

**Asian and Pacific Workshop on  
Whole-Process Mechanization of  
Potato Production**

**Potato Cultivation in  
Sri Lanka**

**Wasantha Balasooriya**, B.Sc.Eng., C.Eng., MIESL  
**Mechanical Engineer**  
**Department of Agriculture – Sri Lanka**

27-28 June 2016, Kunming, China



CSAM



# Introduction

## Scientific name

*Solanum tuberosum* L.

- originated from central and south America

## Climatic requirements

- rain fall of 1500-2250mm
- 70% RH
- Temperature 15-22°C

# Introduction

- Total area : 65,610km<sup>2</sup>
- Major Agro ecological Regions:

Dry Zone

Intermediate Zone

Wet zone

- Major Potato growing districts:

Nuwara Eliya

Badulla

Jaffna

- Major Seasons:

*Yala*

*Maha*

Nuwara Eliya Feb – July.

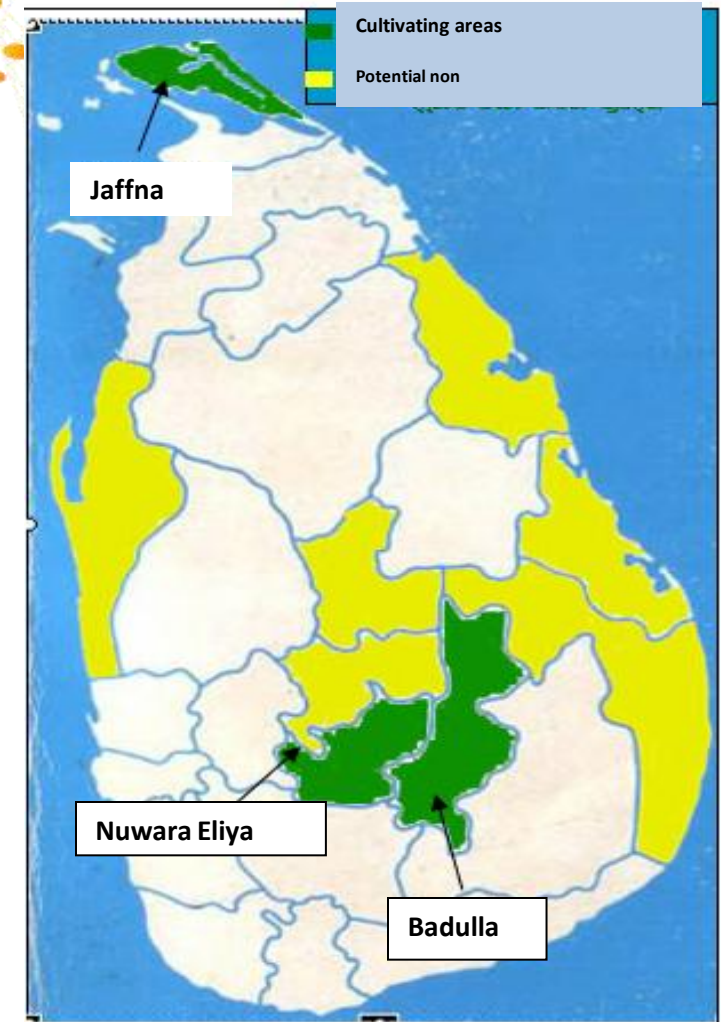
Sept. – Jan.

Badulla June – Sept.

Oct. – Feb.

Jaffna

Jan. – Mar.



