Rural urban migration

According to the UN World Food Programme, 26% of Ethiopia's population is malnourished.

Generally, 50-70% of a slum dweller's income is spent on food. Growing food at home can help contribute to:
- food security
- an extra source of income
- stimulation of small enterprises (packaging, food preparation)
- a greener city

Rural skills - urban agriculture

Push and Pull factors

1975
1994
2002
2010
2011
2012
2013
2014
2015
2016
2017
2018
Growth of Addis Ababa over the last few decades

References research

New Gourna, Egypt, by Hassan Fathy
Aranya, Indore, India, by Balkrishna Doshi
Carrieres Centrales, Casablanca, Morocco, by Michel Ecochard

Hierarchical network of streets
This road is the liveliest part of the settlement. There are a lot of shops and people strolling up and down the road.

There is a small eucalyptus forest. While most of the buildings are recent, there seem to be some historical buildings in the area. The communal grounds are planted with plants for public use, such as fruit trees, coffee, bamboo, and decorative plants.

The river provides water for irrigation of the fields, but it is very polluted with industrial and human waste. The river is used for irrigation, dependent on micro dams and off-take. Irrigation, dependent on micro dams and off-take. Irrigation of fields, dependent on micro dams and off-take. Irrigation, dependent on micro dams and off-take. Irrigation of fields, dependent on micro dams and off-take. Irrigation of fields, dependent on micro dams and off-take.

The roof gardens are mostly suitable for roof top gardens. Rooftop farming is used for construction as well. Native species. Bamboo has less

لا يوجد نص يمكن قراءته بشكل طبيعي من الصورة المقدمة.
be used for construction as well. This area, that belongs to the police academy, is planted with eucalyptus trees at the moment. These trees can impact the environment, and can however consume a lot of water, with filtration through the plants and soil over micro dams. Irrigation of fields can be done by seasonal underground storage per cluster. The courtyard in Addis Ababa is used for many activities. Apart from domestic activities, a lot of social and income by doing laundry and cooking it is also a place for business meetings for many Ethiopians), but also flowers and coffee, enset (main staple food for consumption, such as crops, fruit trees, are grown are mainly for home food for wealthier people. Plants that are traded with neighbours, or can be sold on the market to supplement the family's income. They can cover a great part of the family's income. It can be traded with neighbours, or food consumed at home, and surplus-products can be grown. Tropical fruits, herbs, medicinal plants, and small livestock, mainly goats, sheep, chickens. On the higher parts of the roofs, that dry out more quickly, drought resistant plants such as aloe vera and prickly pear can be grown. The rooftops are mostly suitable for roof garden. Bamboo and decorative plants can be grown here. Flowering plants can also be put here. There are also small fruit trees. Strawberries, herbs, tomatoes, pepper, garlic, onion, leek etc. Enset (false banana plant).


Packaging and processing of food. Farmers stand stronger, can improve their efficiency and take control over the processing and selling of their own goods. By forming cooperations, they can also find employment in the processing plants, where local inhabitants can find employment in the industrial and human waste. In the city market, local food preparation and sale can happen. Remaining garbage: Fertilizer, compost, organic waste. Glass, paper, metals, plastic. Remaining garbage: Fertilizer, compost, organic waste. Glass, paper, metals, plastic. Remaining garbage: Fertilizer, compost, organic waste.
Main road

This large street is the backbone of the neighbourhood. It is the main connection to the large road leading to the city centre, and also functions as a border between the settlement and the terrain of the police academy. The road has been paved only last year, and there is no real traffic at the moment, except for pedestrians. To strengthen the connection between the neighbourhood and the city, and make it easier for inhabitants to find jobs and education in the centre, this road should be connected to the public transport system.

Public green

Strips of green and roads or pathways run down the hill, connecting the large road with the agricultural fields. The green open spaces function as small public parks and house public functions such as schools, clinics, sports fields, and commercial functions such as shops and small marketplaces.

Street

Parallel to the main road are smaller streets to which most dwellings are faced. The streets are accessible to cars, but are mainly meant for the inhabitants. At the moment practically nobody in the neighbourhood owns a car, but in the future part of the sidewalks might be converted into parking spaces.

