

# Urban Agriculture, climate change and food security: responses in northern and southern cities



**RUAF Foundation and START**



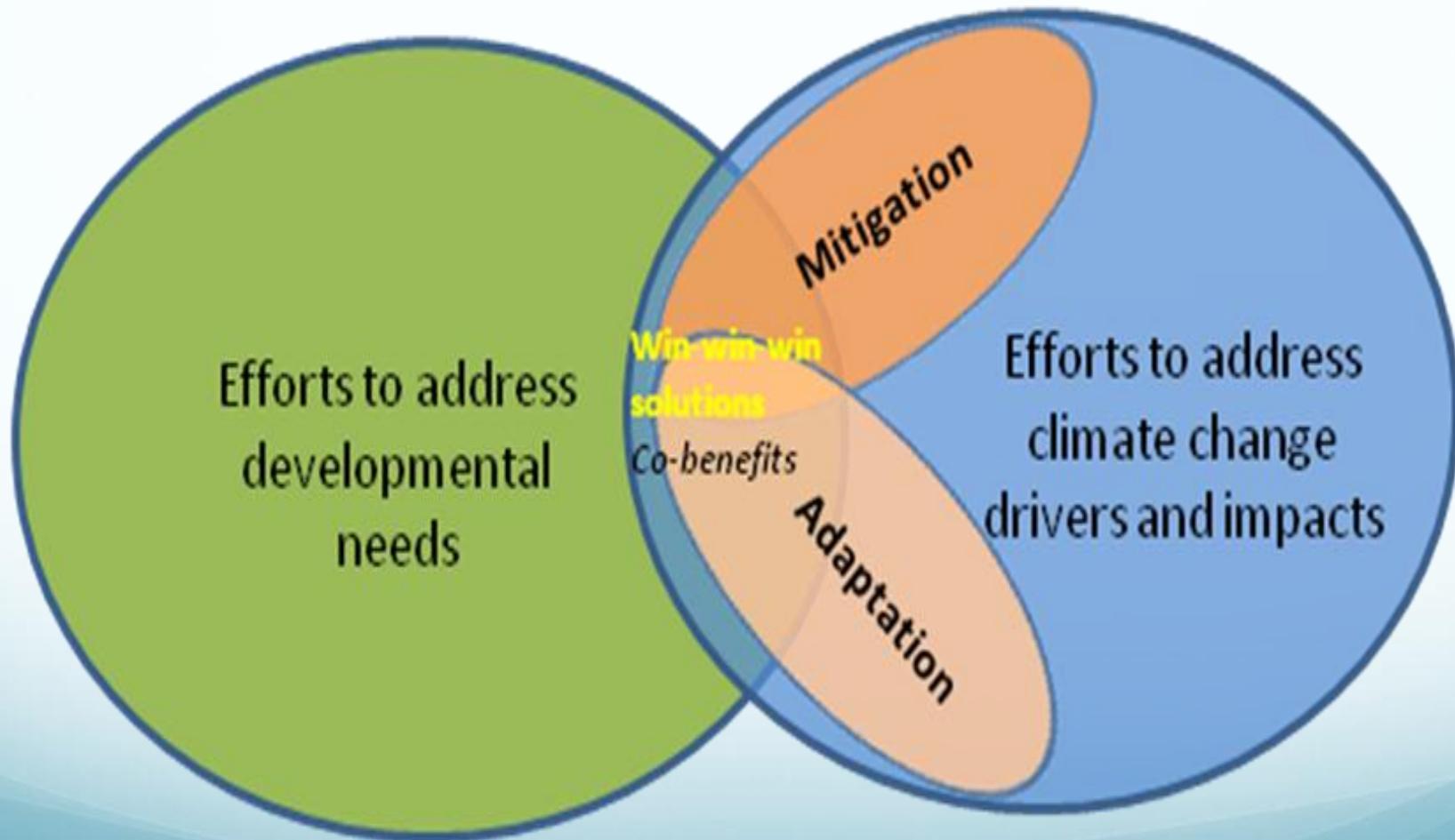
# The potential contributions of urban and peri-urban agriculture and forestry (UPA/F) to climate change adaptation & mitigation



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# UPA/F: attending development needs + CC adaptation & mitigation: a win-win solution



