

# AVRDC – The World Vegetable Center

Cambodia snapshot

## Fen Beed

Regional Director for East and Southeast Asia  
and Oceania

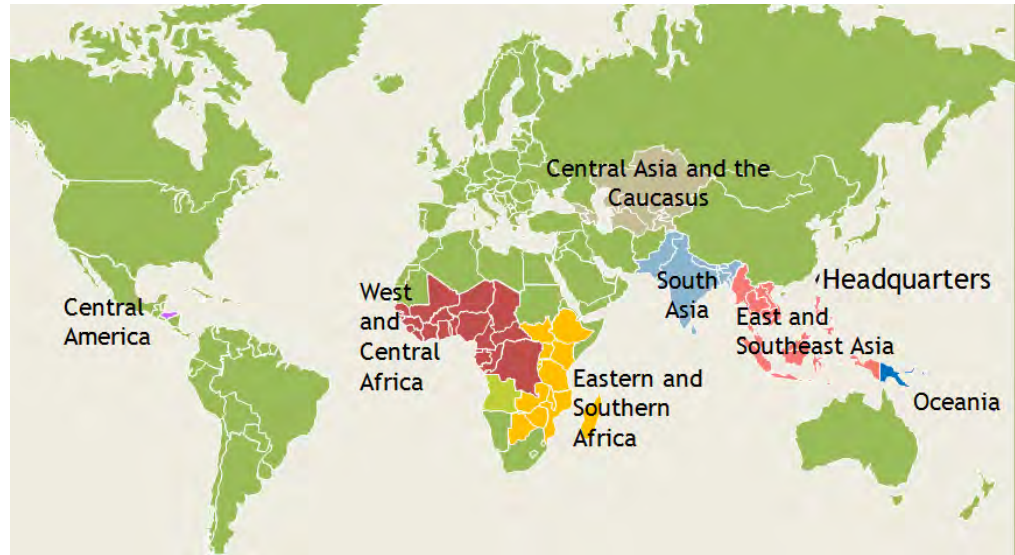


HORTICULTURE  
INNOVATION LAB

UC DAVIS  
UNIVERSITY OF CALIFORNIA



# Alleviate poverty and malnutrition through increased production and consumption of safe, health-promoting vegetables



- Research to catalyze development
- Global
- Non profit
- Public goods



# Vegetables = nutrition

deficiency in  
calories and  
proteins



= HUNGER

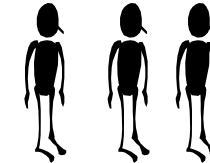


≥ 870 million  
underweight

deficiency in  
vitamins and  
minerals



= MICRONUTRIENT  
DEFICIENCY



2 billion  
malnourished

excess  
calories



= IMBALANCED  
CONSUMPTION



≥ 1.4 billion  
overweight

# Vegetables WIN (women, income, nutrition)

1. empowerment of women to manage small rural plots
2. short cultivation cycle and huge diversity
3. increased nutrition for family and consumers
4. high value (inputs and outputs)



# Vegetables WIN (women, income, nutrition)

1. empowerment of women to manage small rural plots
2. short cultivation cycle and huge diversity
3. **increased nutrition for family and consumers**
4. **high value (inputs and outputs)**





