Development of Action Planning (DAP)

35th International Vegetable Training Course

"Vegetables: From Seed to Table and Beyond"

Module 2

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Department of Agriculture

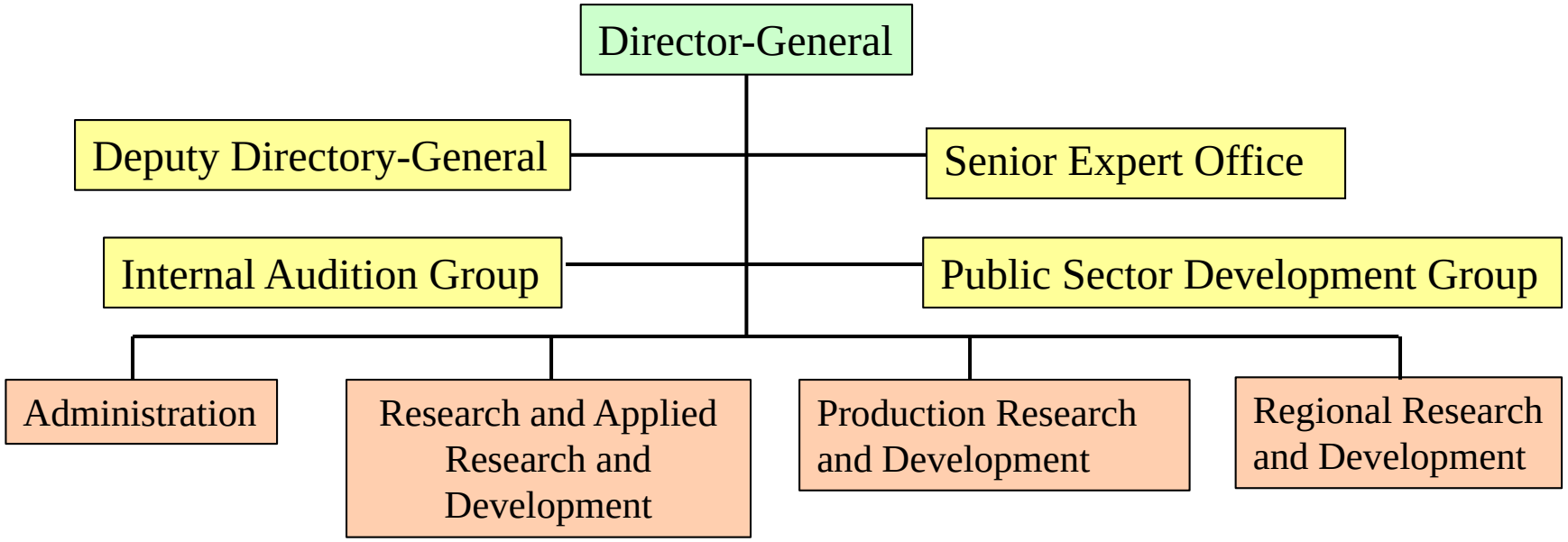
Department of Agriculture (DOA)

DOA is an organization under Ministry of Agriculture and Cooperative

Mandates

1. Conduct research and development studies on various agricultural disciplines concerning crops and farm mechanization.
2. Provide services on the analysis, inspection, quality certification and advises on soil, water, fertilizer, crops, agricultural inputs production and products quality export promotion and other areas of concerns.
3. Enforcement of the six Regulatory Acts under the Department's jurisdiction
4. Transfer of agricultural technology to concerned government officials, farmers and the private sector.