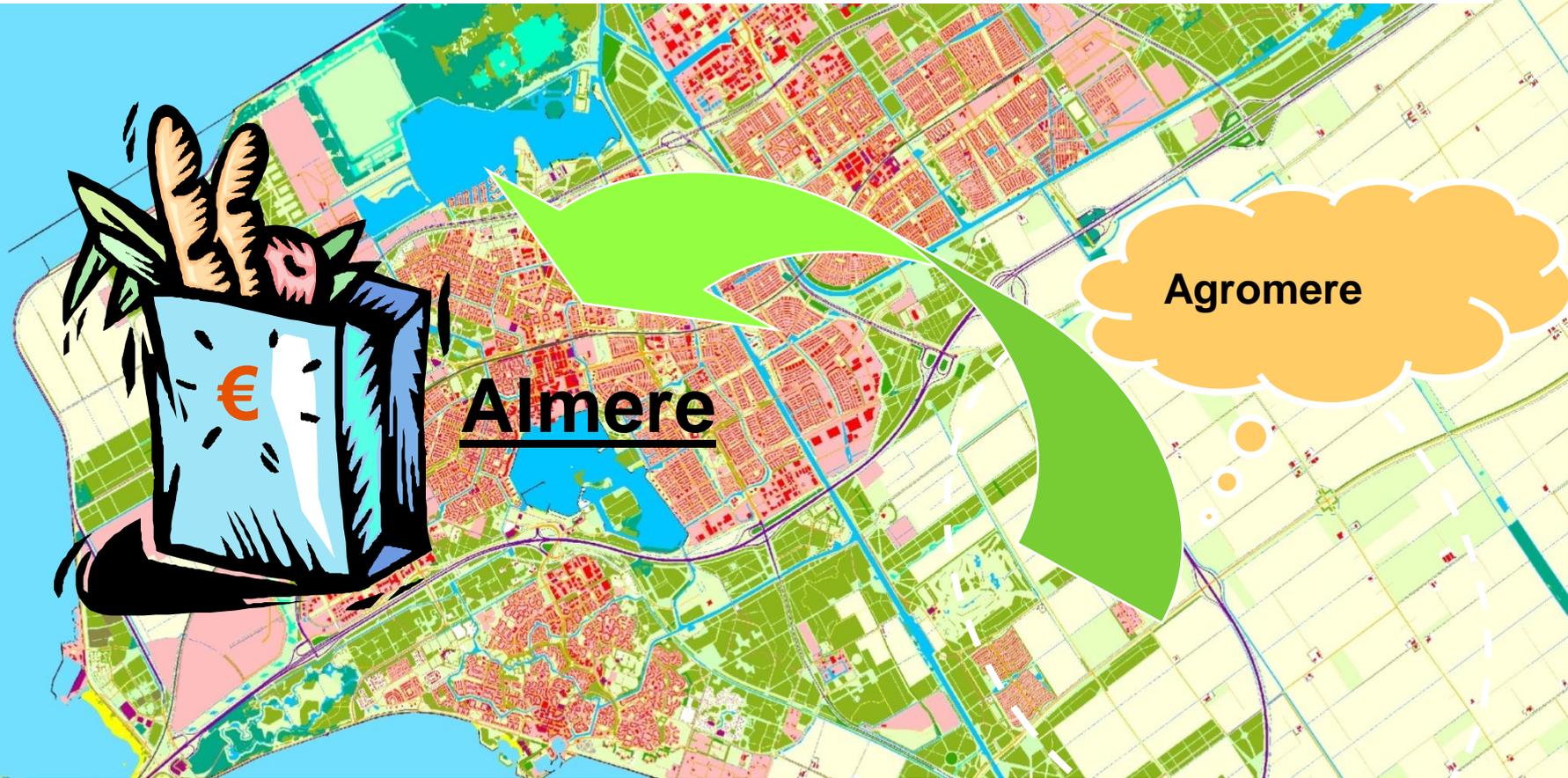
# Role of urban agriculture for climate change adaptation and mitigation

## ***UPA/F contributes to reduction of the urban energy use and green house gas emissions***

- produces fresh food close to the city (hence reduced emissions from transport, cooling, storage, packaging)
- enables productive reuse of the organic wastes which will reduce methane emissions from landfills and reduce energy use in production of fertilizers
- reuse of urban wastewater in UPA/F will free fresh water for higher value uses and reduce emissions from wastewater treatment



**Is it possible to produce in Agromere 20% of daily food basket of future Almere with 350.000 inhabitants?**



**And so then what is the Climate impact? Reduction:**

- 16 million km (mostly local transport)
- Energy use of 11.000 households
- GHG emission of 2.000 Dutch inhabitants

# Role of urban agriculture for climate change adaptation and mitigation

***UPA/F contributes to reduction of the urban energy use and green house gas emissions***

- Open spaces and green roofs reduce heat island effect and thus heating and cooling requirements, resulting in energy savings
- At the same time: contribution to storm water management, aesthetic value, biodiversity



# Role of urban agriculture for climate change adaptation and mitigation

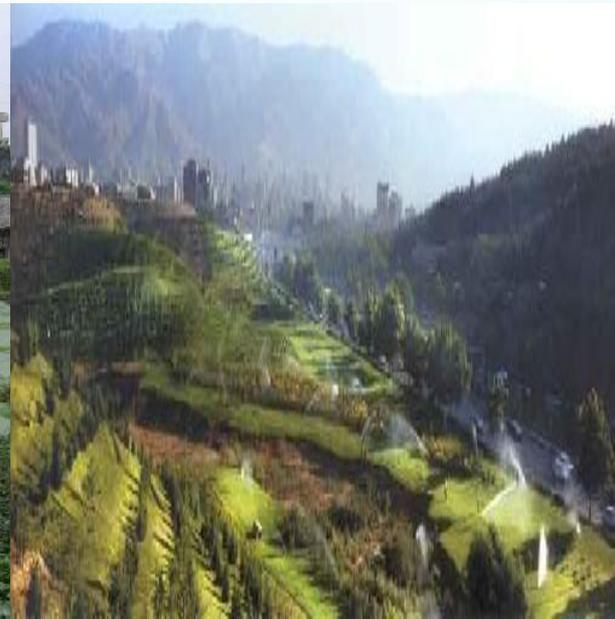
***UPA/F reduces the vulnerability of the urban poor / enhances their coping capacity***