Alley

In between the clusters are alleys that connect the streets with each other. The alleys are part of the pedestrian network, and not accessible to cars. They will be used mainly by inhabitants who want to take a short route to their home or the shared courtyard.

Shared courtyard

The shared courtyard is the most intimate of open spaces. It is never entered directly, but through the home or through the network of streets and alleys. The courtyard is mainly meant for the people living around it, for domestic activities such as cooking and doing the laundry, but also for business. During daytime the courtyards might be opened up, forming a sequence of green spaces, and at night they can be locked off.
Building the cob walls requires some skill, but can be learned quite fast on site. The mixing can be done by feet, with straw. The mixture is then thrown up the wall, to the builders. Everyone prepared, cob loafs are moulded and passed from one person to the next and thrown up the wall, to the builders. Everyone can help during this phase of the building process.

The walls are built by laying out the concrete foundations, the basic lay-out of the floor structure, the waterproofing. Corrugated plastic sheets are placed in which a drainage layer of gravel is laid. Water will be able to drain waterproofing. Just as the rest of the construction, the green roof is kept separated by short bamboo poles, and fixed into the concrete columns. The bamboo structure of the terraces is the same of that of the floor structure, but a bit more complicated. However, the builders are now familiar with the system, so learning to construct the roof will be easier.

The structure of the roof is similar to the floor structure, but a more complex one. The bamboo poles are fixed onto each other and strengthened. Therefore the main beams are formed by tying three bamboo poles together with steel pins and nylon rope. Some education is necessary to develop the skill of working with bamboo, but some skills in building with bamboo can improve their skills modern techniques, so local inhabitants that already have some skills in building with bamboo can improve their skills, modern techniques. To prevent the windows from falling out during use, they need to be fixed on the sides onto wooden bars that are fitted into the wall. Bamboo beams are laid on top of the openings as lintels for every home by professional construction workers. By also laying out the concrete foundations, the basic lay-out of the floor structure, the waterproofing, the windows and doors can be put in. If the structure is kept relatively simple without complicated modern construction, the building process in steps will be easier.

Windows can be opened for ventilation, warmth of the sun is stored in the interior cool. Roof overhangs and trees provide shade. Windows kept closed, the thick walls that have cooled off at night keep the heat inside. Night purging: windows are opened to let air go through the home and transport the warmth from the walls to the outside. Cross-ventilation and ventilation through the circulation space in between the dwellings can be stored. Then there is a filter layer and the soil mix. A drainage layer of gravel is laid. Water can drain through the soil layer, which is then covered with a waterproofing layer. Corrugated plastic sheets are placed in which a drainage layer of gravel is laid. Water can drain through the soil layer, which is then covered with a waterproofing layer. Corrugated plastic sheets are placed in which a drainage layer of gravel is laid. Water can drain through the soil layer, which is then covered with a waterproofing layer.

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50 mm of cob for thermal and acoustic insulation

Halved and splitted bamboo form the base for the earthen floor

Structure of bamboo poles, >80 mm in diameter, tied together with nylon rope and connected with steel pins

Ceramic tiles

Bamboo mat

Earth plaster

Earth render, mixed with lime for waterproofing

In situ concrete floor

Steel window frame

Bamboo poles serving as lintels

120-200 mm of soil mix, depending on plant type

Filter fleece

Layer of gravel for drainage

Bitumen membrane

Corrugated plastic sheet

Bamboo board

Bamboo construction, enforced with cross braces

100 mm of light straw-clay for thermal and acoustic insulation

Halved and splitted bamboo form the base for the mud floor

Structure of bamboo poles, >80 mm in diameter, tied together with nylon rope and connected with steel pins

Ceramic tiles

Steel window frame

Bamboo poles serving as lintels

Cob wall, 400 mm on top

Bamboo construction, enforced with cross braces

120-200 mm of soil mix, depending on plant type

Filter fleece

Layer of gravel for drainage

Corrugated plastic sheet

Bamboo board

Bamboo construction, enforced with cross braces

100 mm of light straw-clay for thermal and acoustic insulation

Halved and splitted bamboo form the base for the mud floor