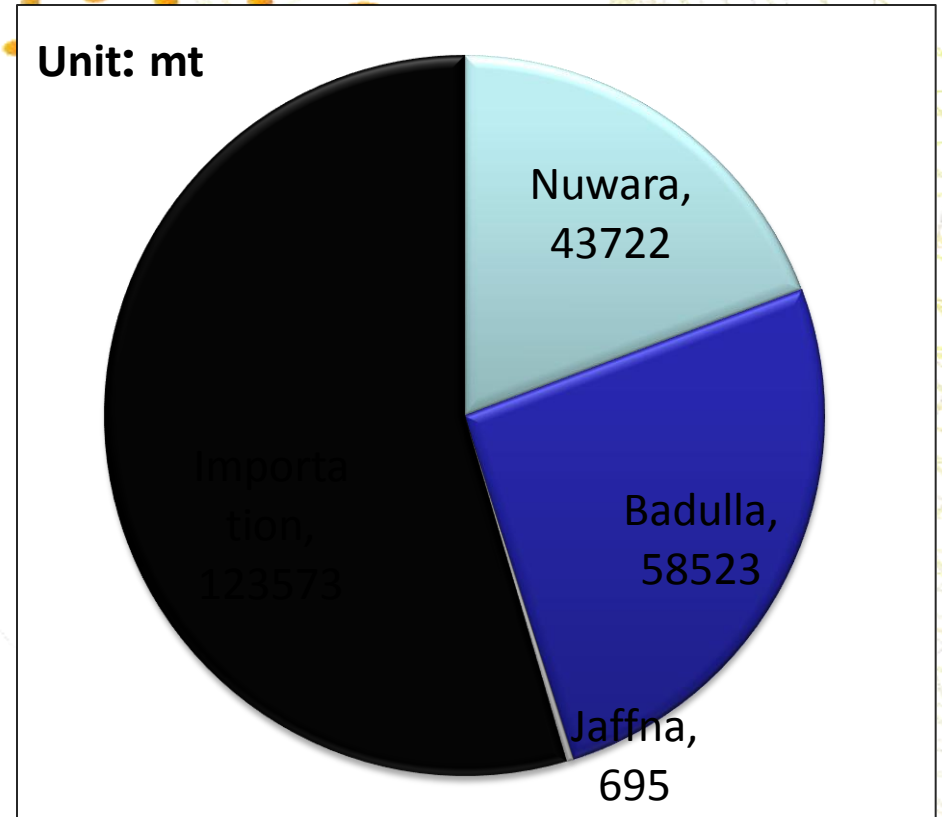
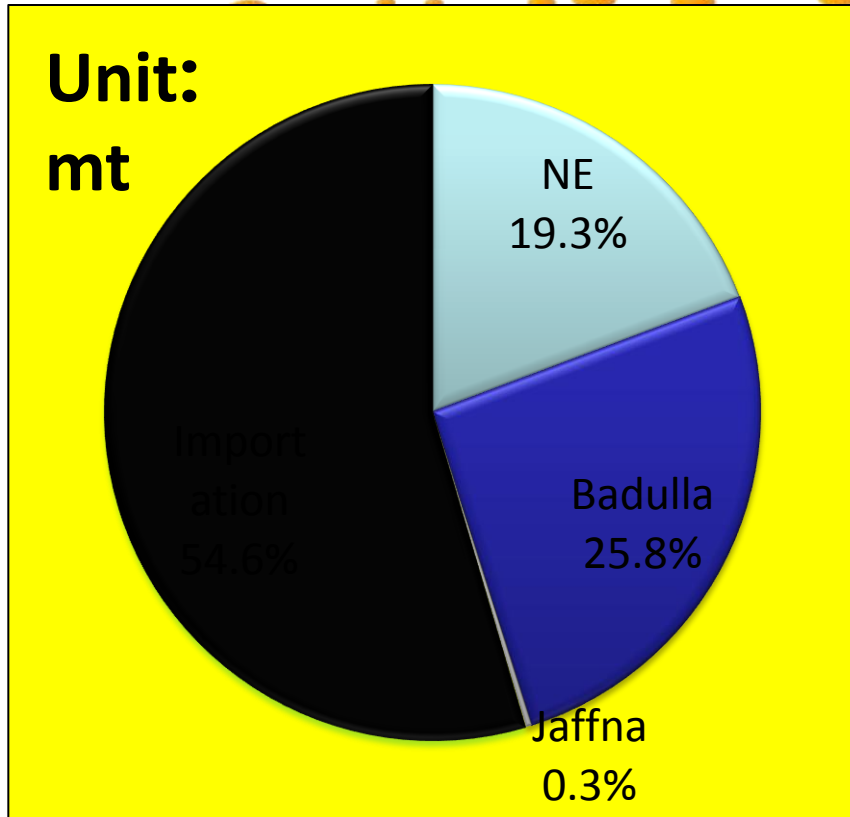
# Present Situation

- Total extent – 6000 ha
- Total seed requirement -15000 mt
- Annual consumption -213,512.5 mt
  - Local Production - 89,940 mt
  - Importation - 123,572.5mt

