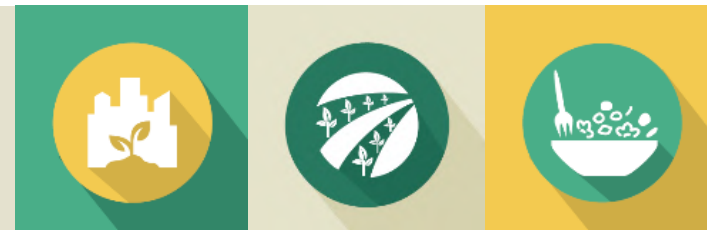




American University of Beirut
Faculty of Agricultural and Food Sciences
Department of Agriculture



Healthy Earth, Healthy Food, Healthy People



ESDU Living Labs

What is a living lab?

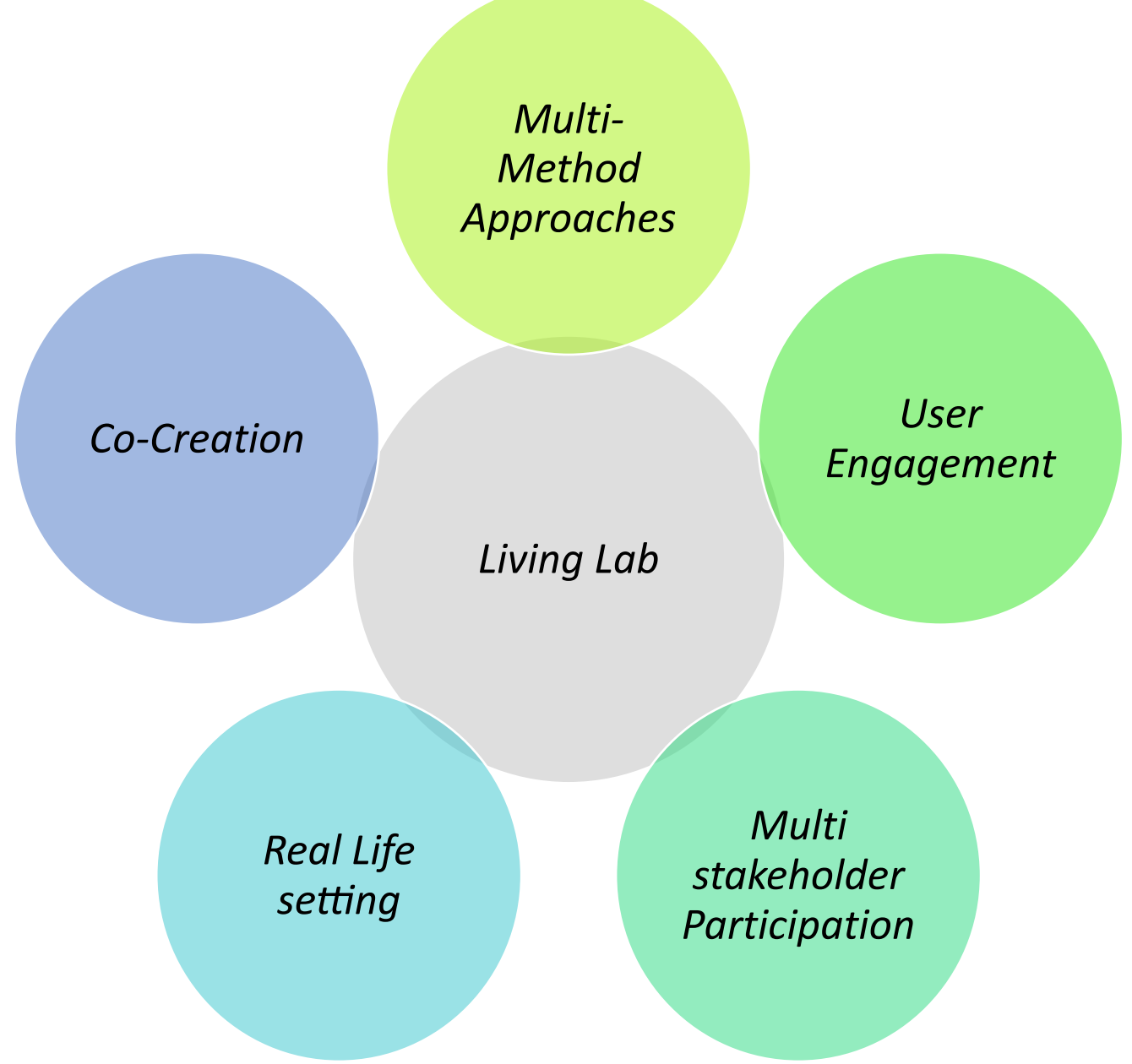
- In contrast to a traditional research, a living lab is set in a real-life context acting as an open-innovation ecosystem with a user-centric approach for the aim of generating innovative solutions and sustainable value for all stakeholders including local communities.
- Living labs are an innovative way to structure research and promote and upscale an innovation through validation and testing in real-life contexts.

