Soil –less Approach to Urban Gardening

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Urban Conditions and Challenges:

- Densely populated
- Space-limited
- Food dependent

Reduction of food dependency of urban areas:

- Promotion of urban vegetable gardening:
  - Most popular is container gardening
    1. roof-top gardening
    2. vertical gardening

Advantages of soil-based container gardening:

- Uses recycled containers for pots
- Less problem on weeds
- Can be placed in sunny areas
- Can be organized into a vertical garden
- Flood-free

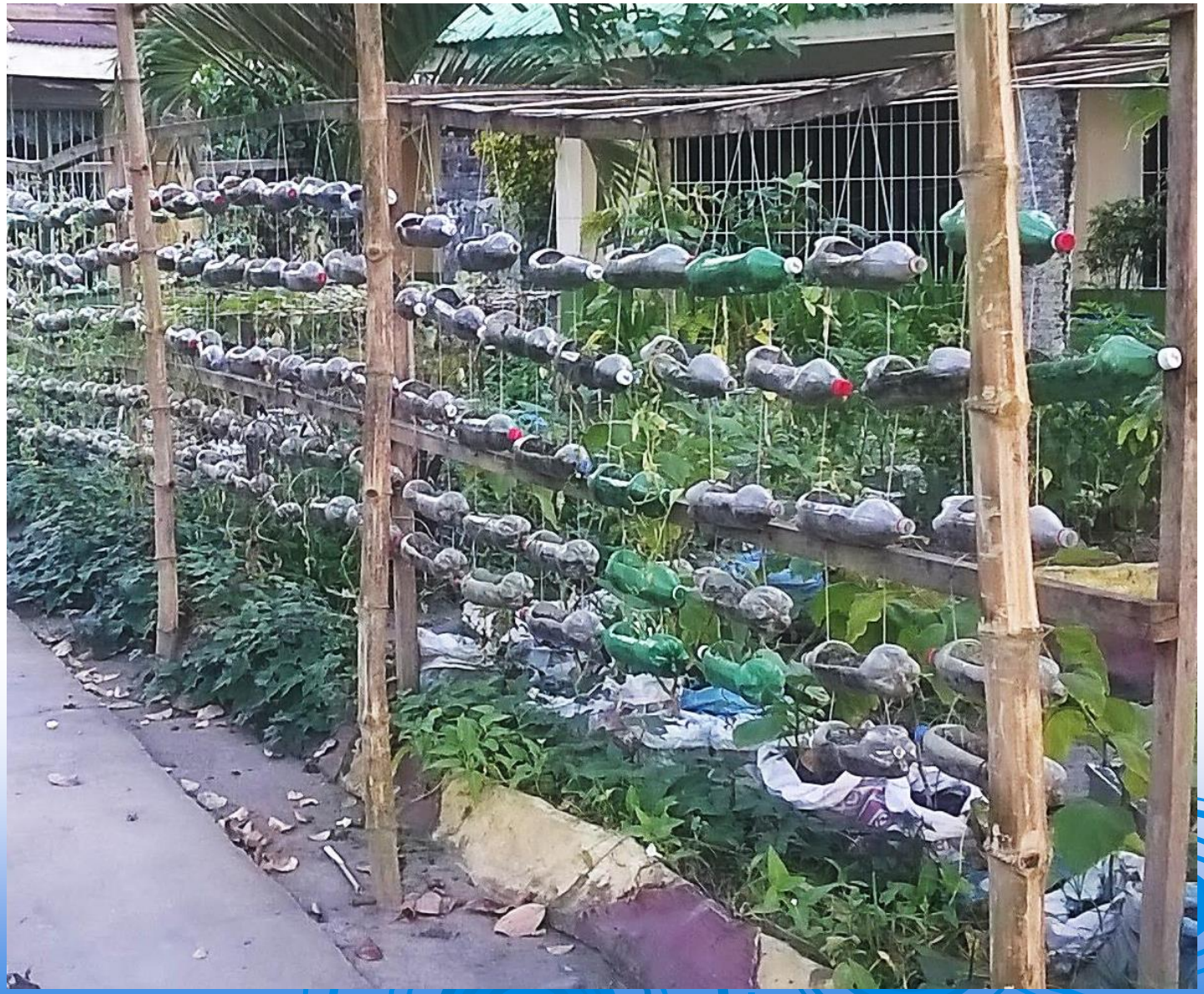
Vertical gardening

Vertical gardening

Disadvantages of soil-based container gardening

- needs a good soil
- more frequent watering
- more prone to drought (particularly during dry season)

Usual fate of soil-based container garden :



Usual fate of soil-based container garden

Usual fate of soil-based container garden

Why not a soil-less container gardening such as the SNAP hydroponics?