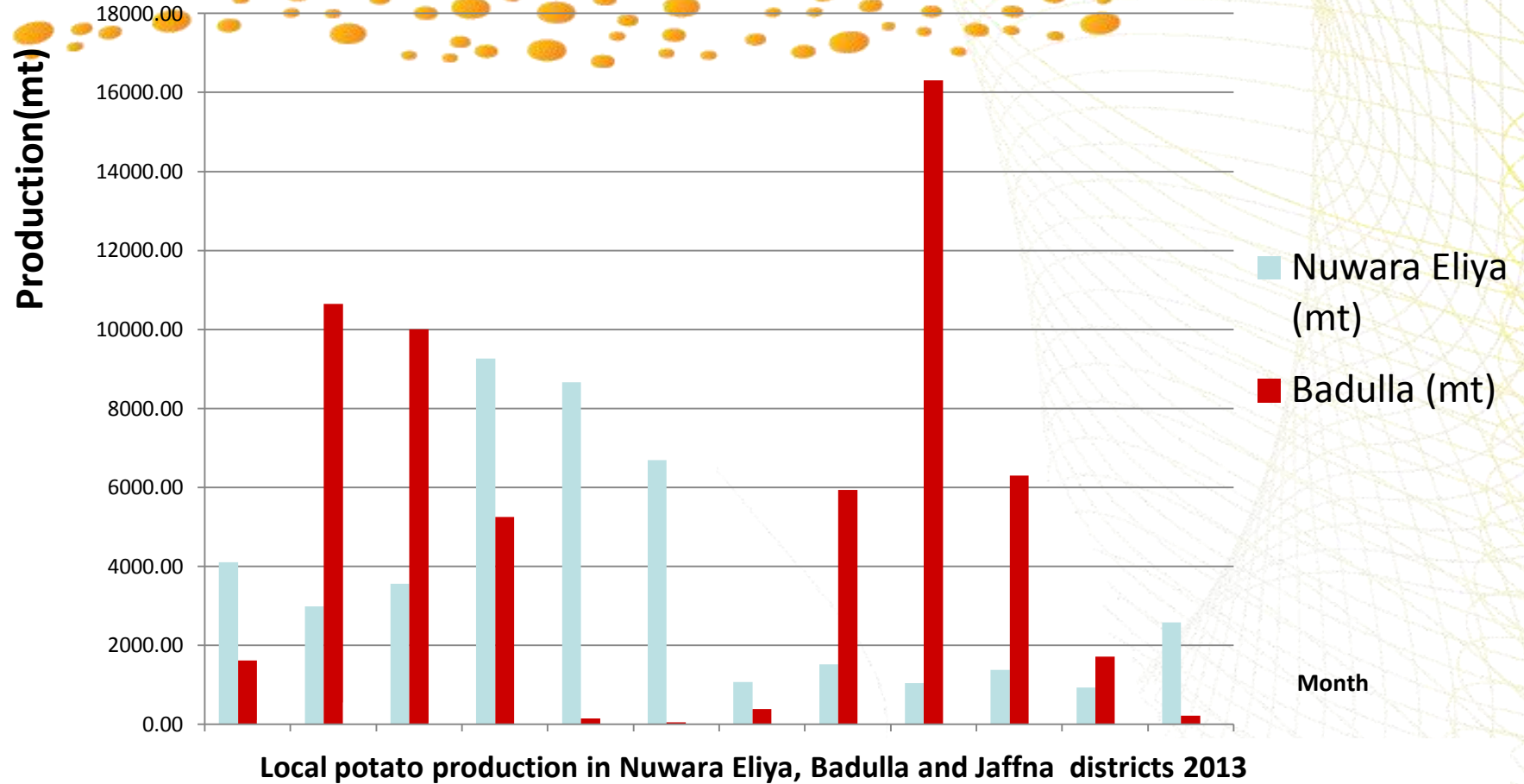
# Extent, Production and Productivity of Potato (1993-2013)

Year	Extent(ha)	Production(mt)	Productivity (mt / ha)
1996	7925	100,755	12.7
2003	6313	71,584	11.3
2004	5495	81,544	14.8
2005	5598	79,380	14.2
2006	5290	79520	15
2007	5238	75,263	14.4
2008	4569	74,814	16.4
2009	4139	61,705	14.9
2010	3844	51,933	13.5
2011	4479	59,360	13.3
2012	3763	92,967	24.7
2013	4616	89,940	19.5

# Consumption Potato Supply - 2013



# Local potato production - 2013



# Quantity and total value of Consumption potato imported during 1994-2014 Jan

Year	Quantity (mt)	Value(Rs. million)
1994	7849	90.08
1995	11957	160.76
1996	25740	410.39
1997	108375	1300.76
1998	115613	1562.31
1999	128921	1501.49
2000	116453	1415.05
2001	62559	875.93
2002	37997	599.12
2003	40488	537.68
2004	28013	415.55
2005	40,746	761,736
2006	46,550	na
2007	71,687	na
2008	99,353	na
2009	102,351	na
2010	131,641	na
2011	130,214	na
2012	110,176	na
2013	123,573	598.2 ??
2014 Jan	15,803	na



# Seed Potato Production

## Annual seeds supply

- DOA - 500 mt
- Private – 500 mt
- Importation – 1,000 – 1,500 mt
- Informal seeds – 9,000 – 13,000 mt

# seed supply

Year	DOA	Private	DOA + private	Imports	Total
1993	215	450	665	3135	3800
2003	308	247	555	5031	5586
2004	360	701	1061	3701	4762
2005	610	1079	1689	5419	7108
2006	402	702	1104	5208	6312
2007	236	817	1053	2090	3143
2008	330	724	1053.95	1208	2262
2009	280	262	541.9	1010	1551.9
2010	306	234	540.26	1014	1554.3
2011	311	354	664.53	1097	1761.5
2012	358	410	767.56	1596	2363.6
2013	441	288	729	1325	2054