DOA's Organization Chart

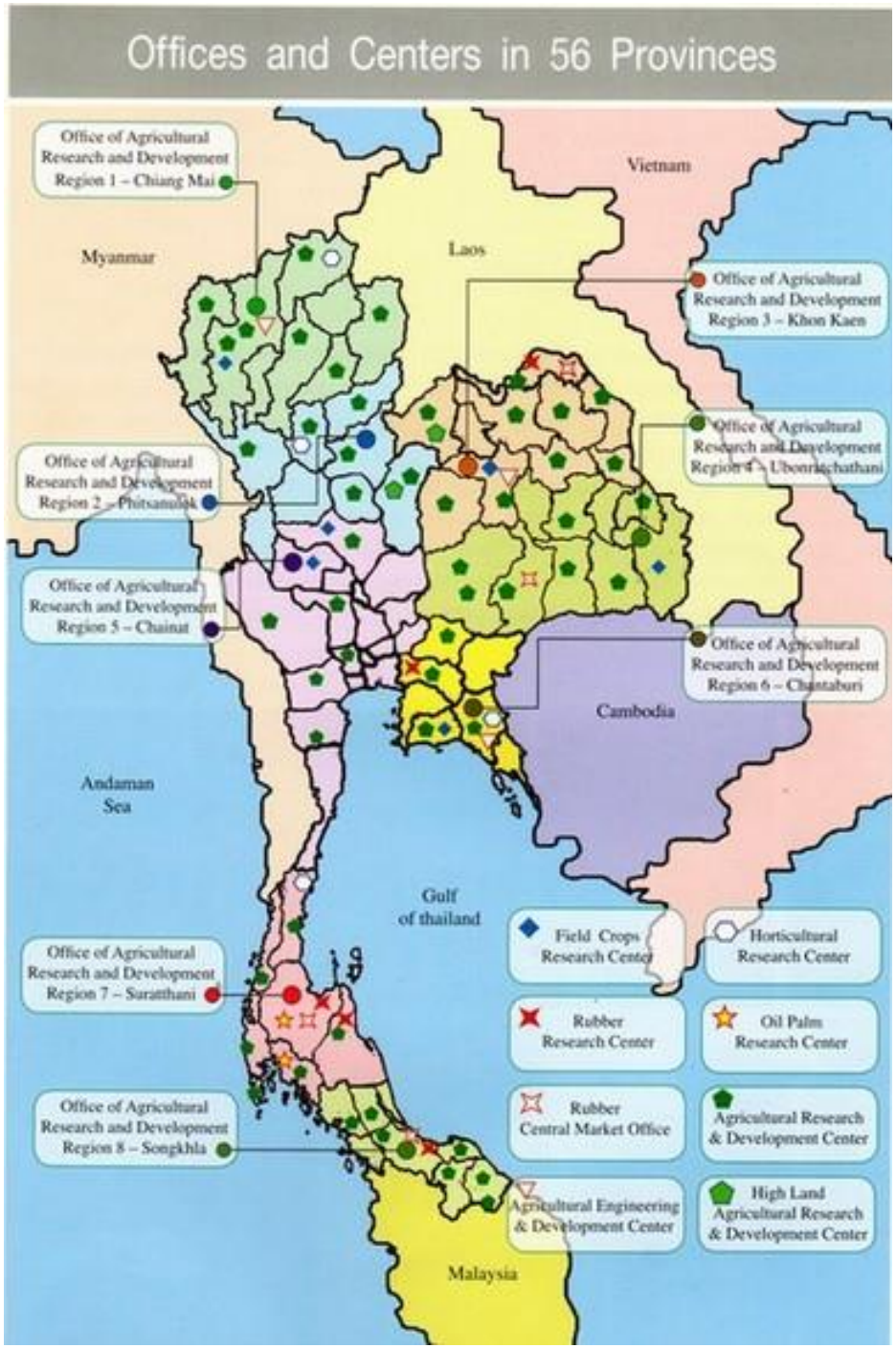


1. Office of the Secretary
2. Personnel Division
3. Finance Division
4. Planning and Technical Division
5. Information and communication Technology Center
6. Agricultural Regulatory Office

1. Plant Protection Research and Development Office
2. Agricultural Production Sciences Research and Development Division
3. Biotechnology Research and Development Office
4. Postharvest and Processing Research and Development Division
5. Plant Varieties Protection Office
6. Plant Standard and Certification Division

1. Field and Renewable Energy Crops Research Institute
2. Horticultural Research Institute
3. Rubber Division
4. Agricultural Engineering Research Institute

Office of Agricultural Research and Development Region 1-8


Offices and Centers in 56 Provinces
Office of Agricultural Research and Development Region 1 – Chiang Mai
Myanmar
Laos
Vietnam
Office of Agricultural Research and Development Region 3 – Khon Kaen
Office of Agricultural Research and Development Region 4 – Ubonratchathani
Office of Agricultural Research and Development Region 2 – Phitsanulok
Office of Agricultural Research and Development Region 5 – Chainat
Office of Agricultural Research and Development Region 6 – Chantaburi
Cambodia
Andaman Sea
Gulf of thailand
Office of Agricultural Research and Development Region 7 – Suratthani
Field Crops Research Center
Horticultural Research Center
Rubber Research Center
Oil Palm Research Center
Rubber Central Market Office
Agricultural Research & Development Center
Office of Agricultural Research and Development Region 8 – Songkhla
Agricultural Engineering & Development Center
High Land Agricultural Research & Development Center
Malaysia

Postharvest and Processing Research and Development Division (PHPRDD)

- Administative sub-division
- Horticultural Crop Postharvest Technology Research and Development Group
- Field Crop Postharvest Technology Research and Development Group
- Crop Processing Research and Development Group

Postharvest pathology

Postharvest management

Mission

Carry on research and development to prolong shelf life of fresh and fresh-cut produces combining with physiology, packaging technology, logistics and supply chain management including non-destructive quality evaluation by Near Infrared Spectroscopy (NIRS) and quality standard establishment for fruits and vegetables.