The notion of living laboratory was first proposed by Prof. William Mitchell at MIT Media Lab as:

“a research methodology for sensing, prototyping, validating and refining complex solutions in multiple and evolving real-life contexts.”



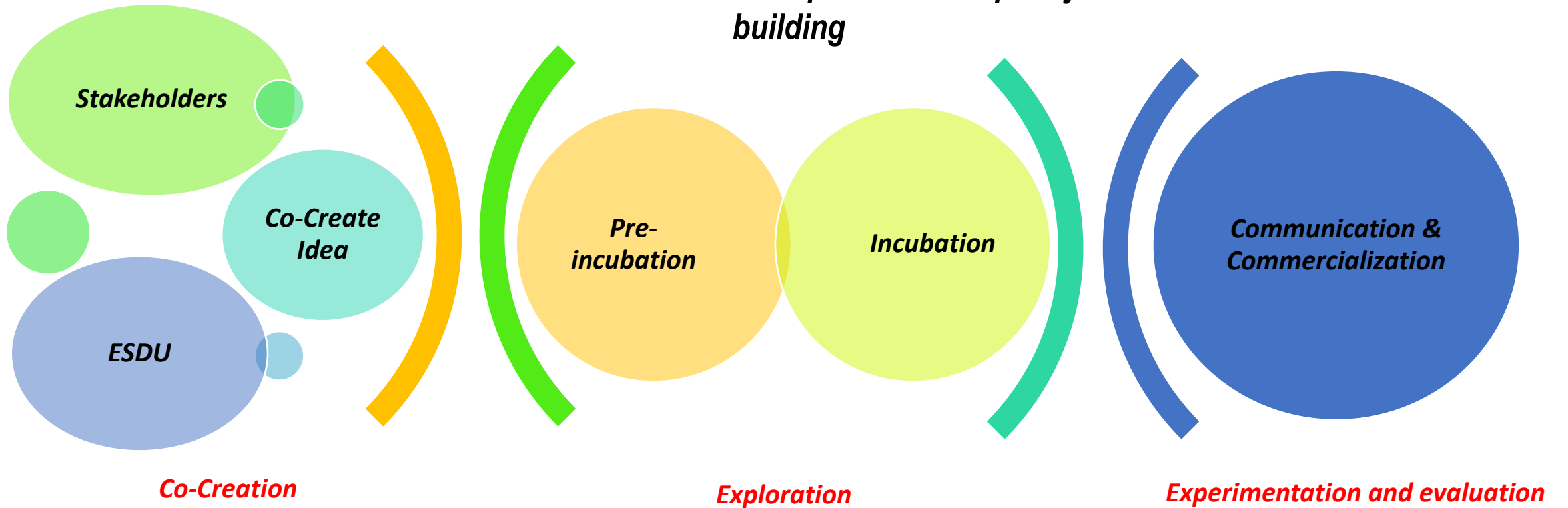
The Core Features of a Living Lab:

