

Roof top gardens and better urban design Pilots, ideas & projects for Islamabad

Update and plan for 2014





G7 colony Islamabad. Similar in many ways to urban design across Pakistan: Poor building standards (earthquake vulnerable), very basic sewage disposal, no sewage treatment, limited gas and electric supply, no solar water heating, no indoor ventilation for indoor cooking, etc.



What every home does have is some rooftop area – mostly used for drying clothes - and there is potential for so much more!



Rooftops are where families gather. Here we spoke to people about gardens, access to fresh fruit and vegetables (they're really expensive!). We explained roof top gardening and they said they were really keen to learn. "Show us how and we will do it!"



G7's first rooftop garden crew?

Note the water tank in the background. This is a really important factor for any gardening plan: they have water available above the height of the plants: easy watering before and after school!



This scene speaks of daily activity and also multiple spaces for vertical gardening – imagine each wall with a lattice of bamboo or rope, holding up runner beans, vines or passion fruits, pumpkins lying on the roofs, tomatoes growing in the corners. Vegetable that grow on vines could hang like the clothes in every available space.





On the edge of this community there's about an acre of land that is barely used, which could be ideal for large scale composting, modelling and testing building or energy systems, sewage treatment, biogas, etc.

The underbelly of Islamabad – every nallah and gulley and stream is like this across the city. Garbage and sewage combine to create a perfect storm of disease and pollution. Technology exists that could transform this waste into electricity, gas and heat, creating vibrant business in the community and jobs. Instead, the river is poisoned and the rats have a nice home.



Inspiration from Islamabad & elsewhere

- So much knowledge already out there
- Hot dry, cold, humid climates – they all work
- Critical factors: COMPOST & Water
- And people!

Easy composting in pots. Essential if you want to have nutritious soil in perpetuity for your garden



1. Put all waste food in the pot mixed with 50% straw, cardboard or dry leaves



2. Cover with a bit of soil – to keep flies down mainly



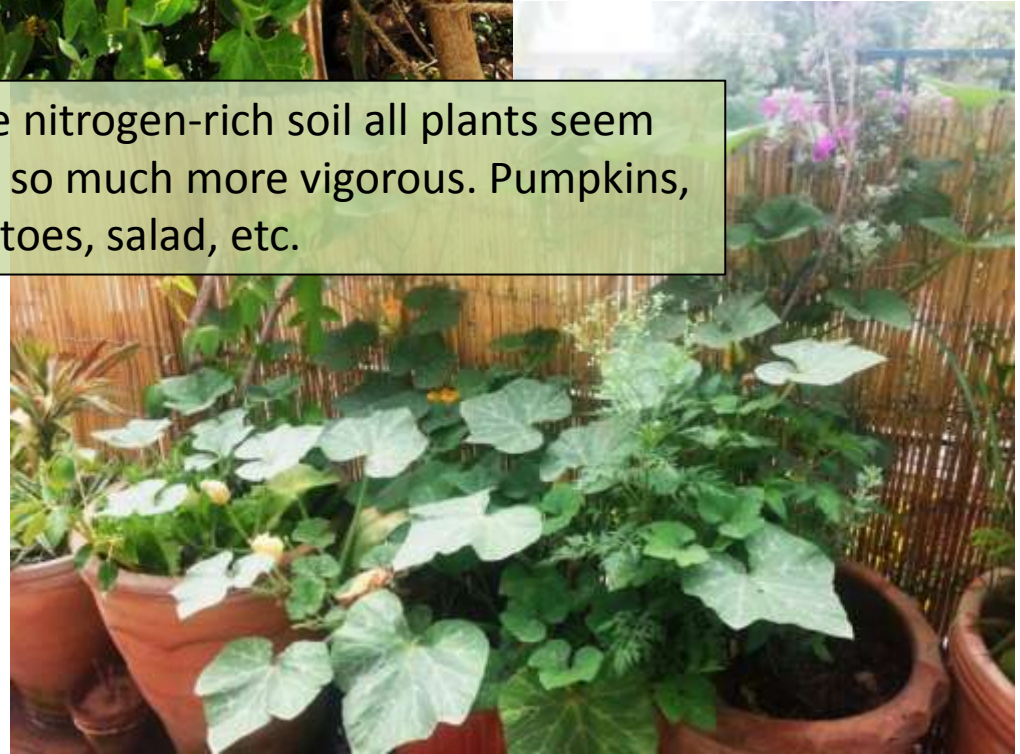
3. When full plant something on top. Tomatoes especially like rotting compost..

Magnus's garden – F6/3

One month after composting these pots were ready for planting: passion fruit vine on left. Tomatoes on right.



In the nitrogen-rich soil all plants seem to be so much more vigorous. Pumpkins, tomatoes, salad, etc.



