

# **CABI' s Asian-Pacific Regional Consultation**

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Director General  
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Sri Lanka**

**16<sup>th</sup> – 19<sup>th</sup> October 2018, Beijing, China**

# Vision of DOASL



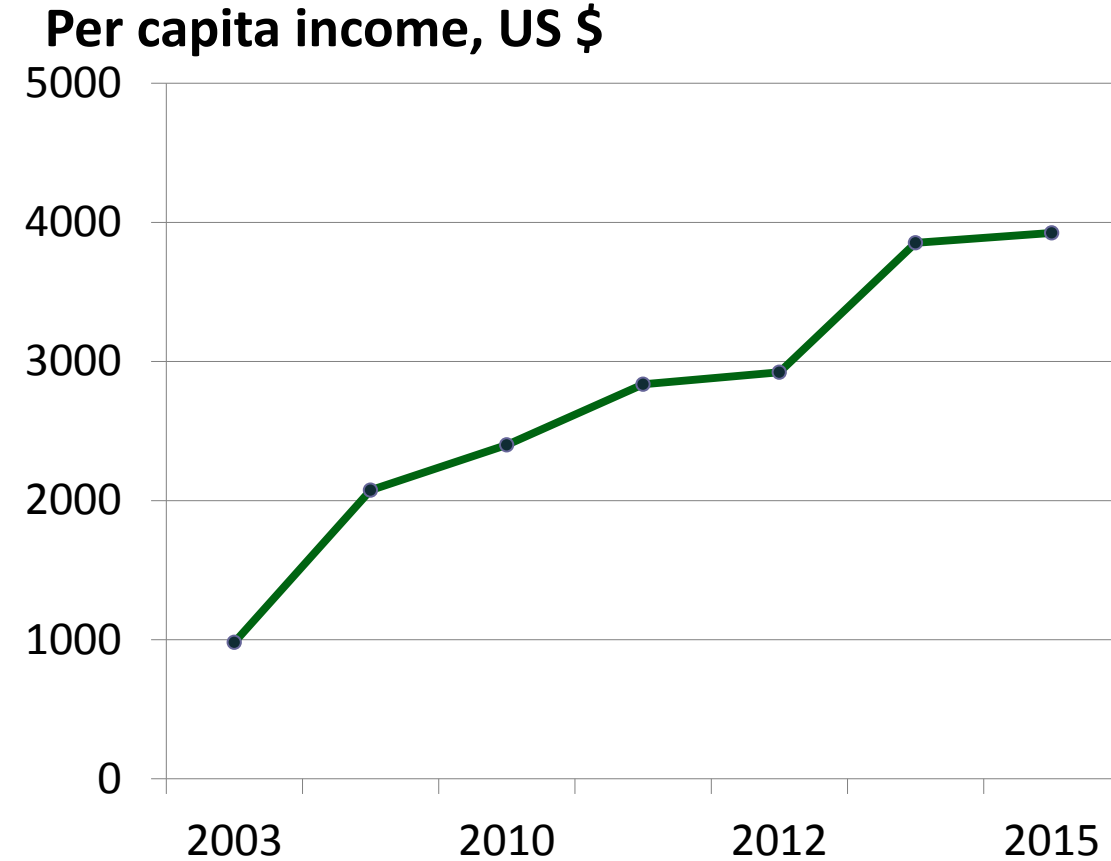
**Achieve Excellence in Agriculture  
for National Prosperity**



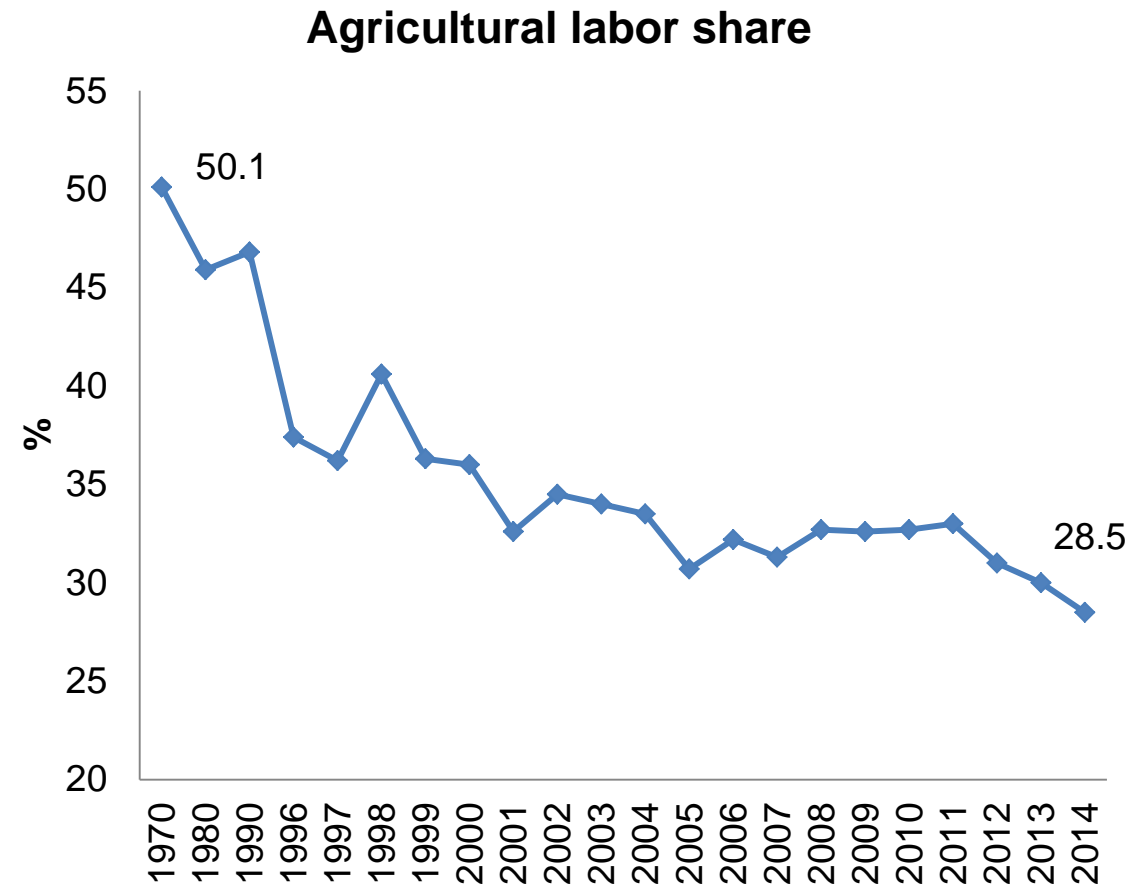
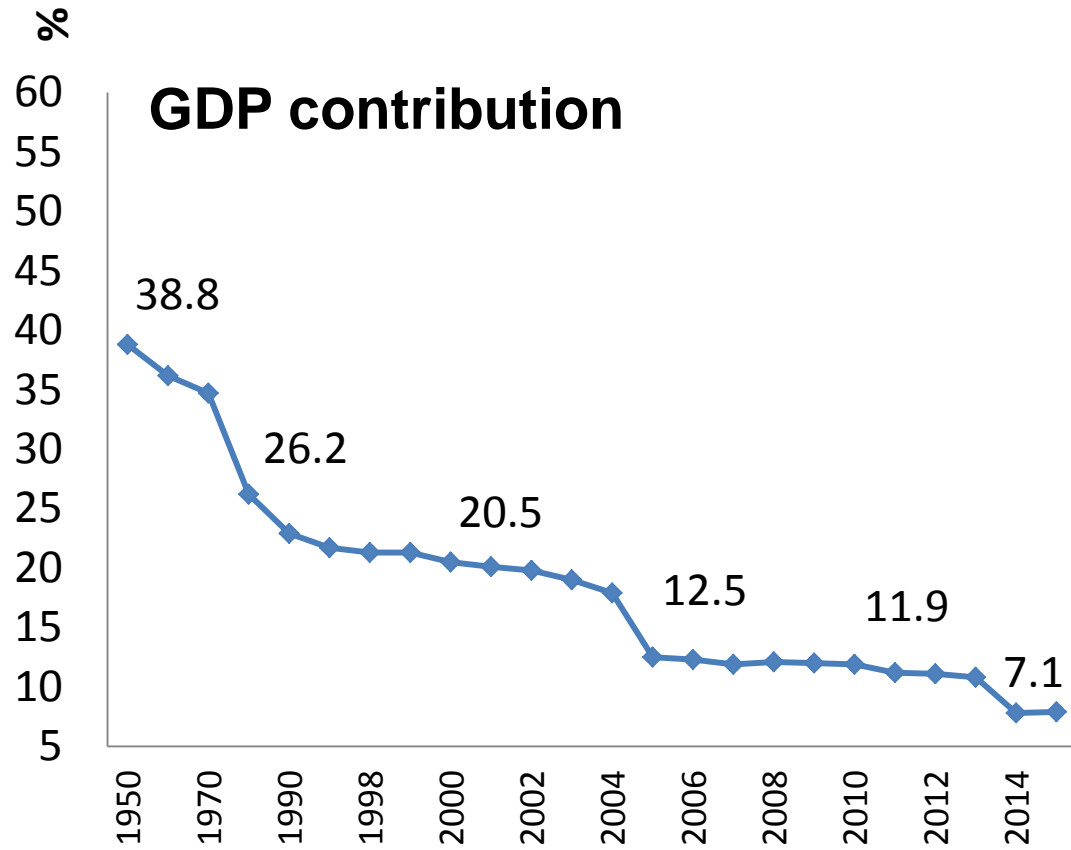
# Changing food habits