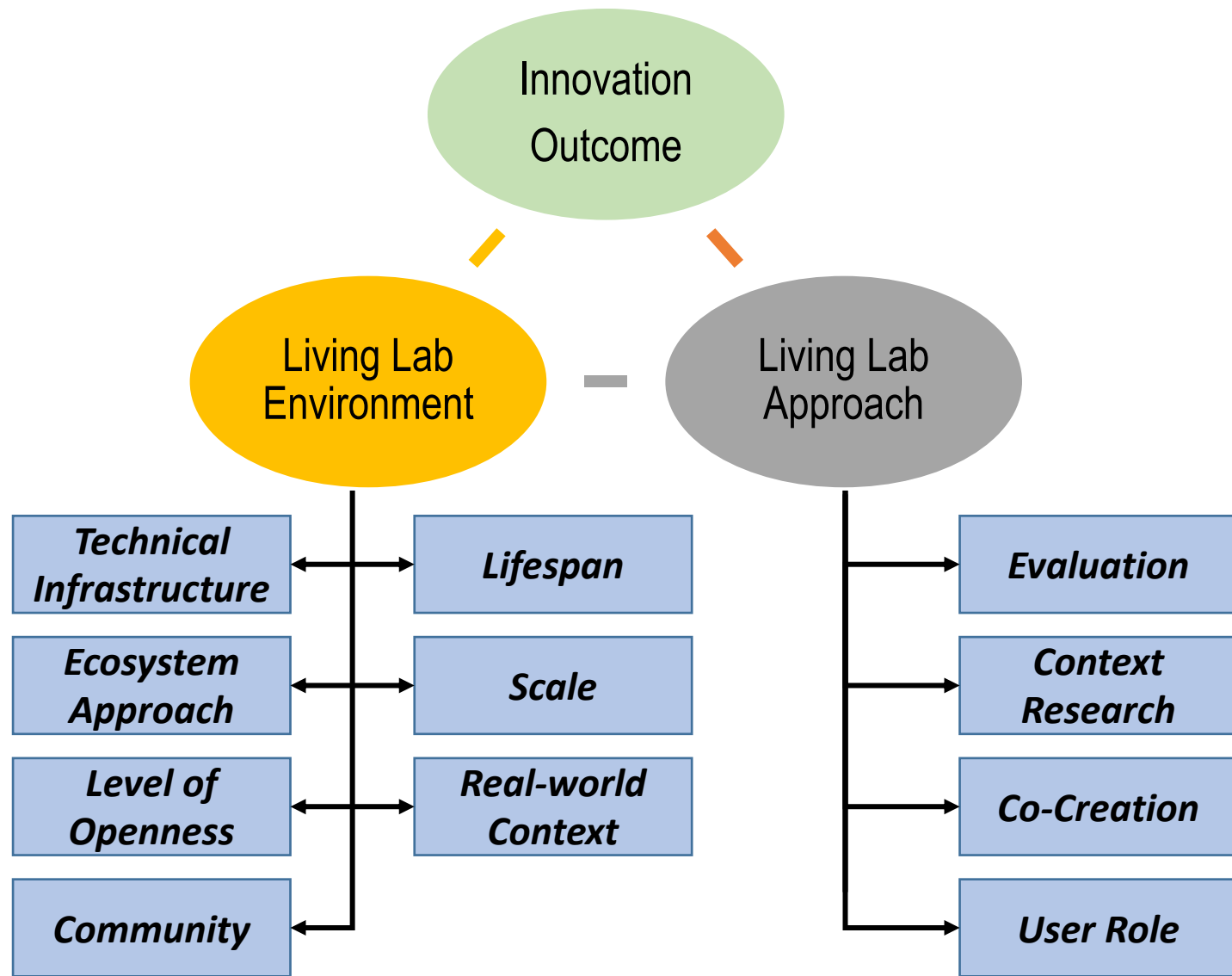


Living Lab / ESDU - Framework

Focus on community development