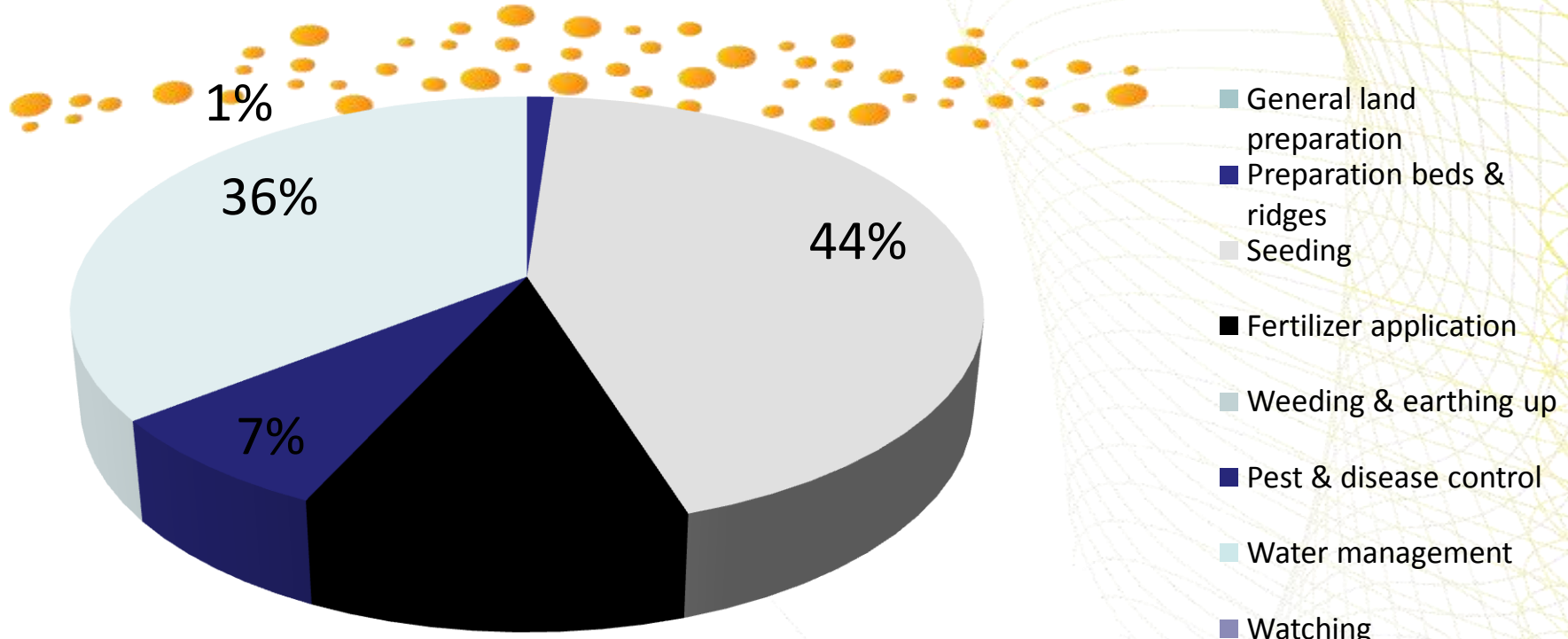
# Imported seed supply

Year	Seed Potato Quantity (mt)	Value (Rs.Milion)	CIF Prize
2000	2794.00	101	36.23
2001	6725.00	336	49.91
2002	7029.00	418	59.51
2003	5031.00	347	68.95
2004	3724.00	282	75.71
2005	5718.00	356	62.20
2006	2245.00	185	82.44
2007	1782.00	199	111.56
2008	1208.00	332	109.26
2009	1010.00	106	105.34
2010	1014.50	94.5	93.17
2011	1097.05	na	na
2012	1596.79	na	na
2013	1325.00	na	na



# Cost of Potato Production

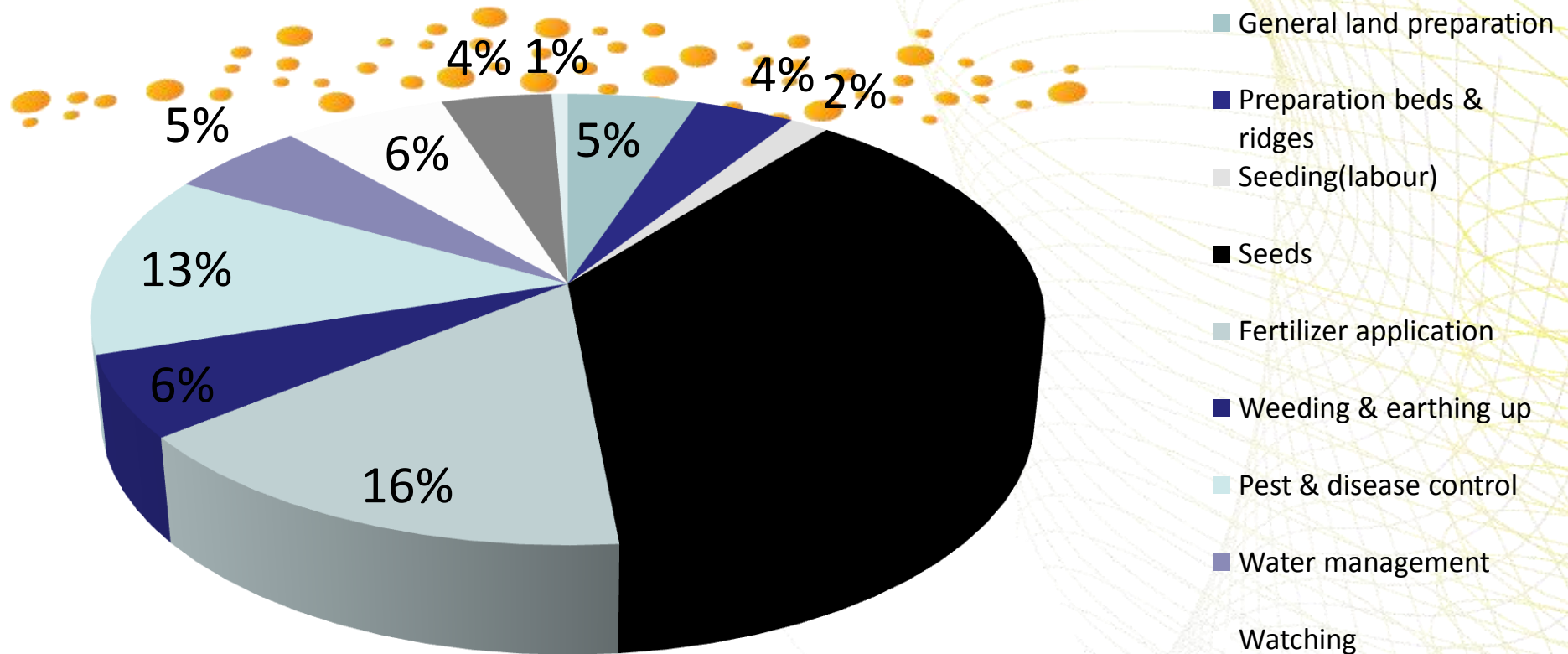
# Badulla District(per Ac)