- Diversifies and ensures food supply during extreme events, crises, periods of low food supply from rural areas
- Increases resilience by providing a source of income
- Enhances community building and acts as a source of innovation and learning



## ***UPA/F reduces impacts high rainfall (floods and land slides)***

- UPA/F can keep low lying zones free from construction reducing flood impact, storm water runoff
- Aquaculture can help store water
- By applying (agro-) forestry on steep slopes, building on risk prone slopes is prevented and (the impacts of) landslides are reduced



# Some examples of inclusion of UPA/F in climate change adaptation programmes

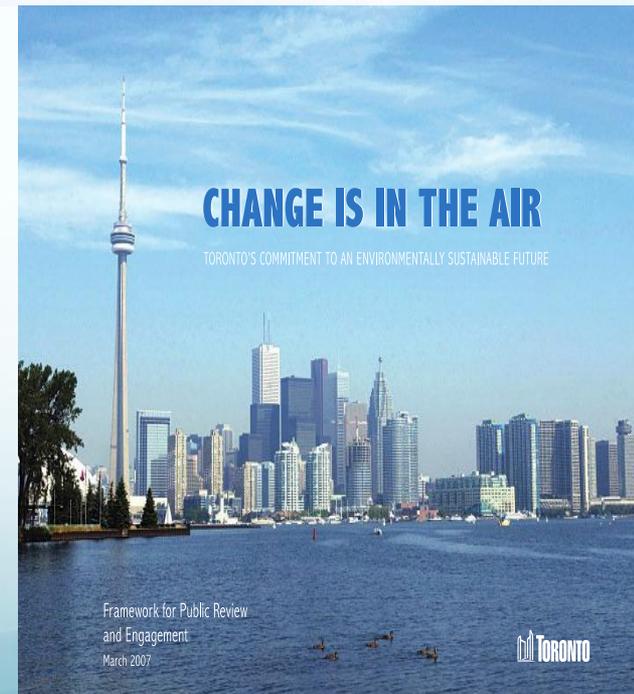
- Toronto Live Green
- Amman CDM City Wide Approach (World Bank)
- Freetown Climate smart land use zonification

Also demonstrating some of the various UPA/F related measures that could be taken by cities

# Live Green Toronto, Canada

Toronto's climate change plan includes:

- Financial support to community based **UPA/F projects** e.g. community orchards and gardens, home gardens,
- Promotes **composting of organic wastes and rainwater harvesting**
- Reduces the City "Food print" by:
  - requiring **shipping distance on food labels**
  - promotion of **regional products**
  - supporting **farmers' markets**
  - **preferential procurement** of food
- **Doubling the existing tree canopy by 2020**



# CDM Green Growth Programme-Amman

**Urban Agriculture / Forestry is one of the five components of the Amman CDM Strategy:**

- The strategy identifies vacant open spaces suitable for urban agriculture and creates a **Land bank** to facilitate owner-user cont(r)acts
- Encourages value adding and sustainable agriculture such as **organic farming**
- Promotes **water-harvesting** and more efficient water use in agriculture
- Facilitates urban and peri-urban **forestation** (productive trees; **use of treated wastewater**)
- Promotes (productive) **green roofs**



# Freetown: Zoning wetlands for UPA/F

- Sierra Leone Ministry of Land Country Planning and Environment, Ministry of Agriculture, Forestry and Food Security, Freetown City Council and Western Area Rural District Council signed an **agreement**
- to **map and protect valley bottoms and wetlands** and **allocate low lying lands for UPA/F**
- In order to prevent construction in flood plains, to enhance storm water infiltration, reduce flooding, to enhance urban food security and create alternative income opportunities



# RUAF'S Approach to CC adaptation

- Liaise with major climate change programmes (UN Habitat, World Bank, ICLEI, FAO, bilateral donors, national programmes)
- Select cities that are developing a city climate change strategy and interested to include an urban agriculture & forestry component
- Make available planning guidelines and “best practices” manuals for different types of UPA/F (e.g. community gardens, productive parks, green roofs, UPA in slum upgrading programmes, agro-forestry in floodplains,...)
- Train staff of local organisations involved in the integration of UPA/F in the city climate change strategy and land use planning
- Support design and implementation of demonstration projects by local actors; facilitate “learning in/from practice”
- Develop indicators and tools to monitor the adaptation & mitigation impacts and co-benefits of UPA/F activities

# You are invited to join our programme on UPA/F for climate smart cities!



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