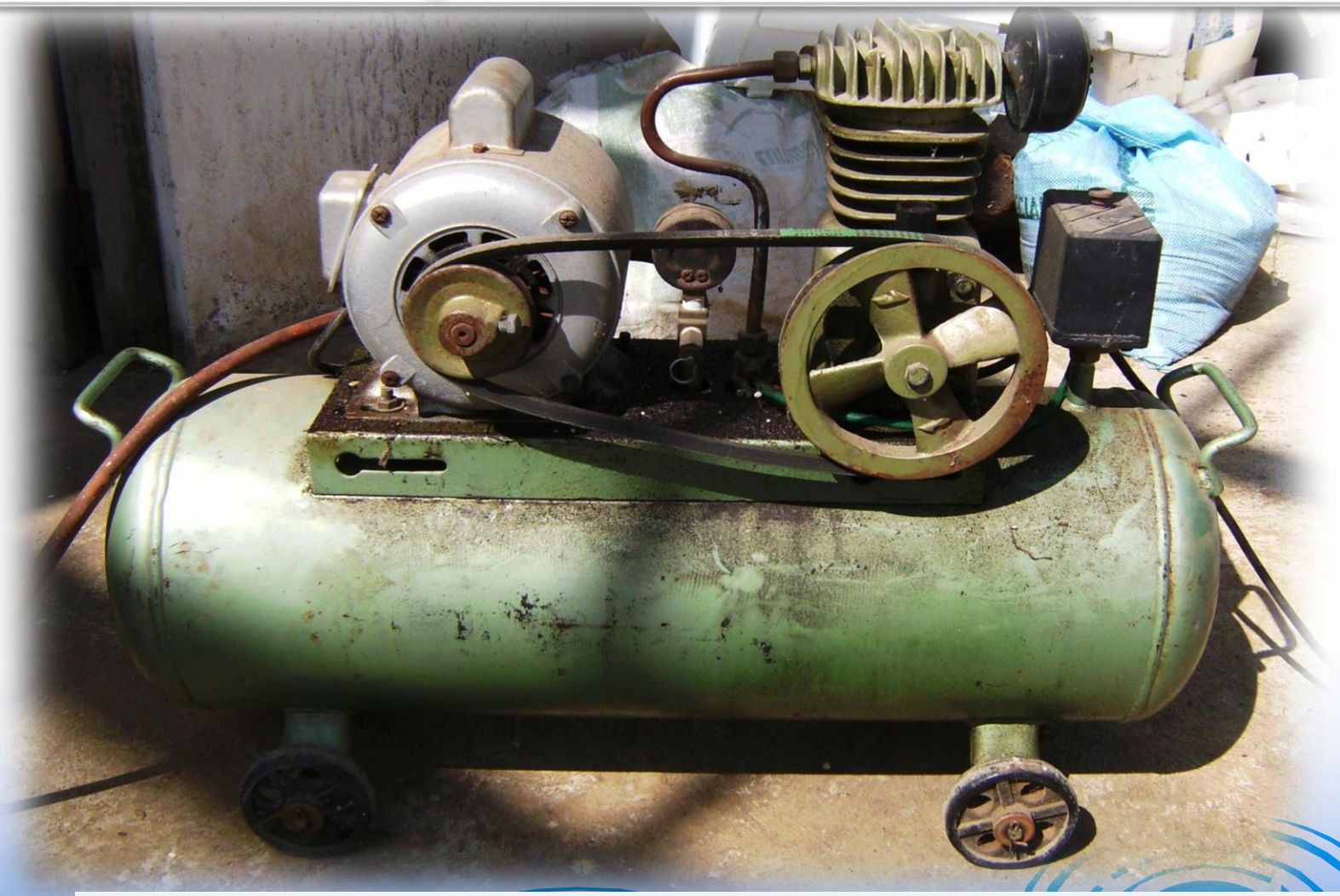
The SNAP hydroponics:

Features of SNAP hydroponics:

- Mostly made from recycled materials
- Does not need electricity to make it work
- Environment- and user-friendly
- No re-watering for short duration vegetab
- Can be a source of livelihood
- Climate-change resilient

The only disadvantage- needs protection from rain

SNAP hydroponics- how it all started?