## *Drivers of the food System,*

- Population growth – 9.9 in 1960 to 21,2 in 2016
- Increased per capita income
- Growing middle class and increased work load
- Lifestyle shifts, working mothers
  - Influence from unhealthy advertisements through mass media



# Salient features, ..... declining significance of agriculture







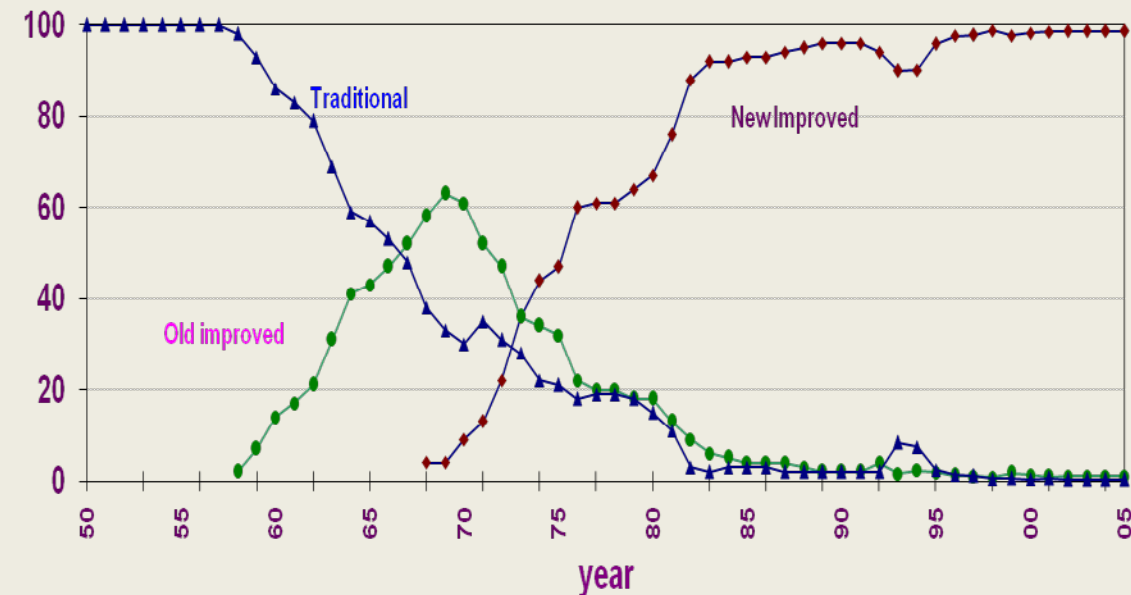


## Self sufficient in Rice

### Before 1950's

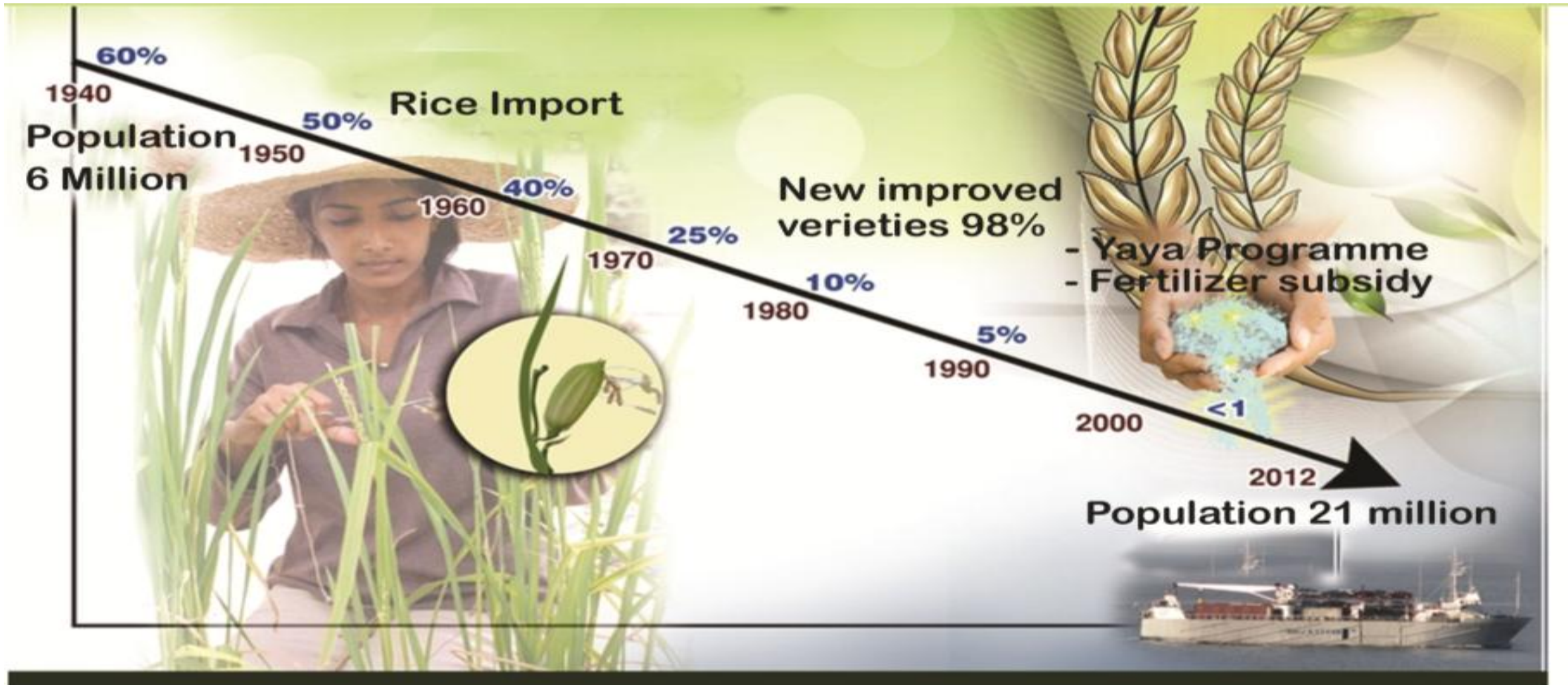
- All traditional varieties ( about 300)
  - Tall plant type (>1-2 meters)
  - Lodging
  - Long maturity period (>5 month)
  - Fertilizer non-responsive
  - Susceptible to rice blast (a disease)
  - good grain quality (for local standards)
- Predominantly one crop a year (photosensitive mawee varieties)
- Low productivity (1 t/ha)