**Total cost – Rs. 345,300.00/=**

<b>Average Production per Ac</b>	<b>5,600Kg</b>
<b>Cost per kg</b>	<b>Rs.61.16</b>

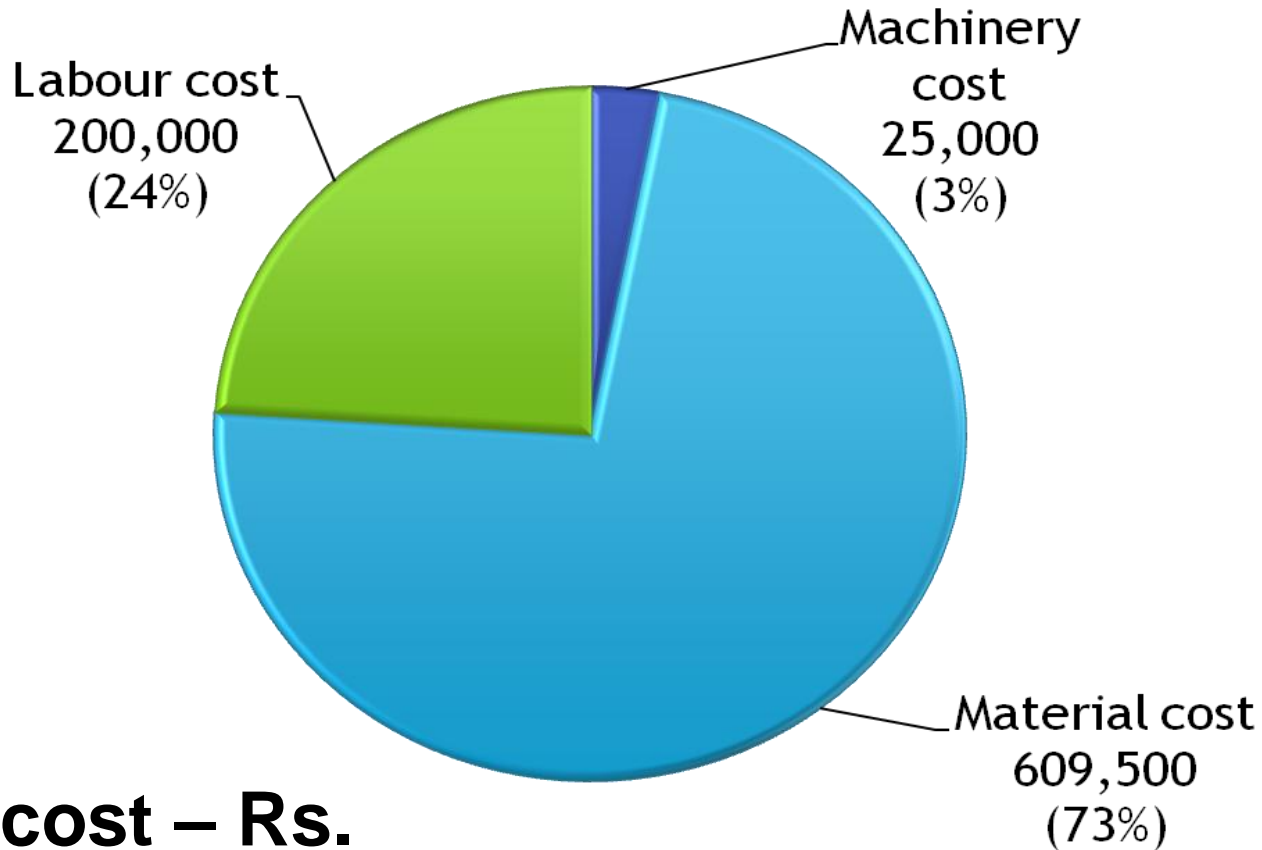
# Nuwara Eliya District(per Ac)



**Total cost – Rs. 527,150.00/=**

<b>Average Production per Ac.</b>	<b>8,000Kg</b>
<b>Cost per kg</b>	<b>Rs.65.89</b>