Focus on skills development and capacity building



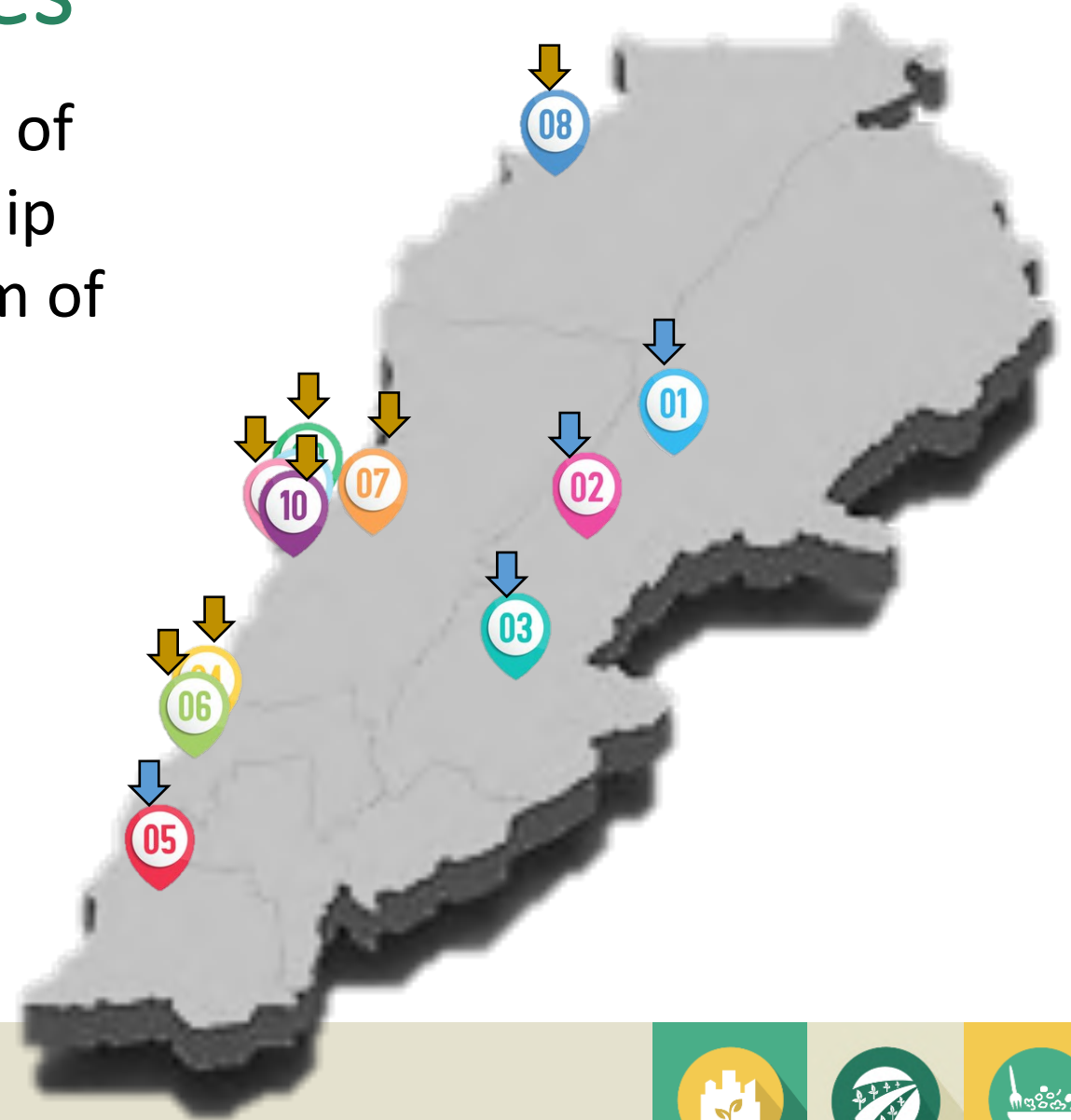
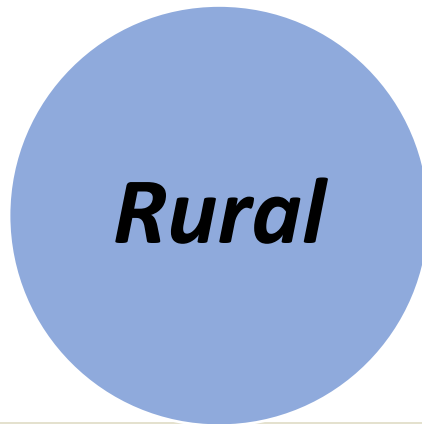