**Heenati, Hondaravalu, Murungakayan, Muthu samba Suduru samba etc.**

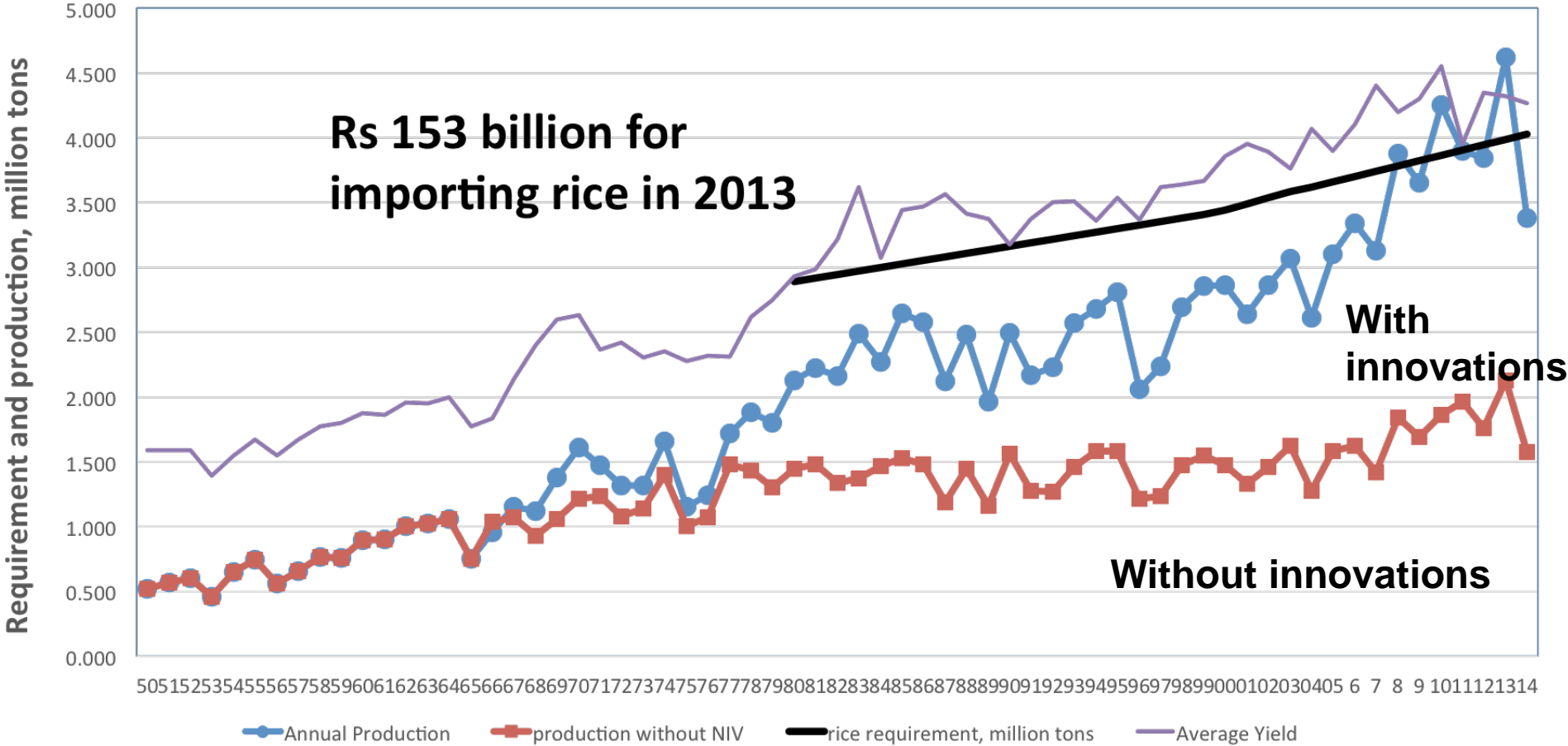




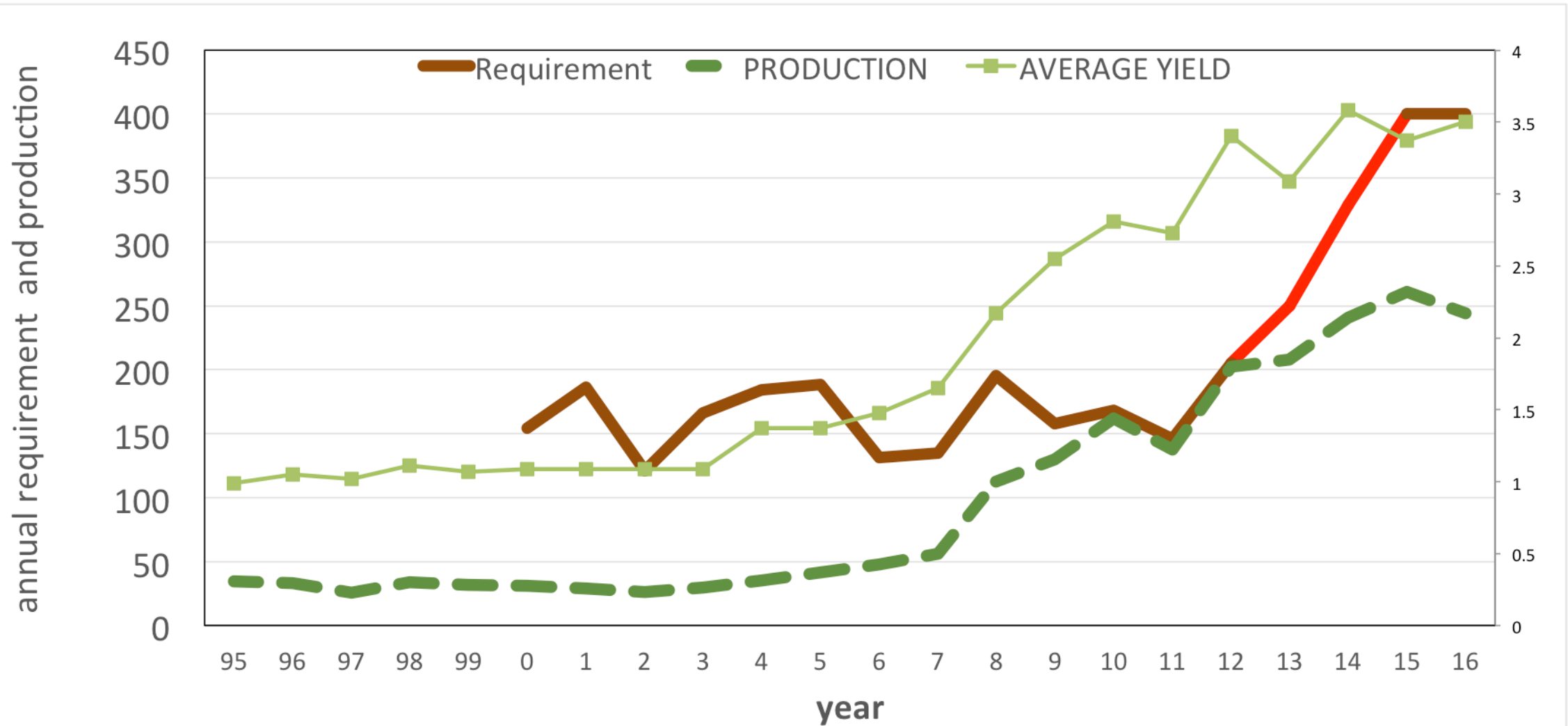
# SELF SUFFICIENT IN RICE



# Paddy requirement, production with and without innovations



# Requirement and Production (000' tons) of maize in Sri Lanka







Seasonal Production

Fruits

- Most fruit crops are introductions
- > 100 fruit crops are in the country, 20 Major fruits.
- Large scale cultivations are limited except Banana, Papaya and Pineapple.
- Most cultivations are home garden or small scale cultivations

# VEGETABLE



Per capita consumption	-	150g /day
Recommendation	-	200g/day
Post harvesting loses	-	30% - 40%
Total Production	-	867,450 ton
Total Extent	-	>90,000 ha



# Production is not sufficient for the demand

Crop	Production, tons			Import, tons		
	2015	2016	2017	2015	2016	2017
Maize	261,115	243,960	195744	67,237	41,945	179588
Big onion	89,323	65,223	53,603	210,253	215,593	232,317
Cowpea	12,276	13,740	8576	5,678	6,055	7345
Greem gram	15,058	14,546	9392	11,513	13,861	15541
Ground nut	28,503	24,200	22475	3,479	3,094	3875
Green Chilli	62,866	72,311	51827	-	-	-
Soybean	11,254	7,946	14363		194,982	219917
Dry Chilli					51,018	51691
Red onion	61,202	63,675		15,168	19,842	
Potato	97,931	95,805				

**Masoor dhal – 154,340 tons - Rs. 20,297 million**

**Imports of process food ????**

Central bank reports

# Why farmers are reluctant to produce

- Inadequate and variable remuneration from farming
