Mounir Beltaifa

Vice President in charge of Government Relations
and UN SDGs @ Peace City World

Optimistic Tunisia 3 @ COP28

Securing Food Autonomy for Smart/Peace Cities


PEACE CITY . WORLD
SMART CITY MASTER DEVELOPER
“I sincerely feel both honored and privileged being with you in this Tunisian Pavilion at COP28” Mounir Beltaifa

Content

- What do we call a Smart or Peace City?
- Why and How do we secure food locally?
- What does this have to do with circular economy?

What do we call
a Smart City and/or a Peace City?


Although Elon Musk is exploring life in space for wealthy people, on earth,
we are 8 billion people for now and would be 10 billion in a couple of decades,
youth becoming smarter as they make much more intensive use of technology
We can't assume these 2B will all live in current cities, and we need
to build enough smart cities in the coming decade to welcome them
In Tunisia, we talk about +2M citizens to host in smart cities to be built
To make it simple, a City is smart
if making good use of technology…
A Peace City is a smart city where
all UN SDGs are considered by design

It is easier to achieve SDGs in a new smart city than in an existing city

Why and How do we secure food locally?

- There is no economic security nor social security when people are hungry or daily anxious about food
- Long distance Transport and Logistics increase costs and add to carbon footprint
- Local food security is possible thanks to innovation and technology
- Advanced hydroponic farming producing a large variety of crops

FOOD SECURITY DESPITE WATER STRESS THANKS TO HYDROPONIC AGRICULTURE

Mounir Beltaifa
Vice President

PEACE CITY . WORLD
SMART CITY MASTER DEVELOPER

It is possible to

Preserve our natural resources by using integrated hydroponics to grow all edible crops.

Create solutions to alleviate the carbon footprint of agriculture and protect genetic diversity.

Revolutionize the production and distribution of food in local communities.

Controlled Environment Agriculture (CEA) are not delivering on the promised vision

According to Autogrow2020 Global CEA Census

- **No Experience**: 49% of operators have zero years prior farming experience
- **Limited Crops**: 77% grow micro greens and 55% grow salad greens
- **Fixed Tech**: 73% would change equipment, technology or crops they chose
- **Too Expensive**: Current CEA farms most expensive / acre on earth

Technology solves the most critical problems plaguing the CEA industry

Experience	Variety	Flexible Tech	ROI
• 20 years experience in hydroponics in space and on earth • Grower training and operations embedded in business model	• Can grow full range of staple crops in one location • Can sell to both grocery & QSR markets vs. other CEA solutions	• New technology/ API platform, plus hardware to integrate deep water, drip and vertical systems under one roof	• CapEx of $3.45 /kg, 36% lower cost than current competition. • Lower energy & operating costs using deep water systems; EBITDA 53%

Flexibility reduces risk

- **Diversified**:
  can grow multiple crops in the same greenhouse
- **Adaptable**:
  can dynamically change crops to respond to changes in demand

$/Per M2	A model	B model
M2	1800	10000
CAPEX	$151.69	$233.63
Revenues	$29.04	$55.19
COGS	$23.44	$33.26
OPEX	$2.84	$2.19

Market size

whitespace in staple crops & desert markets, worth $740B globally

Crop (Global Value)	$BB's	CAGR
Tumeric	0,2	**16,10%**
Goji Berry	0,05	**11,50%**
Stevia	0,7	**9,50%**
Grapes	189	**7,10%**
Kiwi	8	**5,80%**
Guava	5	**5,60%**
Avocado	14	**5,30%**
Lettuce	8	**5,30%**
Citrus	6	4,20%
Banana	140	4,10%
Eggplant	62	4,00%
Garlic	19	4,00%
Cucumber	1	4,00%
Herbs (Basil, mints, cilantro, chives, parsley, arugula)	1,1	3,90%
Strawberry	19	3,40%
Ginger	9	3,20%
Tomato	190	3,10%
Scallions/onions	43	3,10%
Melons	27	2,10%
Pepper	5	1,20%
Potatoes	38	1,00%


REDUCED CONSUMPTION
WATER < 5%, LAND <1%
It is now possible
to preserve natural resources and
secure food to local communities,
despite water stress
Thank you

Securing food locally for cities:

- **Urban Agriculture:**
  - Promote urban agriculture initiatives, such as community gardens, rooftop gardens, and vertical farming, within the city.
  - Encourage residents and businesses to grow their own produce and support local, sustainable agriculture.
- **Local Food Production:**
  - Support local farmers and agricultural cooperatives by creating policies that favor local food production and distribution.
  - Invest in infrastructure for local food processing and storage to reduce food waste and extend the availability of local produce.
- **Farm-to-Table Initiatives:**
  - Establish connections between local farmers and restaurants or food businesses, promoting a "farm-to-table" approach.
  - Encourage consumers to choose locally-sourced food when dining out.
- **Food Hubs and Markets:**
  - Develop local food hubs and markets where farmers and food producers can sell their products directly to consumers.
  - These hubs can also serve as education centers to raise awareness about local food.
- **Food Cooperatives:**
  - Support the formation of food cooperatives where community members collectively purchase and distribute locally-produced food.
  - These cooperatives can help reduce costs and increase access to fresh, local products.
- **Community-Supported Agriculture (CSA):**
  - Promote CSA programs that connect consumers directly with local farms. Subscribers receive regular deliveries of fresh produce, providing farmers with a stable income.