# Seed supply

Low quality seed

- poor crop establishment, yield, profit
- no sustainability



# Seed supply

Improve seed quality and availability

- Breeding
- Selection – adaptation
- Commercialization





# Embrace biodiversity

## Global vegetables



Wild relatives, diverse unique traits

## Traditional vegetables



Medicinal bitter gourd



# Nutrition at the core

germplasm

breeding

production

consumption



# Safe nutritious vegetables

Solutions to inappropriate pesticide use



Precise pest and disease diagnostics



# Safe nutritious vegetables

Precise pest and disease diagnostics and IPM

- Agronomic practices
- Judicious pesticide use
- Biological control

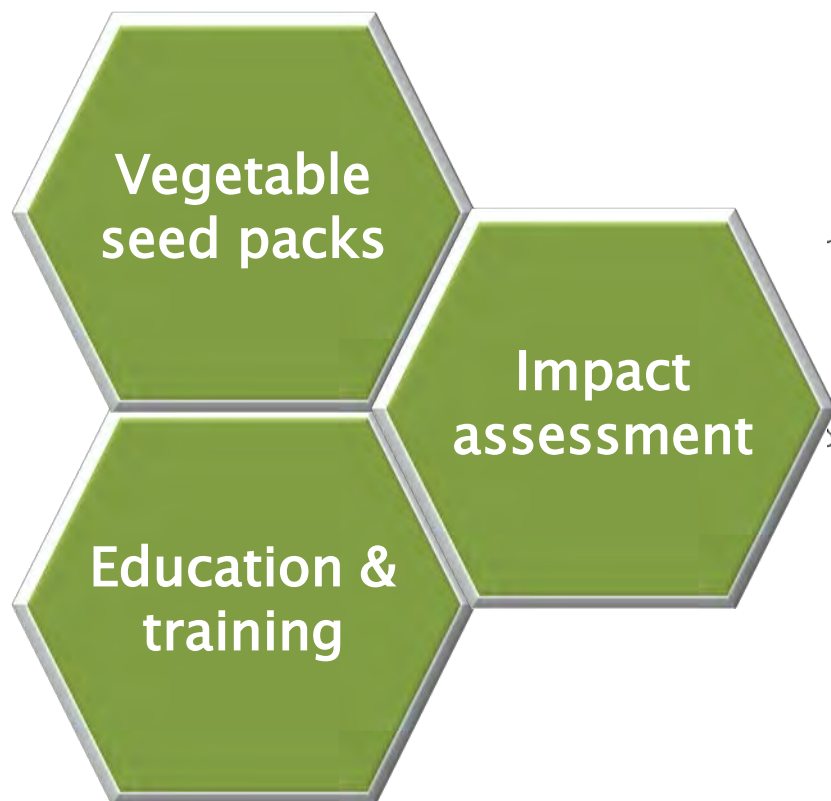




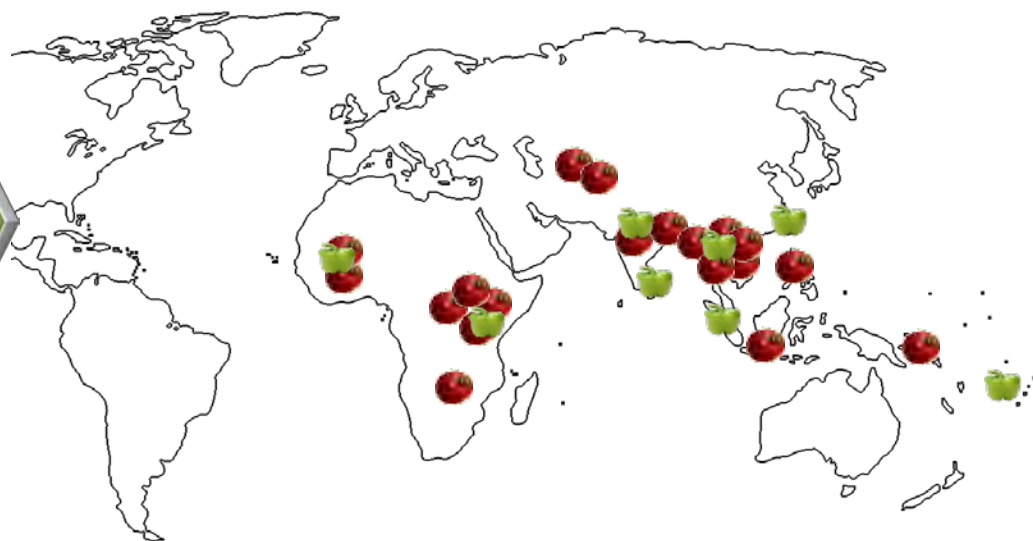
# Agronomic practices

Tomato bacterial wilt caused by <i>Ralstonia solanacearum</i> (soil-borne, vascular bacterial disease)		
Control principle	Specific measures	Efficacy
Pathogen exclusion	Use a plot without disease history Use clean seedlings No contact with contaminated water	***
Pathogen reduction	Practice rotation Remove diseased plants Apply chemical or organic amendments	**
Host resistance	Use locally effective resistant cultivars Grafting	***
Direct protection	Use sterilized pruning tools	*

# AVRDC vegetable garden activities



Impact in more than 20 countries across Africa, Asia and Oceania



# Vegetable home gardens, a solution to malnutrition

## Causes of malnutrition

- ▶ Access to nutrient-rich food
- ▶ Unbalanced starch-based diets
- ▶ Skills and knowledge to improve nutritional security
- ▶ Poverty

## Home gardens

- ▶ Easy and cheap access to nutrient-rich vegetables
- ▶ Diversity of vegetables year round
- ▶ Create capacity to provide a sustainable healthy diet
- ▶ Potential for additional income and for input-output suppliers