# Jaffna District (per Ha)

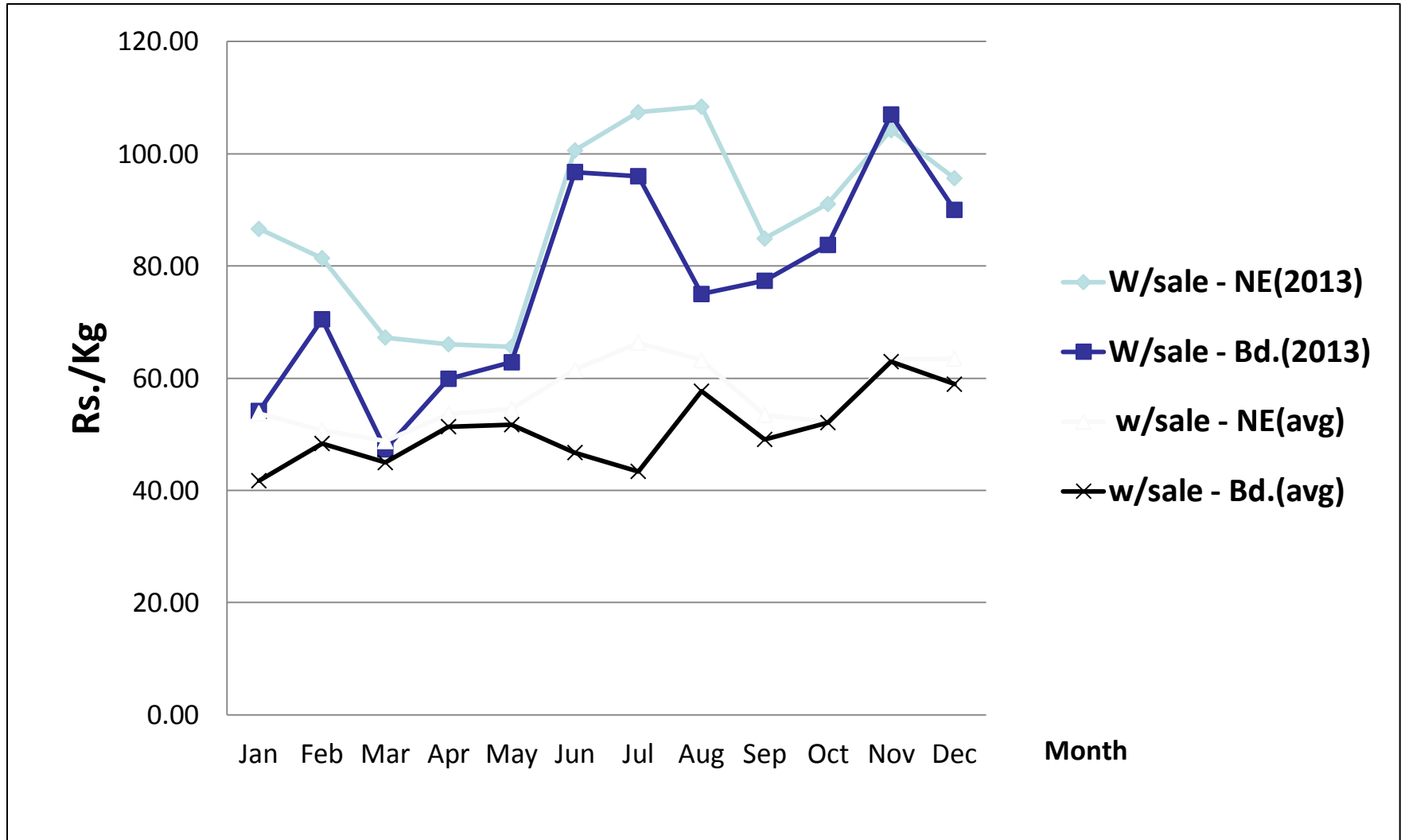


**Total cost – Rs.**

**834,500/=**

Average Production per ha.	16,000Kg
Cost per kg (With FL Cost)	Rs.52.16
Cost per kg(Without FL. cost)	Rs.49.03

# Whole sale prices of potato N/Eliya & Badulla districts





# Present Status of Potato Mechanization in Sri Lanka

- Agriculture Department Farms
  - Machines in Use
  - Failures
  - Identified Requirements
- Farmer Community