  - Income not stable, return to investment is very poor
    - Sell only the primary produce, no value addition
  - Fluctuation of prices and exploitation
  - Lower Productivity
  - Unplanned imports
- Market Gluts and scarcities
  - No stable market and system to address excess production
- Variable supply of inputs and price of inputs
  - Non availability of control measures to face farming threats
- Variable weather patterns and abiotic stresses
- less availability of high yielding varieties and technologies at farmer level
  - Available technologies are not affordable

# What is the present scenario?

- Excess production of rice
  - Vulnerable to seasonal fluctuation
- Production of OFC's and legumes do not meet the requirement
- Year round production of vegetables ???
  - Gluts and scarcity periods of vegetables
  - Quality??
- Seasonality in fruit production ??
- **Are the food produced meet the consumer expectation ?**

Quality of Food Produced

# Develop and Disseminate Resistant Varieties



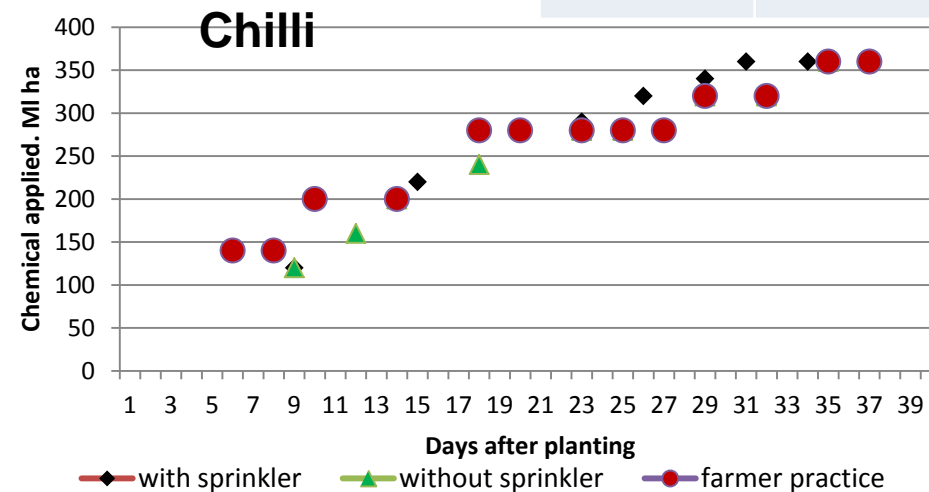
# Safe food for the consumer

## Agro chemical usage by farmers for OFC

### Spraying intervals adopted by farmers, yala 2009

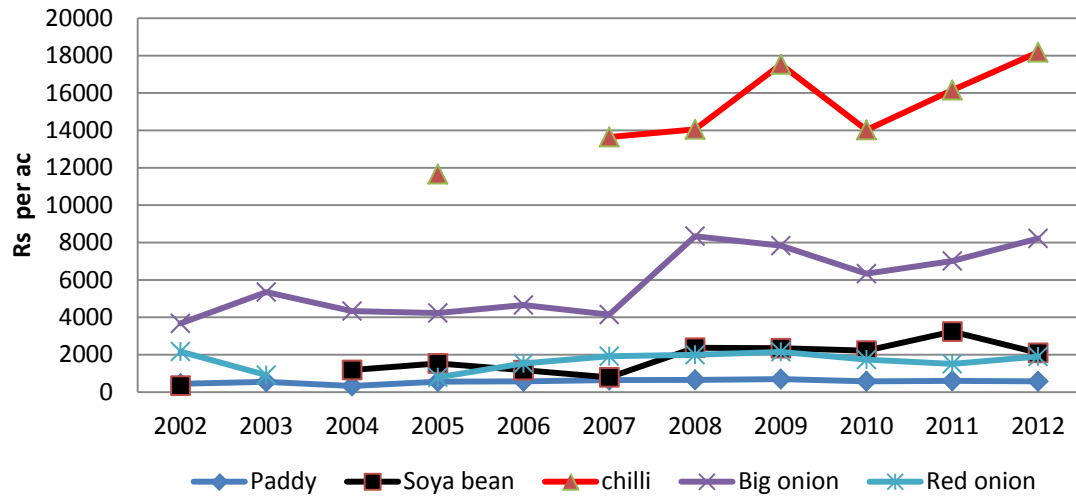
Spraying interval	% of farmers
<4 days	26
4 – 6 days	46
7 – 9 days	20
10-14 days	8

Crop	Recommended Spraying interval, days	Interval practiced by farmers, days
Chilli	10 - 14	4
Legumes	10 - 14	3 sprays
Onion	10	4
Maize	3-5 WAP (once)	Weekly application