Securing food locally for cities:

- **Local Food Policies:**
    1. Implement policies that incentivize and regulate local food production and distribution.
    2. This may include zoning changes to allow urban agriculture or the removal of barriers to starting small-scale food businesses.
- **Food Education and Awareness:**
    1. Educate residents about the benefits of local food, including its environmental, economic, and health advantages.
    2. Encourage schools to incorporate food education into their curricula.
- **Food Waste Reduction:**
    1. Implement programs to reduce food waste at all levels of the supply chain, from production to consumption.
    2. Consider food rescue initiatives that redistribute surplus food to those in need.
- **Sustainable Transportation:**
    1. Develop sustainable transportation options to move food from local producers to consumers efficiently.
    2. Encourage bicycle and electric vehicle delivery services for local food.
- **Food Security Networks:**
    1. Establish food security networks that can quickly respond to food crises and ensure that vulnerable populations have access to local, nutritious food.
- **Technology and Data:**
    1. Use technology and data to monitor and optimize the local food supply chain, ensuring that food reaches its destination efficiently and with minimal waste.

Local Food Security is essential

By implementing these strategies, cities can

- enhance their food security,
- reduce the environmental impact of food production and transportation,
- and support local businesses and farmers.

These efforts align with the interest in promoting ethical business and leadership integrity and contribute to achieving the United Nations Sustainable Development Goals

What does local food security contribute to circular economy?

Peace Cities are designed for circular economy

- Hydroponic farming in urban areas saves water consumption while being productive
- Energy needs can be renewable
- Wastewater can be treated to generate clean water for watering public gardens, cleaning public roads and even irrigation (with a slightly higher cost)
- organic waste can be recycled into compost
- Other waste can be recycled and/or generate energy

Smart cities can contribute to circular economy

- Efficient Resource Management: Smart cities leverage technology to optimize the use of resources such as energy, water, and materials. This reduces waste and enhances resource efficiency, a fundamental principle of the circular economy.
- Waste Reduction and Recycling: Smart waste management systems in cities can use sensors and data analytics to optimize waste collection, recycling, and disposal processes. This can result in less waste going to landfills and more materials being recycled and repurposed.
- Sharing Economy: Smart cities facilitate the sharing of assets and resources, encouraging practices like ride-sharing, bike-sharing, and tool-sharing. This reduces the demand for new products and services, contributing to a circular economy by extending the lifespan of existing resources.
- Sustainable Transportation: Smart cities promote sustainable transportation options, such as electric vehicles, public transportation, and cycling. This reduces the environmental impact of traditional transportation systems and promotes a circular approach to mobility.
- Smart Grids and Energy Efficiency: Implementing smart grids and energy-efficient technologies in cities can help reduce energy consumption and promote renewable energy sources, aligning with the circular economy's focus on sustainable energy practices.
- Circular Business Models: Smart cities can support businesses in adopting circular economy principles, such as product-as-a-service models, remanufacturing, and refurbishing. These practices reduce waste and promote the reuse of products.

Smart cities can contribute to circular economy

- Digital Platforms for Circular Information: Smart cities can develop digital platforms and apps that provide citizens and businesses with information on where and how to recycle, repair, or repurpose items, encouraging a circular approach to consumer behavior.
- Circular Procurement: Smart cities can adopt circular procurement practices, encouraging the purchase of products and services with a longer lifespan and sustainable design, which aligns with circular economy principles.
- Circular Innovation Hubs: Establishing innovation hubs within smart cities can encourage research and development of circular economy technologies, fostering a culture of innovation that supports sustainability.
- Data-Driven Decision Making: Smart cities collect and analyze data on various aspects of urban life. This data can be used to make informed decisions that support circular economy goals, such as reducing waste, optimizing resource use, and promoting sustainable practices.

smart cities can contribute to a circular economy

By

- embracing sustainable and efficient practices,
- promoting resource optimization,
- and encouraging circular business models.

These efforts align with the interest in ethical business and leadership integrity, as well as the commitment to the United Nations Sustainable Development Goals.

Thank you

Want to know more? Fell free to

- Write to vp.gov@peacecity.world
- Call +33782694950 (WhatsApp/Signal)