# Agriculture Department Farms

## Machines in Use

- Four Wheel Tractor Coupled Ridger





# Micro Irrigation Systems



23.05.2014 10:01



01.04.2014 07:49

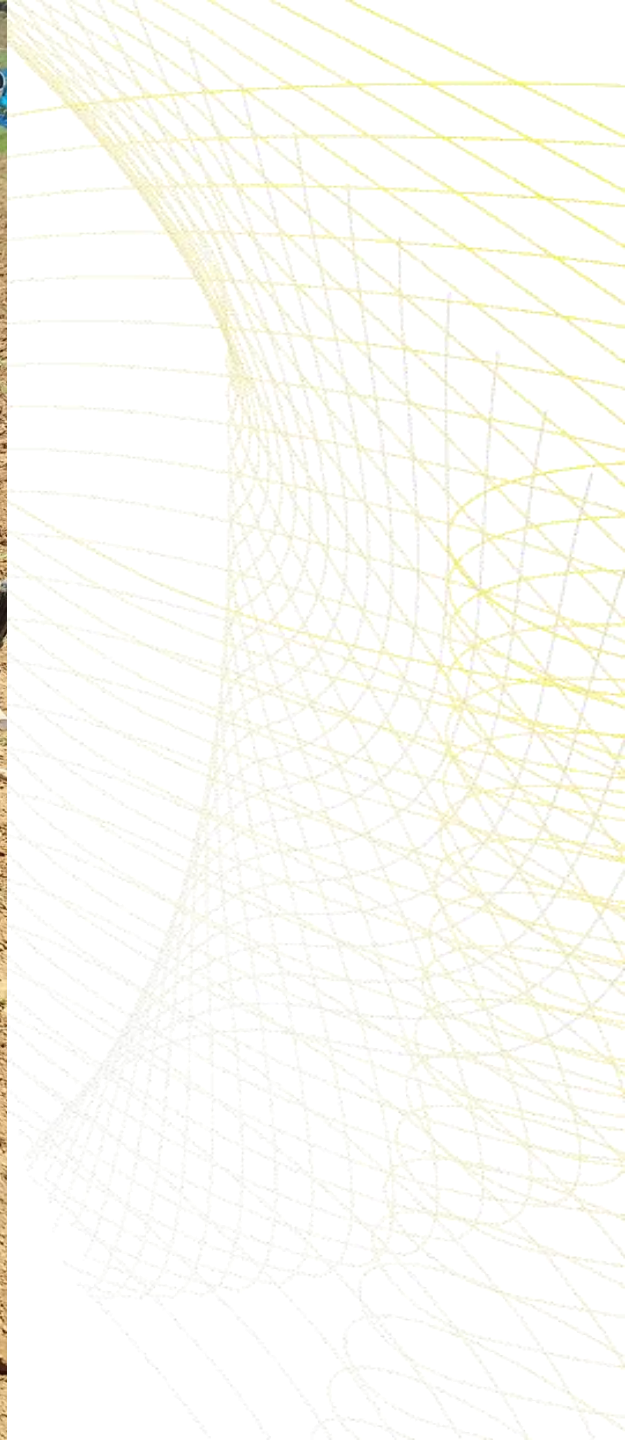




23.03.2014 13:51

# Two Wheel Tractor Coupled Potato Harvester









# Sorting Machine



27.03.2015 15:38

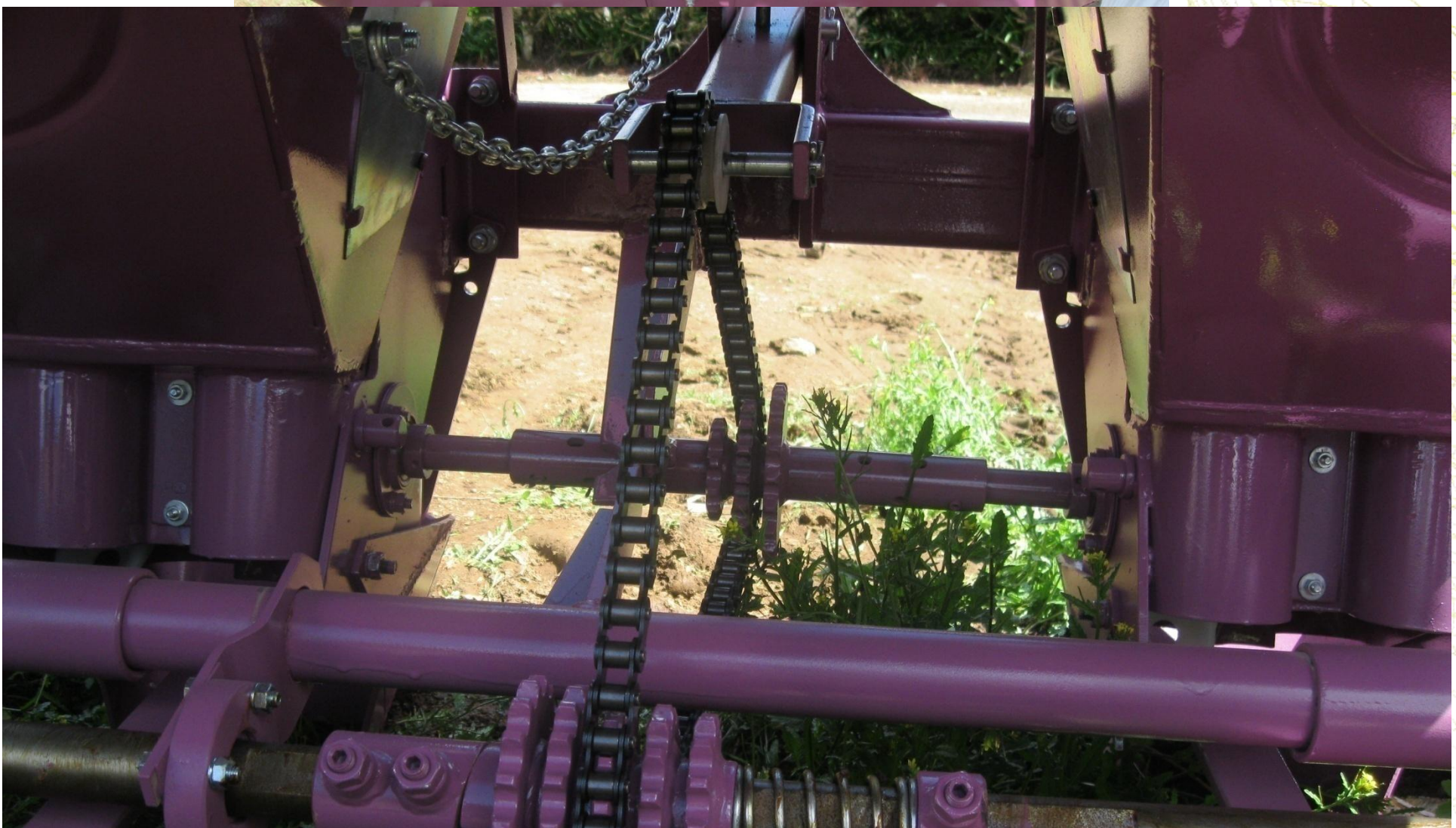


27.03.2015 15:08



# Failures

## Four Wheel Tractor Coupled Seeder





Slide #30



19/02/2013



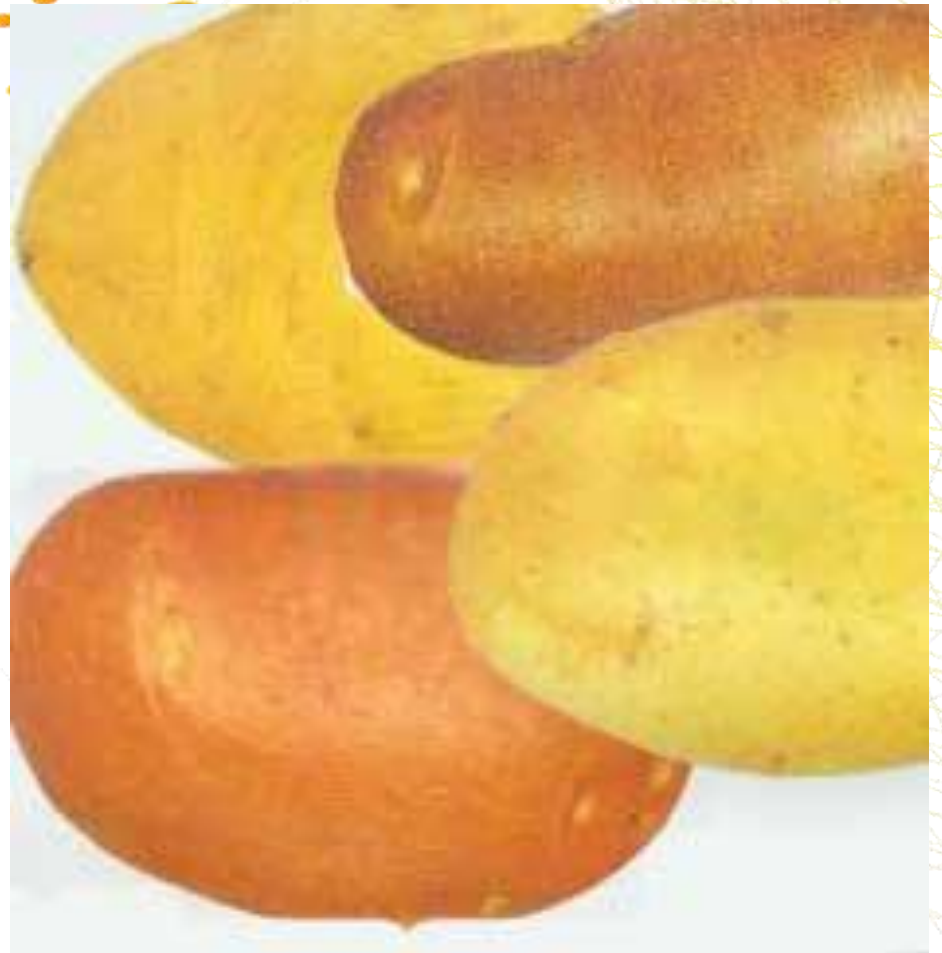






# Farmer Level Mechanization Status










# Challenges and constraints faced for whole-process mechanization of potato production in Sri Lanka

- **Relative neglect of the potato subsector**
- **Inadequate capacity building initiatives**
- **Lack of financial strength**
- **Less industrialization**

# Suggestions

- 
- A decorative graphic consisting of a horizontal line of orange dots of varying sizes, transitioning into a complex yellow wireframe structure on the right side of the slide. The wireframe is composed of many thin, intersecting lines that create a mesh-like pattern.
- *Research and Development*
  - *Education, training and Extension*
  - *Supply of Information*



# Contact Information

**Wasantha Balasooriya**  
**Mechanical Engineer**  
**Department of Agriculture**  
**Peradeniya**  
**Sri Lanka**

**+94 773 153 853 / +94 718 62 00 72 / +94 812388046**

**[bsooriya@yahoo.com](mailto:bsooriya@yahoo.com)**



Thank You