Air compressor- used to aerate the nutrient solution of hydroponics

SNAP hydroponics- how it all started?

1997-1998 Frequent brown-outs; could last overnight

Younger plants unaffected And continued growing normally

Older plants.wilted and died

"Floating roots"

Vegetables that can be grown using SNAP hydroponics

Lettuce

Mustard

Pechay

Pak Choi

Kangkong

Ampalaya

Ampalaya x lettuce intercop

Sweet pepper

Pang sinigang pepper

Sweet pepper

Pepper

Cherry tomato

Table tomato

Chard

Eggplant

Kintsay

SNAP hydroponics uses significantly less water

Liters of water per lettuce plant used until harvest (30 days)

SNAP

1.2 liters

SOIL

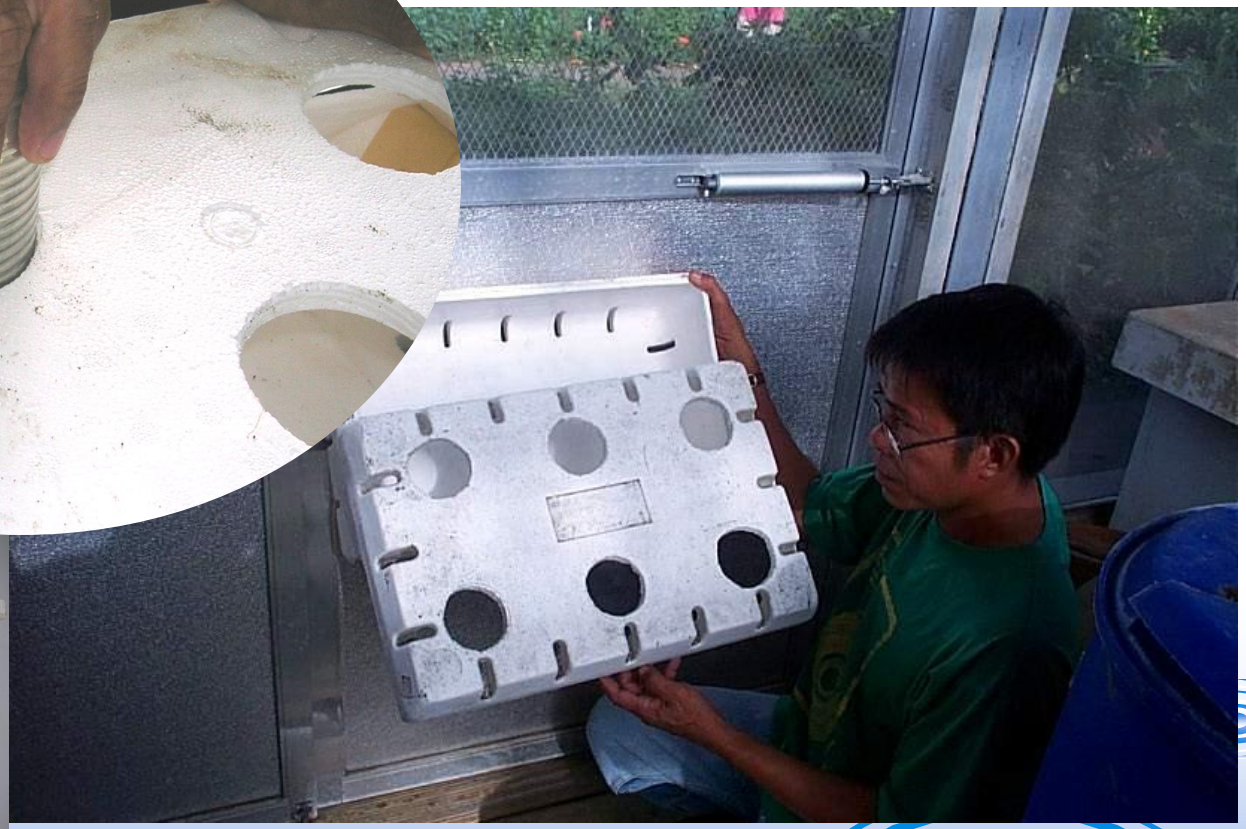
30 liters

Putting on ‘raincoat’ on the growing box makes possible to do SNAP hydroponics in the open an under the rain

Make your own SNAP hydroponics

1. Growing Pots - Styrofoam boxes, etc. (reusable)

1, Bore holes into the lid of the styrobox

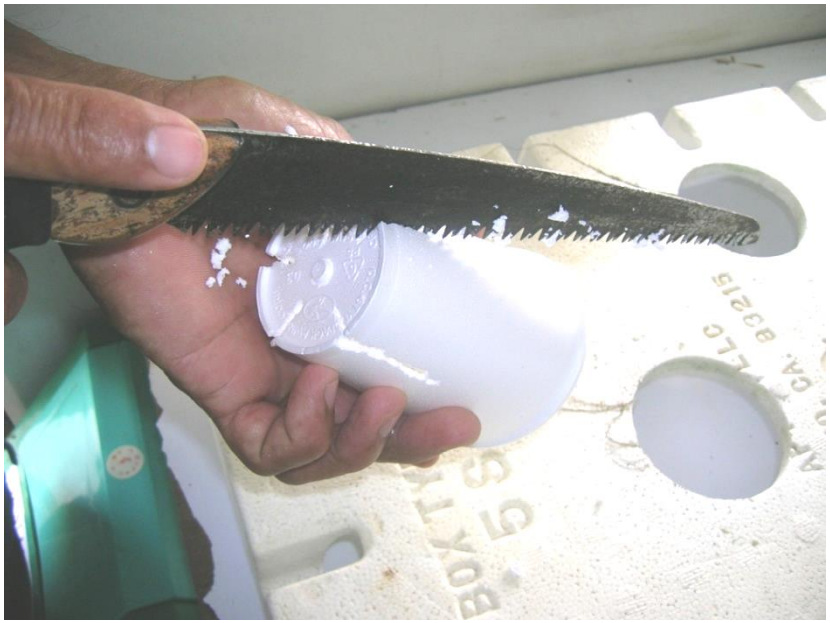


- Punch/drill holes in the cover/lid of the styro box
- This part will hold the seedling plugs in place

2. Mount the plastic liner

Plastic bag (20’ X 30”)
Masking tape (1” widtfh)
Packaging tape (2” widdth)

3. Prepare the seedling plugs



Styro cups (8 oz.)
Saw/serrated knife