# Post Harvest

Value chain  
analysis



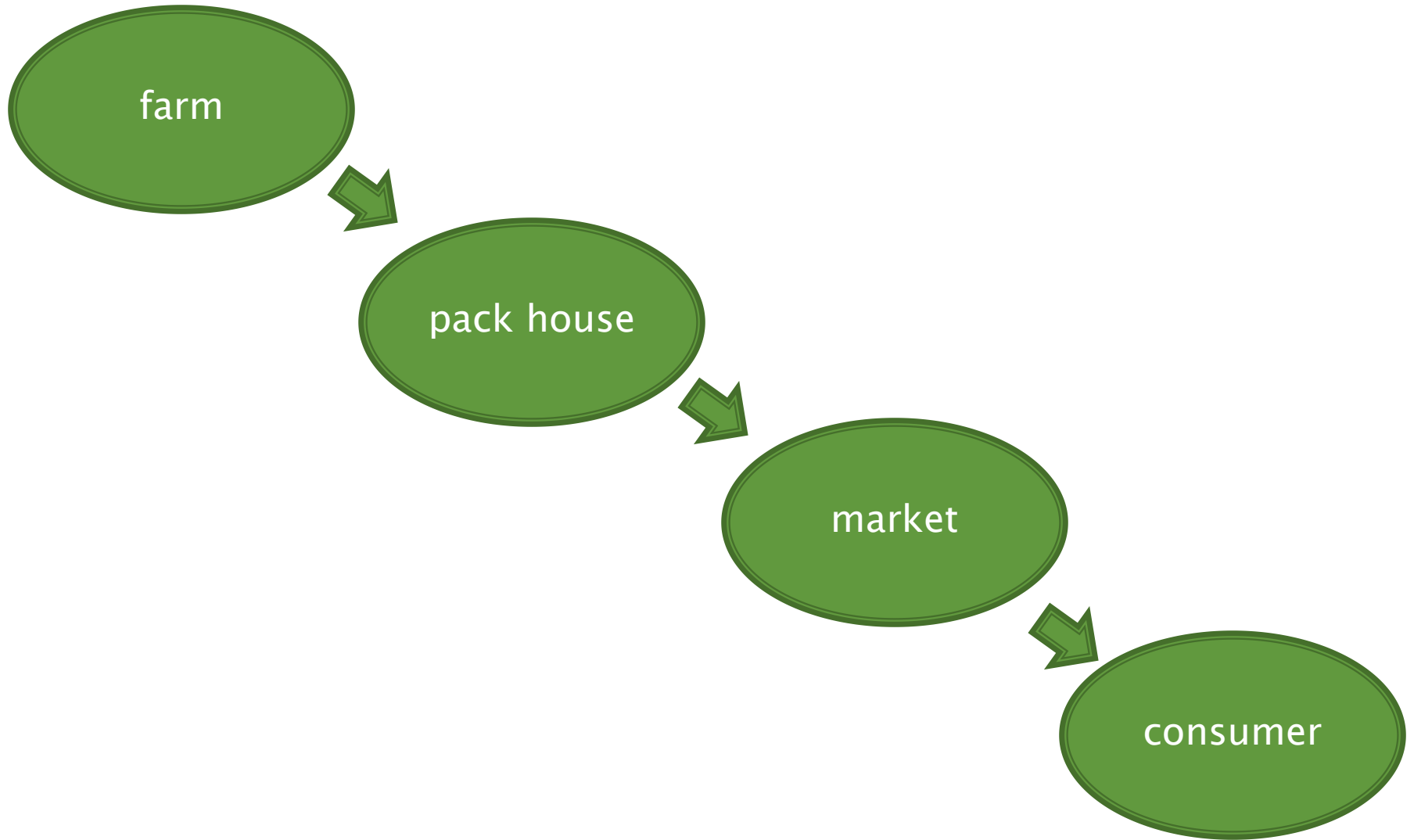
Technology  
generation



Build  
capacity



# Post harvest technologies



# Postharvest Program

Value chain analysis

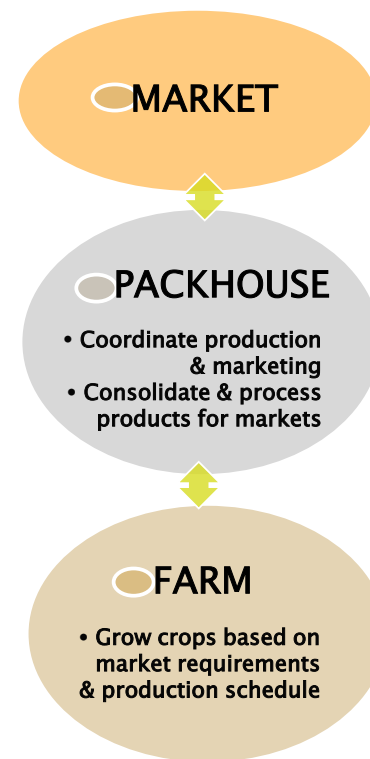


Technology generation



Building capacities

- Good transport and market handling practices
- Value addition (solar dryers, fermentation, sauces)
- Storage (Coolbot storage; evaporative cooler)
- Packaging (MAP, best practices)
- Sorting/grading and pretreatment techniques (sanitizer/antimicrobials, precooling)
- Good harvesting and field handling practices
- Improved varieties (long shelf life, processing)





# Training



14 September to 4 December 2015



## 34<sup>th</sup> International Vegetable Training Course

AVRDC - The World Vegetable Center  
East and Southeast Asia

Research and Training Station  
Kasetsart University, Kamphaeng Saen Campus  
Nakhon Pathom, Thailand

In partnership with:



Dr. Somriri Sangchote leading the participants in the seed health sessions.



Evaluating lettuce plants at the Agri Technology Complex.



Learning how to graft vegetable seedlings.



Accomplished grafters show their handiwork.

East and Southeast Asia												South Asia				Africa								Others																												
Brunei	Cambodia	China (PR)	Hongkong	Indonesia	Korea	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Taiwan	Timor Leste	Thailand	Vietnam	Bangladesh	Bhutan	India	Nepal	Pakistan	Sri Lanka	Burkina Faso	Cameroon	Gambia	Kenya	Malawi	Zambia	South Africa	Nigeria	Sudan	Swaziland	Afghanistan	Kazakhstan	Jordan	Lebanon	Iraq	Egypt	Papua NG	Tuvalu	Nauru	Palau	Rep of Kiribati	Sao Tome	Solomon Islands	Netherlands	UK	Venezuela	Male	Female				
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2	75	139	7	59	18	60	11	71	23	7	4	3	59	102	47	18	10	9	8	34	3	1	1	1	1	1	1	2	1	3	24	20	4	1	2	2	4	1	1	1	1	1	1	1	1	1	1	1	1	1	585	269
640															126					15								66											69%		31%											

