2011. 20% of 0.86 million household = 0.21 million sickles.

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Quantity</th>
<th>Source</th>
<th>Duration</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knapsack Sprayers</td>
<td>20,000 Knapsack sprayers</td>
<td>Farmset Ltd, (2011)</td>
<td>5 years</td>
<td>Survey</td>
</tr>
<tr>
<td>Mechanical Harvesters (sugar)</td>
<td>Combine harvester – 15 units</td>
<td>Agri Industries (-Ramu Sugar)²</td>
<td>5 years</td>
<td>Survey</td>
</tr>
</tbody>
</table>
| Post-Harvest Machinery   | Drying facilities  
  a) Flat Bed – 750 | CIC¹, (2012) 
  Agri-Industries, (Ramu Sugar), | Less than 20 | Survey |
b) Rotary Mechanical Dryer – 350  
\[ \text{c) Total = } 1,100 \]
- Milling Facilities  
  a) Coffee Mill – 100  
  b) Micro rice Mill – 150  
\[ \text{Total} = 250 \]

<table>
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<tr>
<th>Other machines</th>
<th>NARI</th>
<th>years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brian Bell, (2011)</td>
<td>Less than 6 years</td>
<td></td>
</tr>
</tbody>
</table>

**References:**

1. World bank country report, 2009  
2. Brian Bell Ltd – A major importer and retailer of agricultural machineries especially with rice related machineries. Information supplied through Personal contact in recent survey  
3. NARI- National Agriculture Research Institute. Estimate using personal contacts  
4. Farmset Ltd – Another major importer and retailer of agricultural machineries especially on Vegetable hand tools  
5. Agri-Industries (Ramu Sugar) – The only manufacturer of Sugar in PNG  
6. CIC- Coffee Industry Corporation – The only government statutory who regulates coffee production in PNG.

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**2.0 Information related to the use of Agricultural machinery**

1.0 There is no agricultural machinery testing system in practice. There is no national body to provide coordination of the safe use of agricultural machineries and hand tools. Although we a National standards and Testing body but is nothing to do with Agricultural machineries.  
2.0 There is no subsidy for the farmers on farm machineries. The cost of equipment/tools is very expensive. Farmers are reluctant to buy new ones because of cost and therefore keep the old ones. Sub-standard machineries (used machineries) with a very short life
may be due to defective design discourages farmers also. Because the farmers are involved in multi-crop farming, one of the challenges would be to have multi crop processing machineries etc.

3.0 There is no record of social cost for injuries etc. This is not to say there are injuries from/during use of the machineries/tools. The common injuries were bruises, cuts and back pain.

4.0 Although there are Government policies for increased and improved production of agricultural commodities there are no specific policies or proposals on agricultural machineries and its use.

5.0 There is a big potential for development of agricultural mechanization and machinery testing system/program for PNG because agriculture is the main source of food and income for the 7 million people of the country.

6.0 There is a general decline in farming activities due to modernization, resulting in shortage of labor, therefore there is a need for semi powered small machineries to improve productivity.