The Living Lab Triangle: The triangulation between environment, approach, and outcome in living labs ([Veeckman et al., 2013](#))



Living Lab / ESDU - Types

ESDU is currently establishing a series of living labs across Lebanon in partnership with the local communities for the aim of promoting sustainable best practices, climate smart agriculture, circular economy approach, etc.



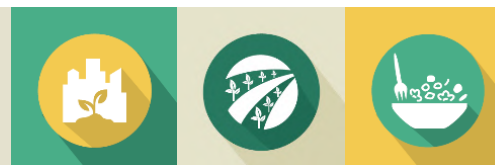
Organic Plot



Haouch EL Nabi – Baalbek

AREC farm

Approach/ Concept Applied and Promoted	Practices Employed by ESDU	
Organic production Promotion of open pollinated seedlings	The demo-plot is composed of 4 units: - Barley Sprouts Production Unit - Nursery for the production of readily grown, open pollinated local varieties of seedlings - Greenhouse for vegetables - Organic plot	
Aim of the demo-plot	Area of the demo-plot	Project
<ul style="list-style-type: none"> • Train farmers on organic best practices. • Provide farmers with subsidized seedlings and barley sprouts. • Provide community kitchens with organic products at subsidized prices. 	Barley unit: 6 x 4m Greenhouse: 10 x 4 m Nursery: 40 x 9 m Organic plot: 20dn	Supported through CLIMAT, ISNAD, and Kellogg projects



Seed Production Unit



Saadneil – Baalbek

Buzuruna Juzuruna

Approach/ Concept Applied and Promoted	Practices Employed by ESDU	
Promoting local heirloom seeds production	Establishment of a plot for the production of loofah seeds	
Aim of the demo-plot	Area of the demo-plot	Project
<ul style="list-style-type: none"> • Proliferate loofas seeds. • Train farmers on seeds production • Promote organic, heirloom seeds conservation • Support farmers access to open pollination heirloom seeds 	TBC	WEP-UNDP in partnership with ACTED, ABAAD, DOT



Sustainable Agriculture Practices and Agro-Food Processing



Khirbet Rouha – Bekaa



Nebras Vocational School

Approach/ Concept Applied and Promoted	Practices Employed by ESDU		
<p>Tackling the different pillars of circular economy at different stages of the food supply chain, beginning with sustainable agricultural methods all the way to food processing practices.</p>	<ul style="list-style-type: none"> • Regenerative farming practices known for promoting biologically active soils, high water infiltration and storage, high crop diversity, and high biodiversity among other advantages, at relatively low input costs. • Water and energy-efficient irrigation systems such as solar water pumps and drip irrigation. • Composting unit which will reduce costs of essential inputs such as organic fertilizers. • Intervention at the kitchen level by equipping Nebras with solar water heaters or PV Panels depending on the assessment to be done by our experts. 		
Aim of the demo-plot	Area of the demo-plot	Project	
<p>The interventions will enhance Nebras Complex’s social responsibility since they will be helping the area by i) utilizing their kitchen upgrade to provide more meals for orphans, and ii) disposing of the waste through composting.</p>	<p>TBC</p>	<p>WEP-UNDP in partnership with ACTED, ABAAD, DOT</p>	



