GREEN ROOFS IN ECO-VILLAGE MOAK SHARIF

As we know the KaravanRoof lends itself admirably to carrying loadings which are not possible on many, much more expenses roofs constructed for the benefit of post disaster communities. We also know that these communities are ready and willing to follow advice provided by organizations such as Heritage Foundation (HF) in order to improve their quality of life.

Since KaravanRoofs are designed to carry loads of 15 persons during flood emergencies, there is no reason why these roofs should not utilized during normal times for other benefits for households. Where rural households are quite used to drying vegetables (fish in the case of Darya Khan Shaikhm Khairpur, following HF advice) etc. on roofs, there is no reason that the roofs cannot be used for farming, particularly to grow vegetables.

We must make an all out effort to encourage roof farming in order so that families can grow nutritious food for their children and themselves.

The following step by step instructions should be followed for the purpose of developing vegetable gardens:

- Select a 3'6" wide strip (space between KaravanJoists) on the KaravanRoof from the highest point to the lower point (sloping towards the veranda)
- Place mud edging/upstand to define the panel. The mud edging to be 8"-10" high and be built on all sides of the strip i.e. sides, rear and front.
- Place waterproofing membrane i.e. polythene/tarpaulin sheet on roof on the strip with upturned edges of membrane on all sides.
- Place a drainage layer using tiny gravel or crushed charcoal. Crushed charcoal as a waste material is a more sustainable option, as it is abundantly available locally around brick kilns.
- Add 8" thick soil mixture.
- Plant roof garden with a variety of plants such as ferns and herbs etc., and vegetables, especially those that will grow as vines.
- Make sure that regular weeding, pruning and watering is carried out.
- To check if the soil needs water, poke your finger in the soil, if it is barely moist, it needs water. Make sure that the surface soil is loose so that water soaks into it.
- Choose plants that can take plenty of sun and warmth.
- In case of hot weather, place a green awning a couple of feet above to provide protection from strong sun.

Ref: http://www.ehow.com

WATERING FOR ROOF FARMING IN ECO-VILLAGE

Although it has meant quite a lot of effort to initiate the process of roof farming in the village, it is equally important to concentrate on procedures that require minimum watering for growing roof vegetables and other plants.

- Wash out large green water / carbonated drink bottles thoroughly with soap and water; remove all soap and any paper lables.
- Use one bottle per plant.
- Cut off the bottom of the bottle in order to make filling of water easier.
- Make a tiny hole with a needle in the base of the bottle. We have seen that trying to make a hole in the cap is extremely difficult.
- Add one or two inches of mulch around the base of the plant.
- On testing it is found that a bottle can last for about 2 days.
- If required erect a coloured cloth to shield the plants from the Sun. This shading can be done on KaravanRoofs as they are designed to carry awnings on the top to provide protection from rain during floods.
- We must encourage children of the family to take over the charge of filling the bottles regularly.

Ref: http://www.ehow.com

COMPOST PROCEDURES

It is surprising that even though in the villages in Sindh there seems to an enormous amount of agricultural waste, there is no attempt to utilize it for composting. Now that HF has undertaken to concentrate on permaculture and greening of the village, it has become essential to also develop methodologies to make organic compost.

The following methodologies should be tried out:

1. Composting by School Children
    - Take a large mineral water bottle and remove any labels and rinse to remove any soap etc.
    - Paint the external side of the bottle black.
    - Make a door approximately 5"x3" wide door on one side of the bottle. This will allow adding material and removal of compost.
    - With a nail make holes every 4" to 5".
    - Line the base with shredded paper or crumbled dry leaves. Add finely chopped vegetable scraps and egg shells etc. Moisten the contents until damp, but should not be soggy.
    - Set the bottle on in a sunny place. Check for moisture – if too wet, add more shredded paper and remove the cap for better aeration; if too dry, mist to moisten.
    - Roll the bottle on the floor or table every day to thoroughly mix and aerate the compost. It will be ready in approximately one month.

Ref: http://www.ehow.com

2. Compost in a Garbage Bin or a Mud Brick Container

    - Take a heavy duty garbage. Drill 1.5 cm holes at 15cm intervals around the can for aeration.
    - Or construct a mud brick bin size 3' dia., 2'6" high, consisting of 4.5" thick walls leaving 2" gap between bricks to allow for sufficient aeration.
    - Fill with vegetable peels, eggshells, used teabags, shredded black and white printed newspaper, brown paper, sawdust and garden waste.
    - Add water if it is dry, or dry material if it is soggy.
    - Stir the compost occasionally to speed up the process.
    - Compost can be ready in 6-8 weeks.
    - Grow marigolds and other flowers nearby to drive away insects

Ref: Zahra Ali, Express Tribune magazine 20 January 2013; Ref: http://www.ehow.com