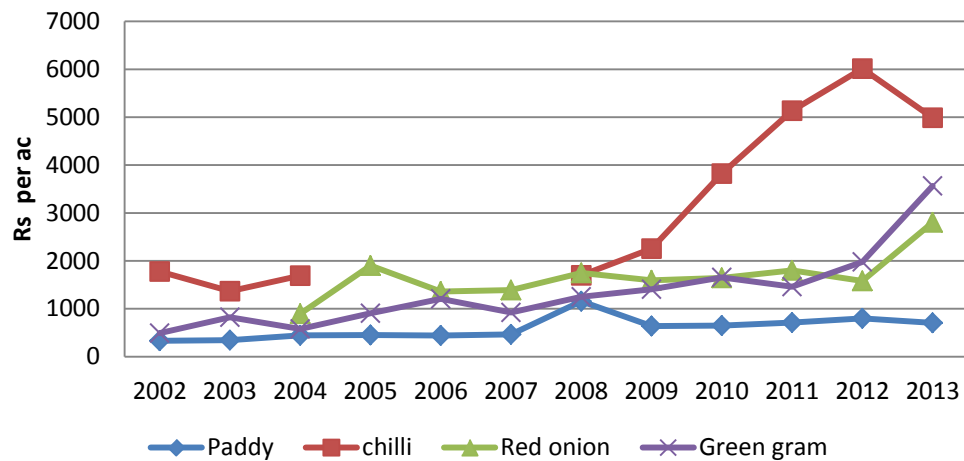


# Cost for Agro chemical

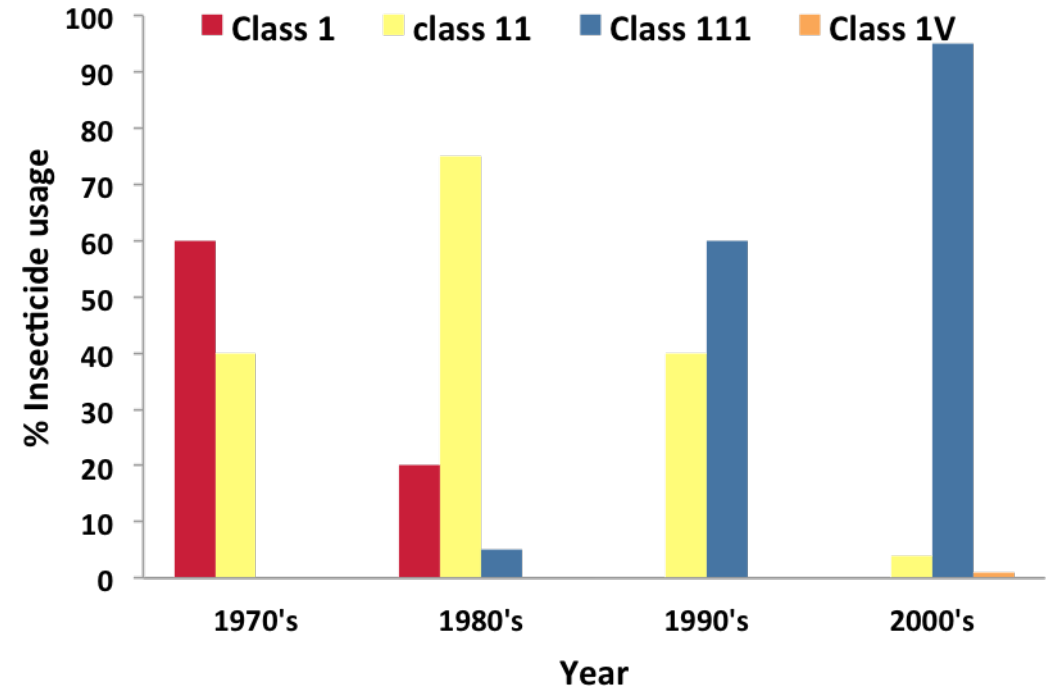
**Pesticide cost 2002-2012 yala season**



**Pesticide cost 2002-2013 maha season**



## Insecticides used in Sri Lanka over the years



**Low Toxic chemicals but farmers application window is very short**



# Promotion of Good Agricultural Practices (GAP)

Eco Friendly Agriculture

Food Safety Monitoring Units

- Sri Lanka GAP and organic certification for local markets starting with the super market chain and for export
- GAP certificate and QR code



Center for  
sustainable Agriculture

Central and peripheral  
laboratories

# Permanent Crop Clinic Program (PCCP) in Sri Lanka



- Coordinated with PPS of DOA from 2013
- Collaborative program with the Center for Agricultural Bio Science International (CABI) in United Kingdom.
- Trained around 400 agriculture extension officers annually as plant doctors by 'master trainers' (*senior level officers selected from Research and Extension divisions*).

# Objectives



- To strengthen national plant health system through developing local capacity.
- To promote sustainable agricultural practices that enhance productivity, improve the livelihood of small-holder farmers and protect biodiversity.

## Key Partners

**National Responsible Organization (NRO):**

Department of Agriculture - Plant Protection Service

**Local Implementation Org. (LIO) :**

Provincial Department of Agriculture & Interprovincial Extension arm

**Diagnostic linkage:** Research Institutes of Dept. of Agriculture

# Activities

- **E-Crop Clinic Trainings**
- **Plant Doctor Trainings (Module 1 & 2)**
- **Refresher Trainings**
- **Preparation of Pest and Decision Decision Guides (PMDGS)  
Writesops**
- **Quality Assurance Progress Review Meetings**
- **Cluster Meetings**
- **Data Management Trainings**



**Sri Lanka....**

**Two major on-going global initiatives/projects led by CABI,**

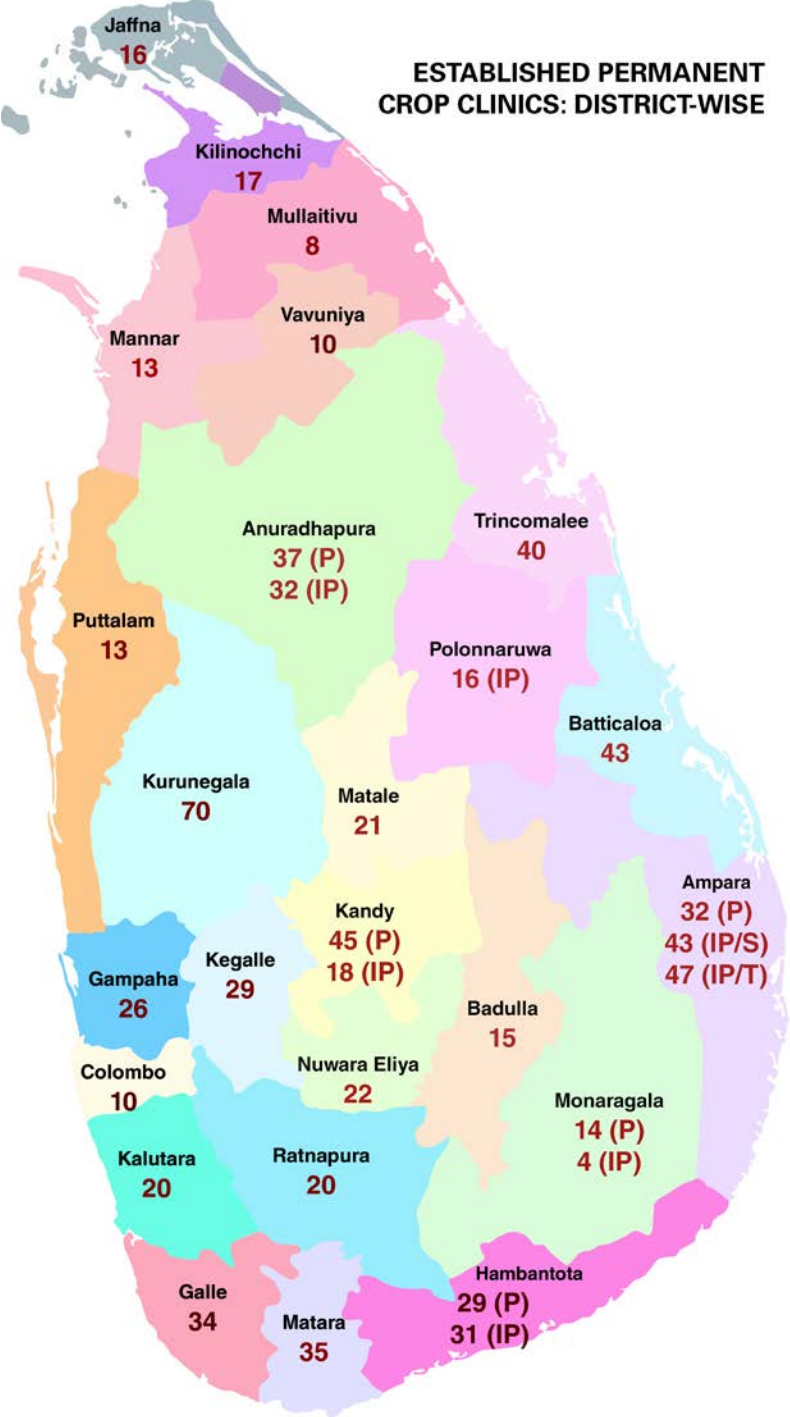
- 1. Plantwise:** Plantwise implementation in Sri Lanka (Permanent Crop Clinic Program)
- 2. mNutrition:** Delivering nutrition sensitive agriculture messages via mobile phones

