

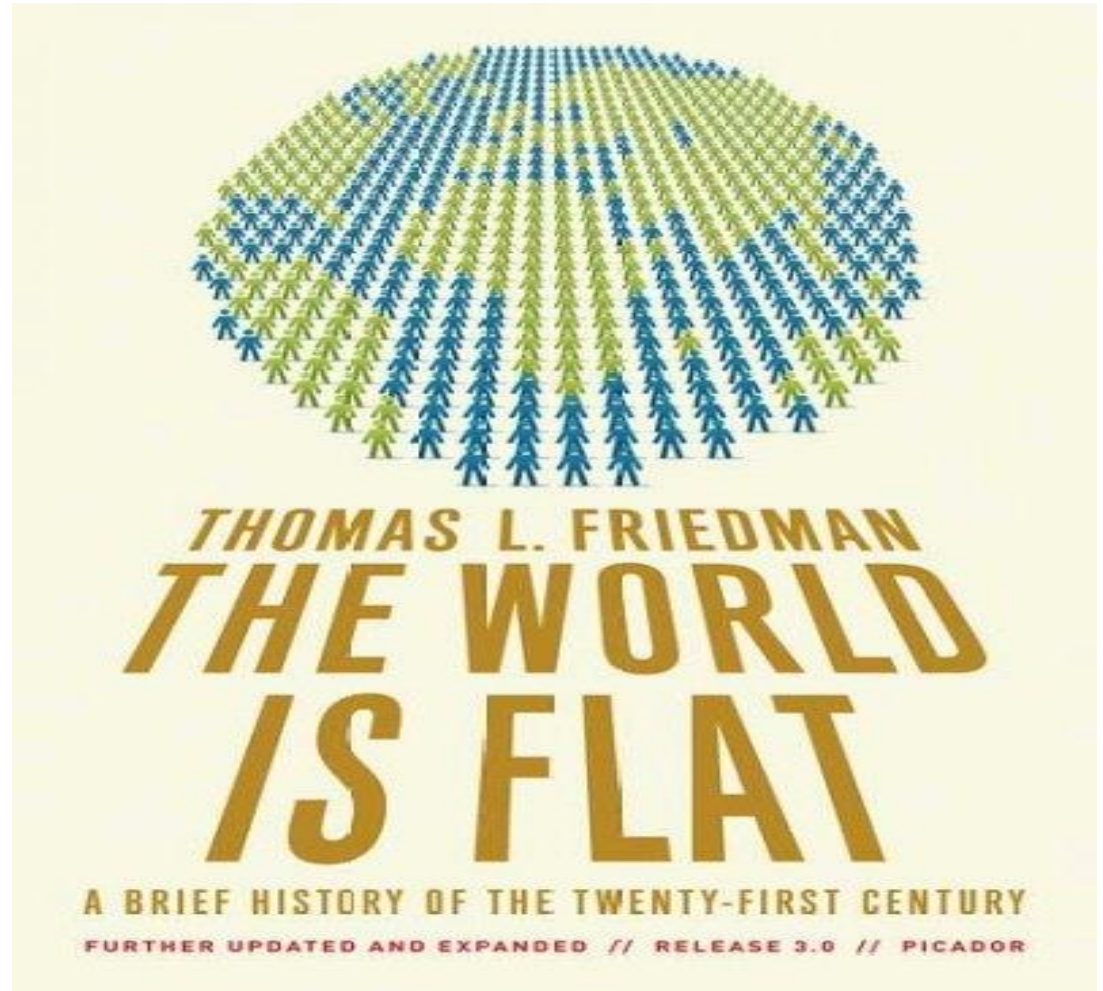


THE “WASTEWATER-FOOD” NEXUS

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YEAR 2005



....and URBANIZED

Size of Urban Population



1/3rd

50/50

2/3rd

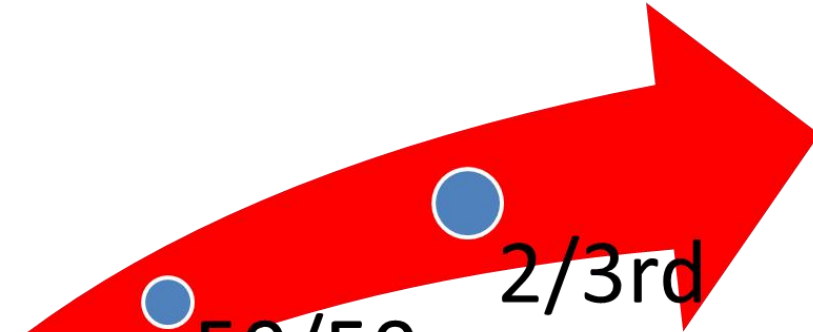


1950

2007

2050

YEARS



NEED TO.....

- GROW MORE FOOD

...But at the same time

- URBANIZATION GENERATES MASSIVE VOLUMES OF WW

WASTEWATER RECLAMATION FOR REUSE

- Landscape irrigation: 20%
- Recharge: 2%
- Recreational use: 6%
- Non potable urban use: 8%
- Indirect portable use: 2%
- **Agricultural irrigation: 32%**
- Industrial: 19%
- Environmental 8%
- Other: 3%

WASTEWATER RECLAMATION – FOOD?

Grow the food where the water is?



WW abundance proportional to population density



Urban agriculture?

SOME RESEARCHERS CLAIM