Three topics in module 2 that most useful

1. Good manufacturing practices: Framework and good practices
2. Field experiment and visit to small-scale postharvest structure for storage and transportation
3. Postharvest management to reduce toxicity from nature and residual contamination in vegetables & fruit

Development of Action Planning (DAP)

Reducing contamination of *Escherichia coli* and *Salmonella sp*. in Coriander (*Coriandrun Salivum*) and culantro (*Eryngium foetidum*)

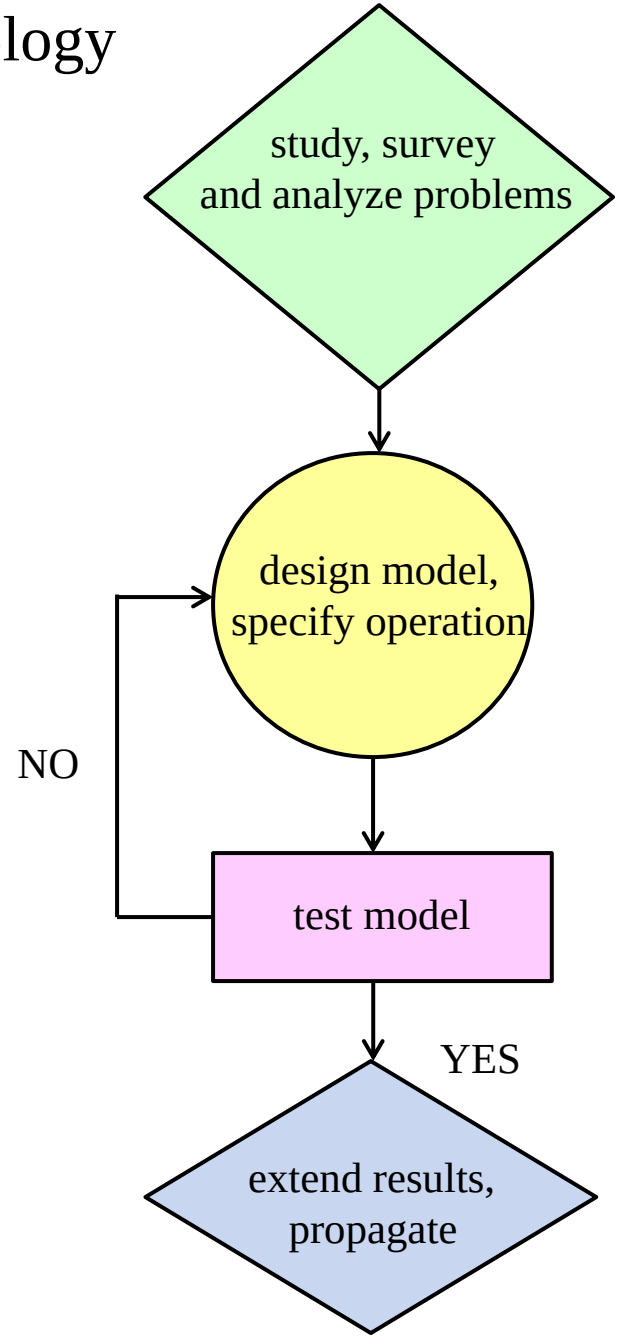
Statement of the problems

- Thailand has exported fresh vegetable for example asparagus, baby corn, okra, eggplant, yard long bean, chili, green shallot, coriander, culantro**,** holy basil and mint to Norwey, Iceland and European Union. The volume and value of exported has increased every year.
- However, exports of fresh vegetables faced the problem of microbial contamination which impact to exports.
- In the past few year, it have detected contamination of *Escherichia coli* (*E.coli*) and *Salmonella sp.* periodically so the import country declined to imports vegetables from Thailand temporarily.
- Latest, Department of Agriculture has strict on quality inspection before export. Some vegetables to be export need to check quality 100%.

Objective

1. To study the relationship between cleaning method of coriander and culantro in packing house and *E. coli* and *Salmonella sp.* detected.
2. To find suitable and effective method to minimize contamination of *E. coli* and *Salmonella sp.* in coriander and culantro.

Research methodology



study, survey
and analyze problems

- Review the cleaning methods of the packaging house used to reduce microbial contamination
- Survey and collect data on cleaning and packing process of coriander and culantro
- Sampling coriander and culantro from packing house to determine the contamination of microbial

design model,
specify operation

- Focus group meeting and discussions with export companies, a worker in packing house and other stakeholders
- Design model to minimize contamination of *E.coli* and *Salmonella sp*. in the cleaning and packing process of coriander and culantro.

test model

- Test model in laboratory to find out the most effective model for minimize the contamination of *E. coli* and *Salmonella sp*.
- The most effective model will be test in packing house
- Evaluate the model testing results in the packing house to improve or extend result

extend results, propagate

- Provide cleaning and packing instruction to minimize the contamination of *E. coli* and *Salmonella sp*. in coriander and culantro.
- Training for fresh vegetables exporting companies
- Extension to other crops.

duration: 3 years

Out put

The effective method for minimize contamination of *E. coli* and *Salmonella sp*. in coriander and culantro.

Out come

Bring the instruction for minimize the contamination of *E. coli* and *Salmonella sp.* to used in packing house.

Challenges

- Need the cooperation with many packing house
- The packing house may have to change their old manufacturing practice.

Thank you