**Progress achieved on Plantwise program**

**Permanent Crop Clinic Programme (PCCP) Sri Lanka**

Plant Doctor Trainings				
District	Module	Date	Trainees	
			Male	Female
Ampara IP (Tamil Medium)	1	16 - 18 Jan	31	16
Matale	2	18 - 19 Jan	19	03
Ampara IP (Tamil Medium)	2	19 - 21 Feb	33	16
Anuradhapura (Pro)	2	26 - 27 Feb	10	17
Ampara IP (Sinhala Medium)	1	4 - 6 April	25	11
Ampara Province	2	28 - 29 June	30	
Ampara IP (Sinhala Med.)	2	5 - 6 July	26	10
Kandy Pro.	2	9 -10 July	8	14
Monaragala Pro.	1	26-28 Sept.	22	9
Monaraga Pro	2	11 – 12 Oct	40	16





# Progress

- Clinics established: **810**
- Active clinics: **719**
- Total clinic queries to date: **18757**
- Single diagnosis queries: **18288**
- Mixed diagnosis queries: **469**

# Provincial Crop Clinics program

## Provinces conducting Crop Clinics using - *tabs (Paperless)*

- Northern
- Western
- Southern

## Provinces conducting Crop Clinics using both - *tabs and prescription sheets*

- Sabaragamuwa
- North Central
- Eastern
- Central

## Provinces conducting Crop Clinics using - *prescription sheets*

- Uva Province
- North Western Province

# Establishment of E Clinics

## Paper based clinics were successfully converted to E clinics (using tabs )

- All clinics in - Western (65)
  - Southern Province (Matara – 58 & Galle – 47)
  - Northern Province (64)
- Eastern Province (Trinco & Batticaloa only) – 20 clinics
- Nuwara Eliya district (CP) – 10 clinics
- Uva Province (Badulla & Monaragala) – 20 clinics
- Rathnapura district – 20 clinics