- The most effective use of reclaimed WW is for urban agriculture, taking into account the necessary water quality, and regulations allowing development of urban agriculture

What is Urban Agriculture?

Roof top gardens?



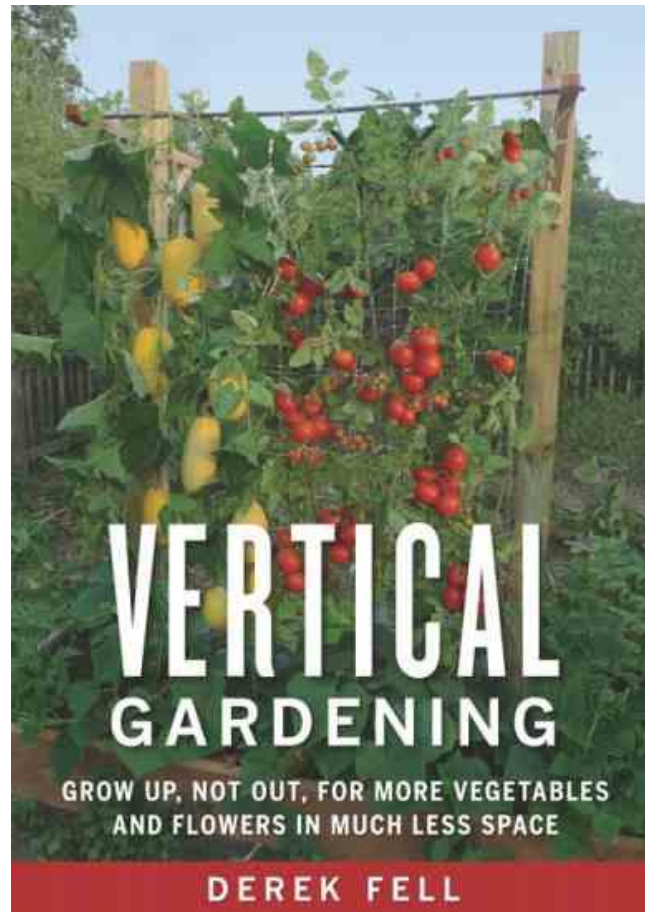
What is Urban Agriculture?

Community gardens/Alternative parks?



What is Urban Agriculture?

Vertical gardens?



URBAN AGRICULTURE STRATEGIES

- Hydroponics / aquaponics, coupling with aquaculture?
- 10 – 20 times less land and 10 times less water than conventional agriculture
- Advanced WW treatment technologies
- Needs new concepts / ideas for city planning
- Requires adapted regulations / legislation

QUESTIONS?

- Cultural acceptability?
- Psychological barriers?
- Is this the future?



THANK YOU

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