Seedlings (7-14 days old
Sterilized coco coir)

Seedling plugs

Seedling plugs

Foam material can be used also if coco coir or carbonized rice hull is not available

Seedling plugs are made and maintained in trays two weeks before harvesting the first crop to shorten the growing time in the SNAP hydroponics.

This instead of this one.

4. Place the growing boxes in a sunny but rain-protected area prior to filling up with nutrient solution.

5. Prepare the nutrient solution

6. Fill the grow boxes with nutrient solution

Desired water level

7. Put lid in place and put in the seedling plugs

Where to place the SNAP hydroponics set-up:

In Quezon City

In Taguig City

In Marikina

In Cainta: Tahanang Walang Hagdanan

Simplified cost and return analysis:

COST of one SNAP hydroponics system if you will make it yourself

Styro box……P 10.00
Plastic liner……8.00
Styro cups (8 pc)…… 8.00
Seedlings (8 pc)……0.80
Coco coir……0,20
SNAP ® solution(10 L)…10.00*
TOTAL……P 37.00

YIELD per box (lettuce) = 0.5 – 0.75 kg
Current price/kg = P100

* Prepared nutrient solution costs 1 peso a liter

SNAP hydroponics is user-friendly


100
MARU GLORY
SWORD
SAINT
SHIBA
RAVE
MASTER

The biggest challenge SNAP hydroponics faces:

What if styroboxes are no longer around?