# ...E- Crop Clinic Trainings

**Galle**



**Matara**





# ...Plant Doctor Trainings



## Ampara Inter Provincial



# ...Plant Doctor Trainings



**Monaragala (Provincial) – Module 1**

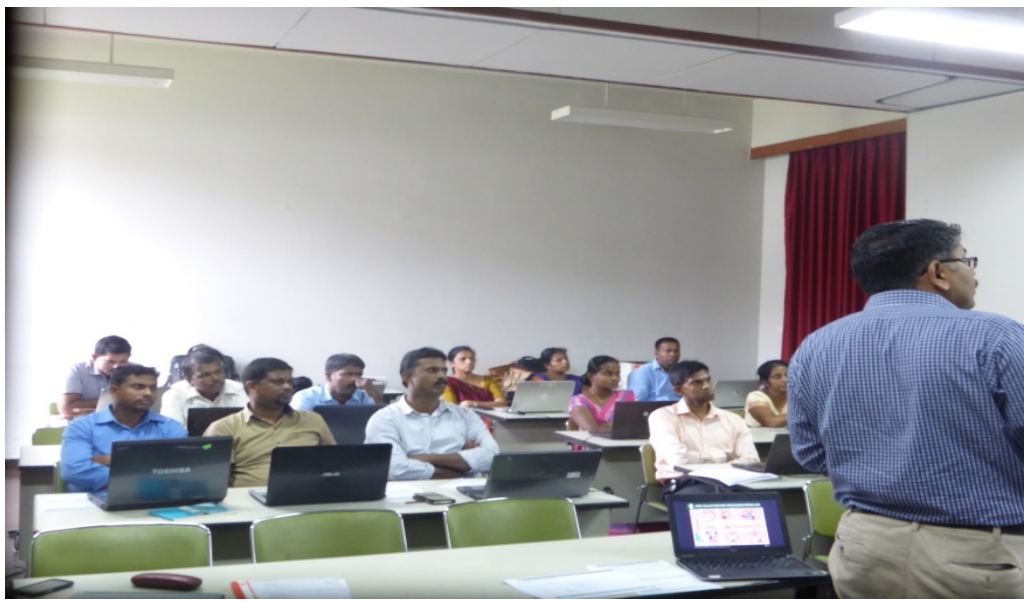


# ...Plant Doctor Trainings



**Kandy (Provincial) – Module 2**





Training of District Coordinators by CABI



**Module 1 Training for Plant Doctors**



**Crop Clinic – (Paper base)  
Huluganga in Kandy District**



**Module 2 Training for the Plant Doctors**



# ...Cluster Meetings



**Mullaitivu**

# Other Trainings & Workshops

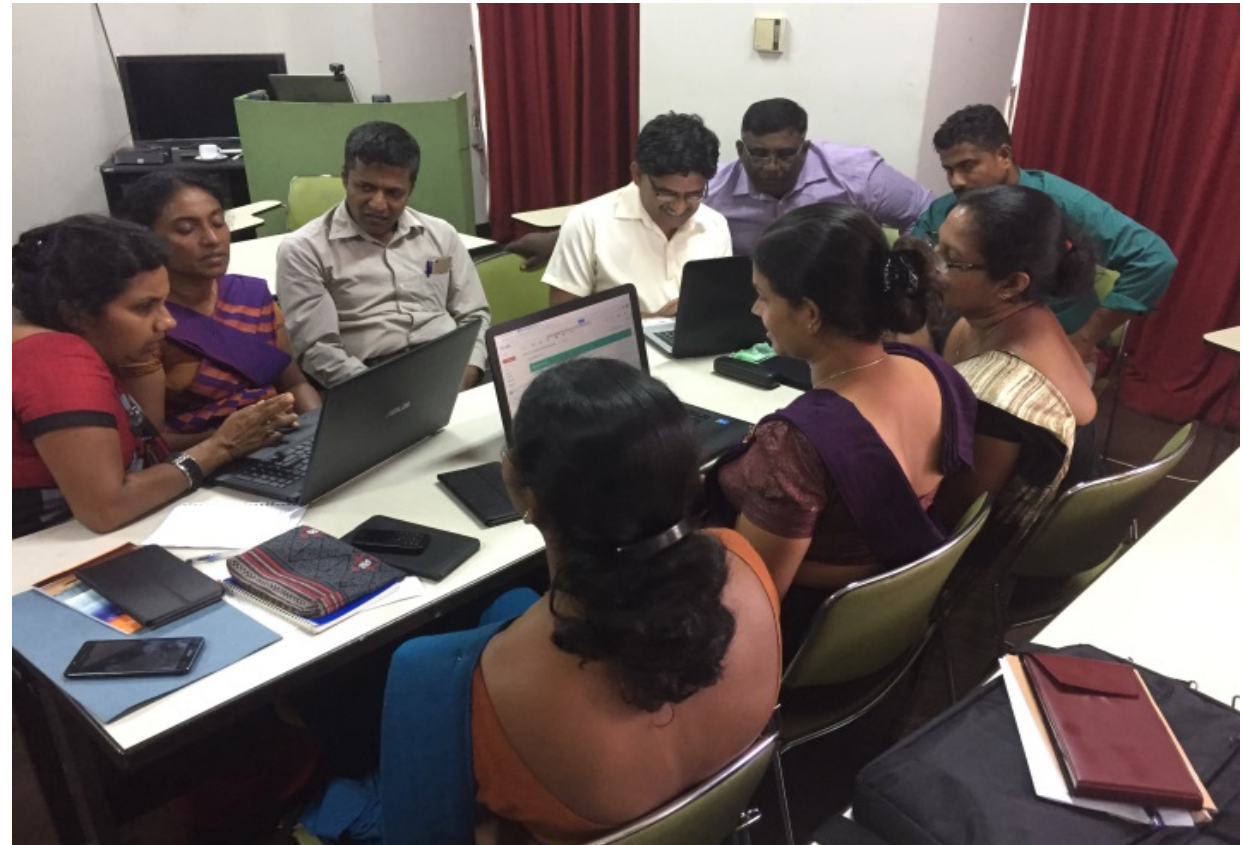
Trainings/ Workshops	Venue	Date	Participants
<b>Refresher Training Ampara IP (Tamil )</b>	<b>Batticaloa</b>	<b>23-24 April</b>	<b>34</b>
<b>Preparation of Pest Management Decision Guide (PMDGS) Writeshops</b>	<b>PGRC-Gannoruwa</b>	<b>9-10 August</b>	<b>15</b>
<b>Quality Assurance Progress Review Workshop</b>	<b>PGRC-Gannoruwa</b>	<b>16-17 May</b>	<b>25</b>
<b>Data Management Training</b>	<b>Eastern Pro. (Ampara IP, Pro)</b>	<b>21 March</b>	<b>02</b>
<b>Data Management Training</b>	<b>NAICC-Gannoruwa</b>	<b>19-20 September</b>	<b>26</b>



# Preparation of Pest Management Decision Guide (PMDG) Workshop



# Quality Assurance Progress Review Meetings





# Data Management Training



## **Evidence of Change**

- **Department of Agriculture recognizes the “Permanent Crop Clinic Programme”(PCCP) as a strong extension and pest surveillance tool.**
- **Already expand the program to all districts**
- **Transfer of most of the project activities in the ToR from NRO & LIO**
- **Plant Clinics adopted as a regular activity**
- **Resources allocated as cash & kind**
- **Farmer’ s appreciation (client satisfaction)**
- **Skills improvement of Agriculture Instructor’s (enhanced the knowledge & reputation)**

## **Lessons learned**

- **Policy level advocacy to incorporate the crop clinic concept to the Agriculture extension system**
- **Integration of Plant Protection Service (NRO) with Extension (LIO); NRO serves as a strong link between Research & Extension**
- **Appointing district coordinators from LIO for the implementation of project activities**
- **Use of already existing agriculture system for the implementation of permanent crop clinics and use of monthly meetings to report the progress**



# Challenges

- **Some districts – still difficult to make PCCP as a major activity (complains – overloading of work)**
- **Task of clinic data entering by the data management officers at PPS became a challenge with more districts and more frequent clinic sessions**
- **Therefore data entering process has being decentralized (Data entry assistants were appointed and trained to enter data at district level)**

## Training of District Coordinators

- 29 DC' s were appointed & trained on Module 1 & 2 in both provincial & IP areas
- They are ..
  - Coordinated PCCP activities in their district with the National Coordinator and NRO (PPS)
  - Immediate supervisors of Plant Doctors
  - will discuss progress of PCCP in every monthly meeting (cluster meeting)
  - Coordinate transferring of data sheets to data entering officers in District office(copy of prescription sheets issued to farmers at clinics)

## Participants – Annual Progress Review Meeting 2017 Dec. (PD' s DD' s & District Coordinators )



# **Progress achieved on GSMA's mNutrition program**



Govi Mithuru

*Brought to life through a partnership with*



(Phase-I, 2015-2016, DOA & TRI)

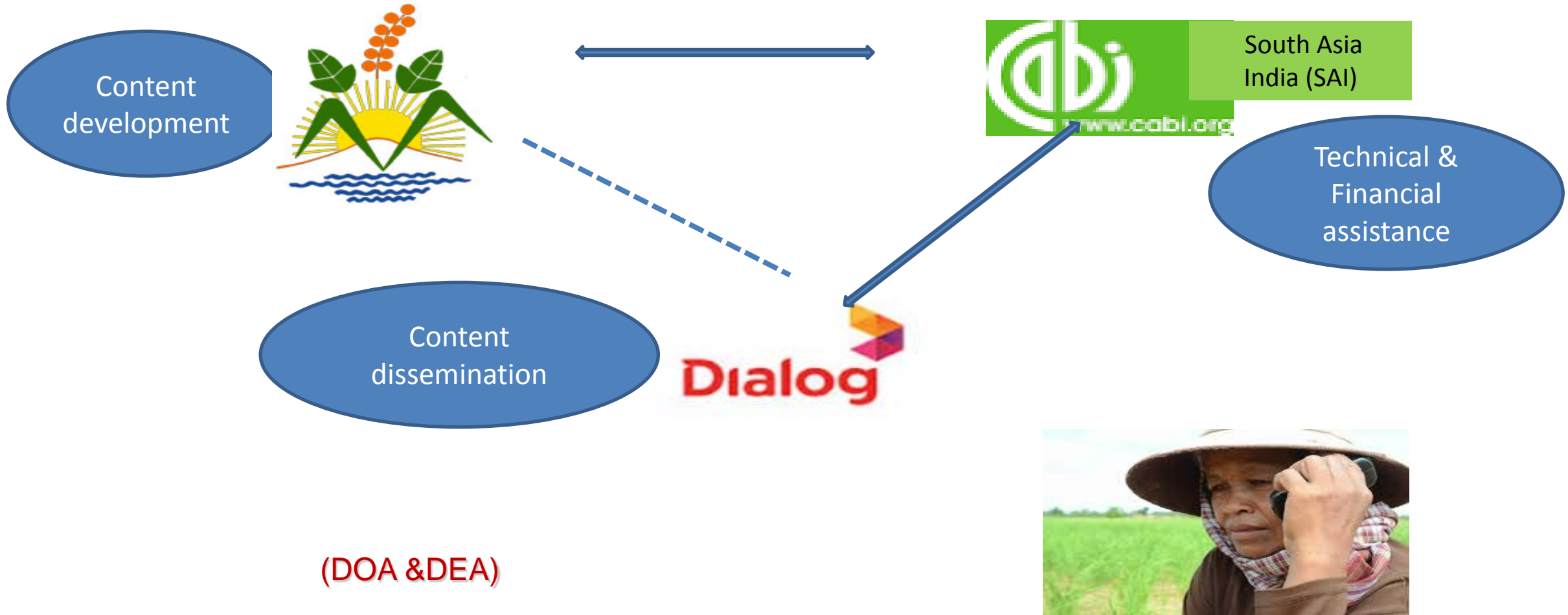


**DFID** Department for  
International  
Development



# *GoviMithuru (616) Phase-II*

*(July 2017 to Aug. 2018)*







ගොවි මිතුරු

# .....do Govi Mithuru provide

- Provides **customized** and **timely** advice to farmers, through voice calls
  - Land preparation, cultivation, nutrient mgt., Irrigation, weed control, harvesting, and post harvest mgt.
  - Crop protection (Pest, Disease and stress management)
  - Seed technology
  - Soil conservation
  - Machinery
  - Improved family nutrition