Zaman's roof in F8/3



Broccoli – middle planted beside garlic:
companion planting which can help keep
away pests and disease (and no need for
pesticides or chemicals)

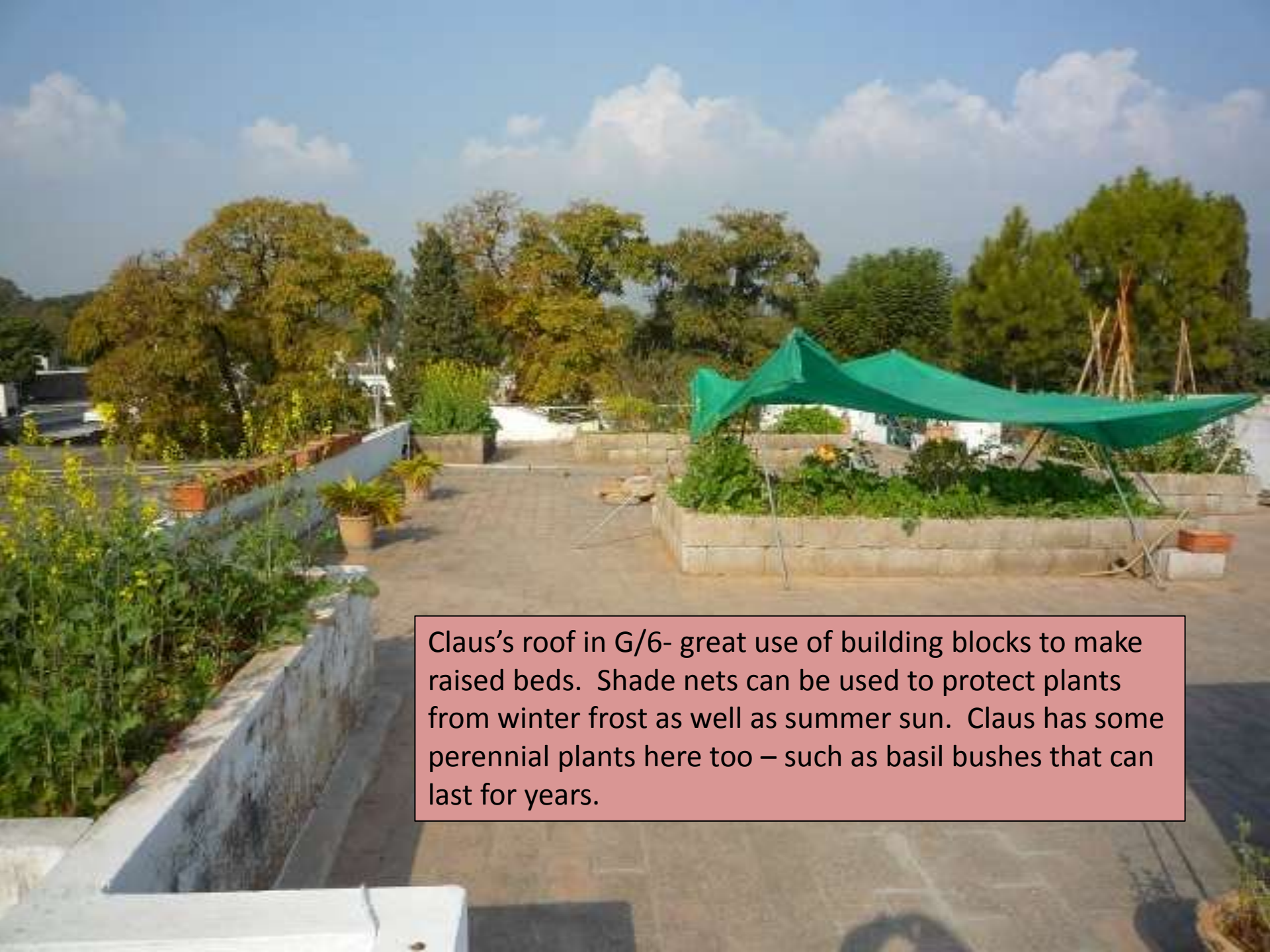
Small spaces – large production!



A virtually zero-cost micro greenhouse made from scrap materials to keep these early seedlings safe from winter frosts.

Yassim's roof in F/10





Claus's roof in G/6- great use of building blocks to make raised beds. Shade nets can be used to protect plants from winter frost as well as summer sun. Claus has some perennial plants here too – such as basil bushes that can last for years.

Urban Gardening

In Cairo





Collected Rainwater
to feed small gardens



Permaculture in POTS

How to Grow Food
in Small Urban Spaces

Juliet Kemp



**Applied at a household
garden level these
innovations can
generate enormous
returns.**

**building resilience
for
communities facing malnutrition:**

**access to micro-nutrients
around the home**



Garden in Jordan, used as part of short training courses.

Source: Permaculture Research Institute, Australia

Quick compost making

**Essential material
for establishing
plant and tree
nurseries**



**Rapid system to produce good
compost in 14 days from local
waste materials**

**First food plants grown from seed can
be edible within 4 weeks of starting
compost**



**Enables quick garden
establishment: building
beds and planting seeds
and transplanted
seedlings**