# Network



The screenshot shows the homepage for the SEAVEG 2016 Southeast Asian Vegetable Symposium. The URL is seaveg2016.mardi.gov.my. The main heading is "SEAVEG 2016" in large green letters, with "Southeast Asian Vegetable Symposium 2016" below it. A tagline reads "Vegetable for Improved Nutrition and Livelihood in Southeast Asia". The dates "06 - 08 September 2016" and location "Putrajaya Marriott Hotel, Malaysia" are provided. A navigation menu includes links for HOME, OVERVIEW, COMMITTEE, REGISTRATION, ABSTRACT, ACCOMODATION, TOUR, SPONSORSHIP & EXHIBITION, and INFORMATION. A secondary menu lists key dates: "KEY DATES • Deadline for abstract submission - 30th April 2016 • Deadline for Sponsorship, Advertisement and Exhibition - 31st August 2016 • Deadline for registration - 31". Three prominent buttons are visible: "DOWNLOAD THE BROCHURE", "ONLINE REGISTRATION", and "ONLINE SPONSORSHIP, ADVERTISEMENT & EXHIBITION REGISTRATION".



**AARNET**  
ASEAN-AVRDC Regional Network on Vegetable Research and Development

Home Achievements Projects Steering committee Links Photos Publications

## AARNET: Origins, Vision & Mission

**VISION:** To be the premier platform for spearheading vegetable research and development and information exchange in ASEAN

**MISSION:** To coordinate and facilitate development and implementation of R&D projects on vegetables in ASEAN member countries, in collaboration with AVRDC – The World Vegetable Center and its regional office in East and Southeast Asia, and other organizations, as well as facilitate information exchange, technology transfer and training on vegetable production related fields.



**NEWS**



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# Fen Beed

[Fenton.beed@worldveg.org](mailto:Fenton.beed@worldveg.org)

+66 2 942 8686



# Stu Brown

[Stuart.brown@worldveg.org](mailto:Stuart.brown@worldveg.org)

+855 88 625 3300

# Jun Acedo

[Jun.acedo@worldveg.org](mailto:Jun.acedo@worldveg.org)

+91 7674 8888 71



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NEWS