Strategy for Public Service for Less or Zero Pesticide Residual in Fresh Vegetables (Learning by Doing and Demand-supply)

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The government must seriously consider the casualty in health due to pesticide residual in vegetables.

In Thailand number of death due to cancer had been shown higher than road accident. We must try how to reduce the cancer patient. Of cause you can random checking the fresh vegetable from the market … that’s too late already. How to block the fresh vegetable carried pesticide residual into the market?

That’s why I propose the following suggestions, please read the First (I) Flow Chart of vegetables from growers to market, Situation in Thailand in 50 years period, 1963-2013.


Remark
All kinds of vegetable without trimming, cleaning grading, field heat removal, do packing as bulk, wholesale pack in unsuitable packages from the North, Northeast, West, Central provinces to Bangkok, Pathum Thani, Nakhon Pathom, Ratchaburi.

So every day and night extra weight attached with vegetable, since it is untriming / cleaning / grading / etc. There extra weight 20-40% means high charge of transportation fee.

Therefore in this paper, Flow chart no.1 without grading packing house, residual checking near to the growing areas. So all produces will be transported to central market near to the capital, then private company will buy from fresh central market, bring to their packing house, which have to checking all vegetable in details, before they can send to the super markets or restaurants. The trash, waste produces have to pay for clearing charge, everyday otherwise will accumulate at those packing house and same vegetable also may carry along pesticide residual produces to the customers.

Update proposal which can be applied as the most modern strategy in order to carry the produces along the road to the capital, surely residual will be reduced, because the vegetable growers will find out from the service station, day by day, month by month (means learning by doing) that their produces carry pesticides over min. limit of WHO, FAO’s recommendation, cannot be accepted by the service stations.

Vegetable growers will adjust their spraying program, changing the pesticide, till they can sell to the service center. And also the produce from service center will be selected and purchased by the food processing factory, super markets and packing house near to the capital, by this way they will reduce their expenses in grading, packing, etc., since all produces are available at service station.

The Real Demand can give to the service station, with their specification, boxes, sticker, etc. the DEMAND and SUPPLY chain can be beginning naturally.

Both sides, Service stations and big consumers, small consumers can work closely for mutual benefit at win/win situation.
Fig. 1  Flow chart of Vegetables from growers to market, Situation in Thailand in 50 years (1963-2013).

**Remark**
Bring to trash, garbage left over in big city and capital, real usable weight is less than real weight which truck carry from the growing areas, lead to extra-cost of transportation.
Remark
1. Delivery only ready made (ready to eat) produces e.g. Retail packs in wholesale pack.
2. Trash, debris from fresh veg., no need to bring along in the truck load and can make use for compost, etc. at local areas, service station.
3. Less transportation charges for real produce weight per kilogram, since it is ready to sell produces in the box with proper labels eg. wt., size, number, var. name, grower’s name, grading code, etc.
4. Private packing house, no need to invest in high cost of construction, equipment, etc.
5. Produces are in national standard from service station to consumer as one stop service.

The consumers will be so happy, since retail packs in wholesale pack will contain graded vegetable without residual / or at minimum rate, less risk to consumer health. The trash from trimming, grading, packing lines from the service stations can be used as raw materials for compost production at site. No need to carry extra weight to the capital or central market, also no need to pay for trash clearing service. Again both central market near to capital and service station gaining some income and save some expenses, win / win situation.

Soon real demand and supply will gradually develop through the process of learning by doing, it is suitable for those farmers in remote areas and suitable
growing areas always is far away from central market as in case of Thailand.

Thailand, Malaysia and others in AEC, must consider this strategy and bring into action as soon as possible, if you read this document and understand very well.

2. Beneficial Effect to Vegetable Growers, Consumers and Traders

(1) Growers know real demand from service station including grading size, quality, accepted / rejected pesticide residual, lower grade and rejected grade will induce growers day by day, month by month. The smart farmers can be development and earn higher income, those farmers do not accept high standard vegetable cannot survive, since no market will buy rejected grade and high pesticide residual this will be good news for consumers in general.

(2) Vegetable growers can get better price as wholesale situation at service station, because they will adjusted the production methods and spraying program, so the produces can be sold to service station more and more.

(3) Growers will realize that toxic residual attached to fresh produces will effect to their income, not only consumer health, their health too, soon GAP, Euro gap, world cap, organic vegetable production technology can be developed which bring to higher income for growers and service station and also good for consumers.

(4) The business men will have reliable and good vegetable sources by place the purchase order to the service station with contract signing, boxes ar containers with grading standard, bar code, specification, etc. No need to invest in construction of packing house, equipments, trained persons etc.