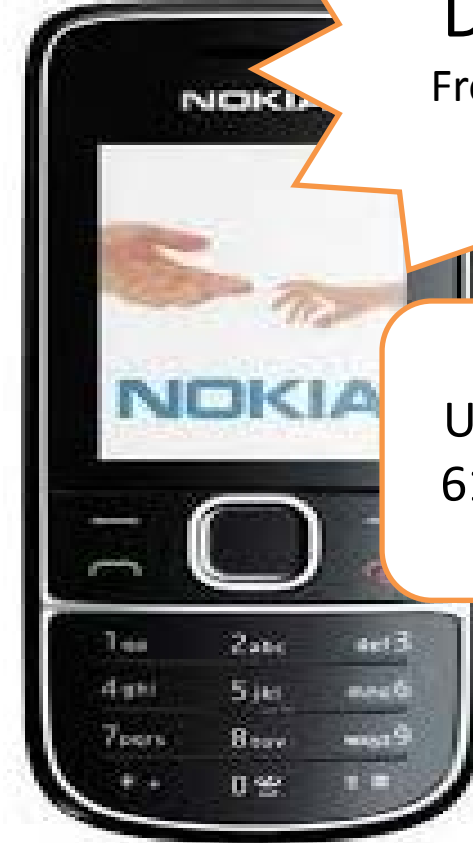
Paddy



Maize



Big Onion



Dial 616  
From a Dialog  
Phone

Unlimited calls to  
616 for Rs 1 a day

## mAgri initiative in Sri Lanka

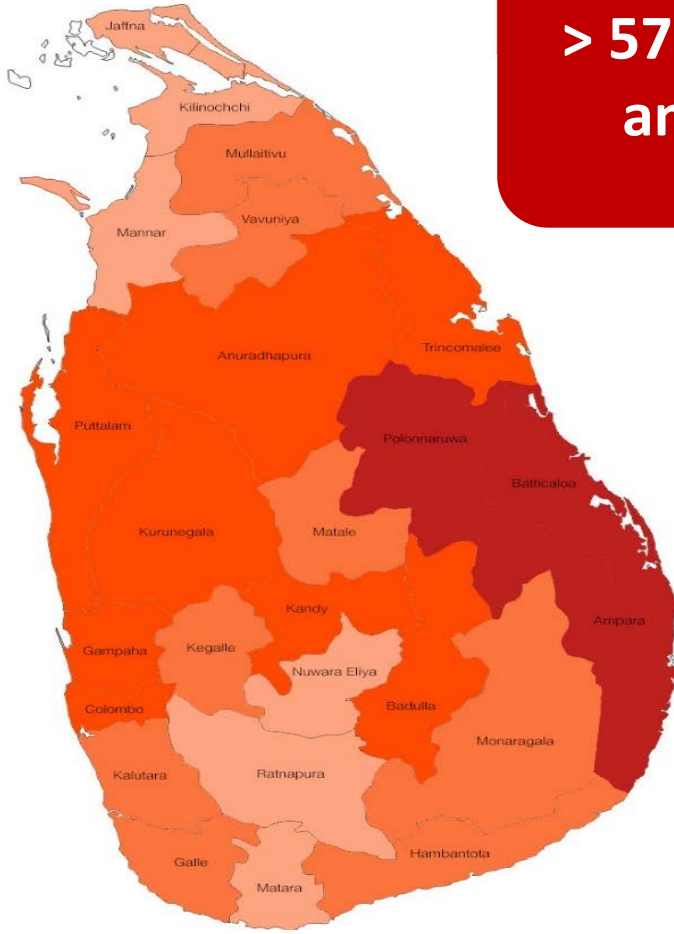
**CABI** in association with **DOA**,  
partnered with **Dialog Axiata** for development of  
mobile agri service  
**‘GoviMithuru’**

- *Established CABI South Asia project office at DOA premises*
- *Developed “Technical Factsheets” and “Crop advisories” in form of short voice messages (for 14 Crops) during **Phase I** of the project.*
- *Ongoing Phase II - additional 6 crops*
- *More than 250,000 paid subscribers are getting benefit from the crop advisories in regional languages - Sinhala and Tamil*



# Govi Mithuru Crops & Farmer Distribution (phase-I, 14 priority crops)

**> 570,000 Farmers  
and counting.**



5001 < More  
2001 < 5000  
1001 < 2000  
0 < 1000



Paddy



Maize



Big Onion



Panava



Brinjal



Potato



Carrot



Tomato



Tea



Cowpea



Soybean



Green Gram



Mukunuwenna



Groundnut

## Priority Crops-Phase II



## New Crops, Batch-1

- banana
- chilli
- Mushroom
- Gourds (3)
- Pepper
- Cinnamon





## People want:

- ***Information People can trust and apply***
  - Based on the best evidence available
- Use sources that have been **quality assessed** using the document checklist, that are ABC: Accurate, Balanced, Current (up-to-date).
- Relevant to them, realistic, practical and effective to apply

Messages must be simple, accurate and accessible

It should not confuse your clients

# Collaborative Objectives of the Program

- Work towards strengthening the existing extension system using ICT
- Develop localized content with scientific validation
- Content quality assurance
- Knowledge sharing – fast knowledge transfer from research to growers
- Linkages among stakeholders





Field testing of mobile content





# mAgri initiative in Sri Lanka



Mobile content development and validation  
write shop at DOA



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PRC/CT/03/03/01/01M/15-20

GoviMithuru Promotion: Posters





## Publicity Campaign





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Advertising by Dialog:  
(Govimithuru promotional material)

- *hordings (billboards)*
- *pandols*
- *posters*
- *dangles*
- *wall paintings..*



# New Emerging National Priority Areas

## Project Concepts to be Considered for Implementation in Collaboration with CABI

1. Incorporation of CABI with the National Extension campaign on GAP

1. National accredited central laboratory for crop disease diagnosis

- Link with Plant Crop Clinic Program and other extension services

2. National Center for sustainable Agriculture at Makandura

3. System development for managing invasive alien plant species (eg. alligator weed, Giant Mimosa, Parthenium) in Sri Lanka

- Build national capacity & institutional support, refine long term policy development with in South Asia linkages

4. Minimizing environment pollution by Chemicals – eg. *CKDU in Sri Lanka*

- Coordinate and implement national project to find out the etiology of CKD

5. Tools for crop improvement - Marker Assisted Selection(MAS)

6. Development of a Central Insect Pest Identification and Management system for Sri Lanka

- Developing a computer data base using the available information of the insect collection and expand with new pest identification and diagnosis (Can be accessed by all scientists with speedy & convenient access to the insect depository)





Thank you