Circular Economy Demo-Plot



Saida – South



Sikka Saida



Approach/ Concept Applied and Promoted	Practices Employed by ESDU	
Circular Economy and Sustainable Agriculture	Provide them with solar PV panels, a composting unit in addition to any other equipment to sustainable agriculture practices such as drip water irrigation and so on...	
Aim of the demo-plot	Area of the demo-plot	Project
Provide training center on sustainable agriculture	around 80 m2 land to showcase sustainable agriculture practices In addition to the center (used for trainings and meetings) and the kitchen available in the center	WEP-UNDP in partnership with ACTED, ABAAD, DOT



Food Processing Demo-Plot



Qana – South

Qana Youth Association

Approach/ Concept Applied and Promoted	Practices Employed by ESDU	
<p>TBC Circular Economy Sustainable Production Soap Production</p>	<p>The demo-plot will be determined based on the assessment that is currently underway. WEP's objective is to decrease Qana Youth Association's costs, like electricity or fertilizers, through providing them with the relevant equipment (solar water heater and/or composting unit, etc.). We are also looking into introducing the soap production line in order to encourage future employment in this domain.</p>	
Aim of the demo-plot	Area of the demo-plot	Project
<p>Support Qana Youth Association who has a high social responsibility. Offer training on best practices.</p>	<p>TBC</p>	<p>WEP-UNDP in partnership with ACTED, ABAAD, DOT</p>



Communications Demo-Plot



Saida – South

DPNA Organization

Approach/ Concept Applied and Promoted	Practices Employed by ESDU	
Access to ICT	Provide laptops as well as a copy center so that women have access to the technology needed to market their products via the internet and social media. The space will also allow for trainings be held to teach these women how to market and sell their products online.	
Aim of the demo-plot	Area of the demo-plot	Project
Provide the opportunity for vulnerable women who produce home-made goods (such as Mouneh) to market their products. Offer capacity building training to women and men who are eager to learn and improve their skillset but are not offered the opportunity to do so.	TBC	WEP-UNDP in partnership with ACTED, ABAAD, DOT



Urban Agriculture

Approach/ Concept Applied and Promoted
Circular agriculture economy. Recycling & Greenery.
Practices Employed by ESDU
Provide Engineers to assist, plan, and order the tools and equipment needed. Provide workers who have experience in agriculture to implement the plans. Daily follow up and developing any needed area during the project.
Project
COVID-UNDP in partnership with LLWB, FHF, Berytech



Jamhour, Kfarnassim Village – Mt Lebanon



Adel Misk

Aim of the demo-plot

The aim of the demo plot is to integrate agricultural land in urban areas instead of dead green areas and to provide organic food for his family.



Rawche – Beirut



Bohsali

Aim of the demo-plot

To fix the existing garden. To remove all less productive vegetation, while keeping non-productive trees as a microhabitat for microorganisms and existing wildlife. To fill up some spaces with plants that bear vegetables and fruit that give the building residents some source of fresh produce. To improve soil structure, overall garden beautification and long-term usefulness of plant debris through incorporation with compost.



Tripoli – North



Rouwad Al Tanmia

Aim of the demo-plot

This rooftop garden would provide Ruwwad al Tanmiya Kitchen with a new source of organic vegetables to use in their community kitchen over the years.



Nabaa – Beirut



St. Vincent

Aim of the demo-plot

To generate a semi-steady source of edible vegetable produce to give a sense of self-sufficiency for the employees. The raised beds also provide some beautification to the roof structure, combining the ascetic qualities of urban gardening with the primary goal of food production in agriculturally marginalized metropolitan spaces.



Clemenceau – Beirut



Lara Mniemneh

Aim of the demo-plot

Introducing the concept of urban agriculture and profiting from the provided free space for plantation purposes.
Rehabilitation and treatment of residential greenery for maintenance and plantation purposes.



Spears – Beirut



Zico House

Aim of the demo-plot

Introducing the concept of urban agriculture and profiting from the provided free space for planting purposes.
Offering the capacity to grow your own crops along the year.(raised beds).



THANK YOU!