In Bataan

Acknowledgment:

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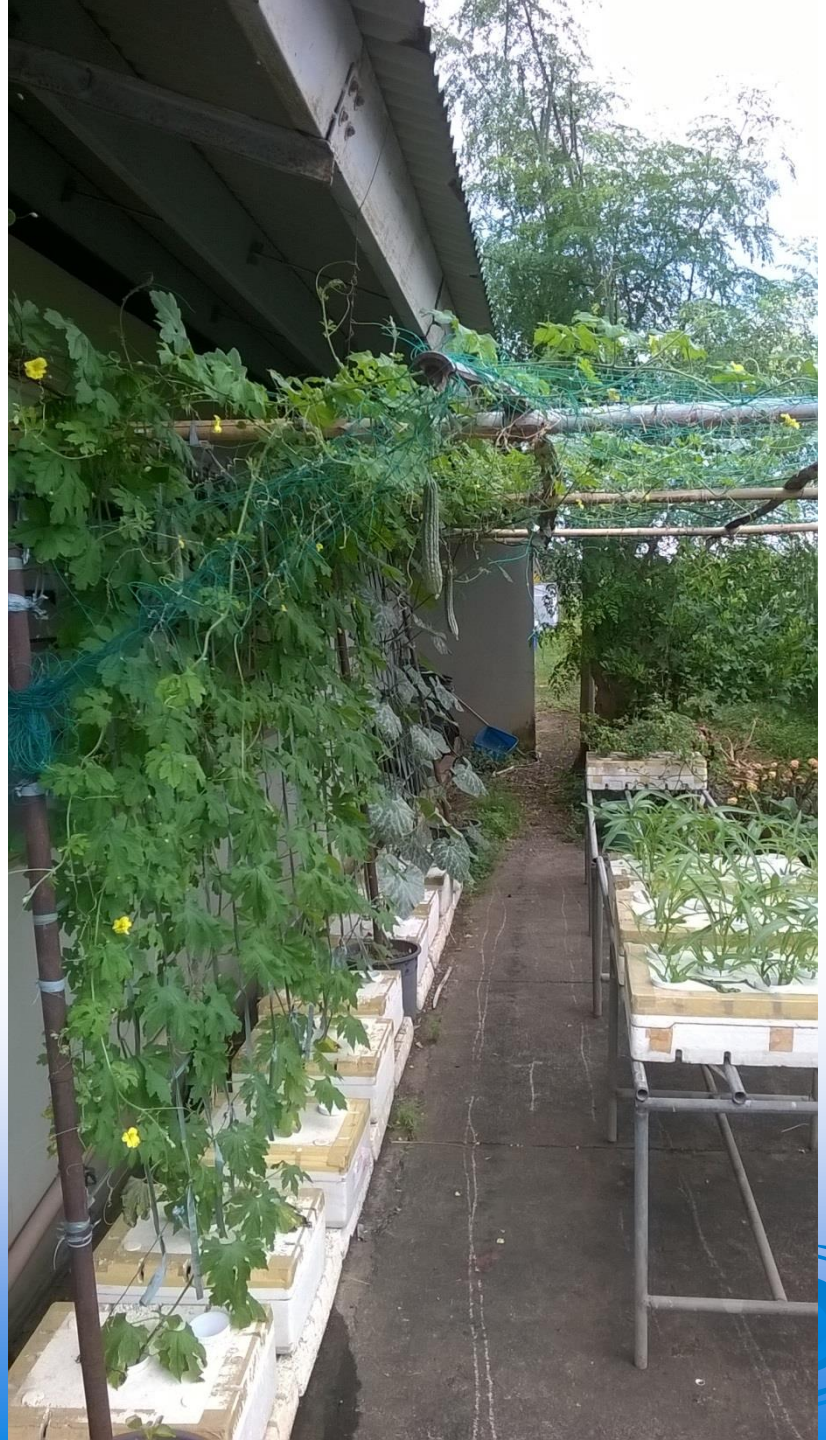

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