(5) Government must grant the capital and guide line to set up the fresh vegetable service station incomparable to gas service station which always supply standard fuels with regularly checking the quality and quantity, these actions will bring the trust to consumer to use the fuel for their valuable cars. The fresh vegetable service station will also can handle standard vegetable with less or zero toxic chemical for your valuable life, health and reduce CANCER cases in the patients.

Both local and central government must set up the service station and subsidies the service charge per kg. of vegetable for instance, if service charge = 5 THB./kg. 1st year buyer pays only 20%, then 40% till 100% at 5th years, by this way buyers or traders will get very good vegetables in their own package with very reasonable charge per kg. from the service station. Till 5th year service will reach real service charge. This will stimulate the traders to place more and more purchase order (P.O.) to this service station.

So the service charge adding to vegetable in packing in retail pack and wholesale pack will facilitate buying/selling process. Reduce bruises and waste as trash to almost zero.

Soon the business men can get reasonable profit, which will reflect to better service station and can earn suitable income for its updated some equipment and services including staff training program for higher efficiency and gaining new knowledge.

The local standard can be improved up to export standard, so exporter can use the service, place more kinds of vegetable and higher volume. The real demand will be posted in front of the service station with appropriate price to buy from growers.

Growers can see and plan for growing period and kinds of vegetable, seed co., will also know the demand and plan for seed production both kinds and volume.

Super market, restaurant also can place the order as well to any one of service stations, which will located near to the growing areas in the range of 100-200 km.

(6) The professional growers, the real demand and real supply will induce the higher standard of produces. The details in specification must be drafted
and bring into action and all person concerned will know. Fresh fruit and vegetable standards in many kinds were declared already in Thailand, so can bring into action at service station. But traders still be a good source of these informations.

(7) Growers must come to sell their produces by themselves. Beginning with few kinds of vegetable and more in the future. More demands, kinds and volume will be posted in front of the station, same as gas station, we car’s drivers will know the price, up / down, with reliable standard the purified products.

(8) Sure the better health will go to the people of that country.

3. Suggestion for Service Station Administration

3.1 Admin. Committee at National Level Supervise, Set up Policy, etc. and Divided into Two Sub-committees

3.1.1 Working sub committee and permanent staff
Representatives of District / Sub district / Provincial organization level, Agric. Co-op, Agric. Bank, Chamber of commerce, Provincial Agric. Office, Local knowledgeable persons.
To recruited manager, technician, accountant, admin. staff.
Working staff (all permanent staff) 10-20 or more depends on activities and volume of demand and supply.
All of them will be trained for particular duties.
Job description-admin. work.
Receive P.O. and receive production contract.
Bring produce to reduce field heat asap.
Cleaning, grading, trimming, checking insect free.
Residual checking, grading, packaging.
Send to cold storage waiting for customer will pick up the produce.
Set up I.T. online system, website, etc.
3.1.2 Technical Sub-committee
Appointed from Technician and staff of MOAC, Universities.
Duties: supervision of construction Service station with suitable design.
Guide line for equipment purchasing including cold storage, truck and other vehicles.
Water supply, cleaning, trimming technique.
Electricity supply.
Grading standard.
Packaging system, boxes, etc.
Container.
Set up training program for all staff at the service station.
Both daily work and marketing department.
Security system, etc.
Once set up complete and running all process, every quarter will be reviewed the progress and further training for higher efficiency, and improve the standard of the produces.

3.2 Admin. at the Point

(1) Set up the pilot plant requires land near to the road 3-5 km. close to growing area radius 100-200 km.
(2) Big parking place for incoming truck of fresh produces and pick up areas for boxes to be loaded into cold storage truck.
(3) Under shade areas for cleaning, trimming, reducing field heat areas, including vacuum cooling chamber, hydro cooling system, etc.
Packaging area, labeling, bar-code, computer, etc., size, weight, kinds, etc.
Address of customers and growers in that area and other area.
(4) Open space for demonstration area, poster, etc. and small plot for growing vegetable at GAP, IPM, organic standard.
(5) Education Media for real activities for convincing new comers, farmers, public school pupils,
university & college students.

Showing high standard of the produce.

Wholesale / retail sale service.

(6) Each station can be established at the budget of 50-100 M.THB. depends on tonnage of produce, growing area and land price.

(7) In Thailand can get the information related to packing house with real working scene in action at:

Packaging research and service center, Min. of Science & Technology, Bangkok, Thailand.

Grading & packaging center for fruits and vegetables of Royal Agric. Foundation, brand DOI KHAM, Chiang Mai, Thailand.

Post Harvest Laboratory of Central Laboratory and Green House Complex, Kasetsart University, Kampaengsaen campus, Nakhon Pathom, Thailand.

Post Harvest Laboratory, Department of Agriculture, Ministry of Agriculture and Cooperatives, Thailand.

Exporters of Fruit and Vegetable Association of Thailand.