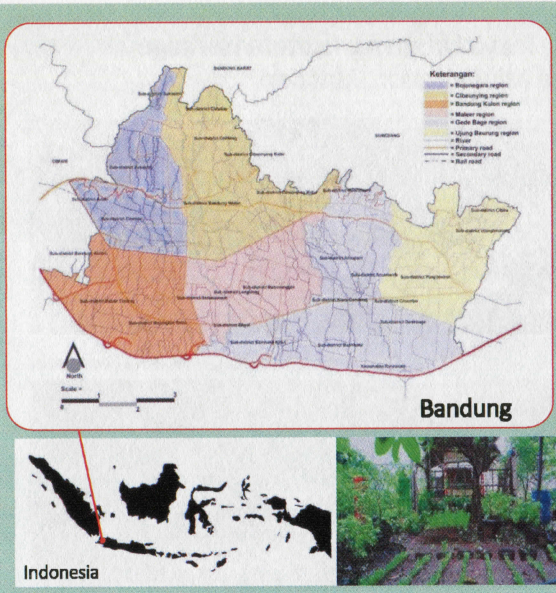


# REVITALIZATION OF TRADITIONAL AGROFORESTRY AS HERITAGE SYSTEMS FOR SUSTAINABLE CITIES

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**BUAH**  
(BANDUNG URBAN AGRICULTURE HERITAGE)



## Bandung City and the Urban Agriculture Practices

**2014-2018**  
Bandung Berkebun

**2019 - Present**  
Buruan Sae

**Signing Urban Food Policy Pact, 2020**

Urban Agriculture Type
Rooftop Garden
Homegarden
Community Garden at Unutilized Public Space
Monoculture
Low Diversity
Chemical Use
Focus on Economic
Low Socio-Ecological Function



## Traditional Homegarden (Pekarangan) as Agriculture Heritage System



- TRADITIONAL AGROFORESTRY --- PEKARANGAN BAMBOO-TREE GARDENS --- IS CLASSICALLY SAID TO BE SOUND, EFFICIENT AND SUSTAINABLE LANDS USE SYSTEMS
- THESE PRACTICES WERE IN VOUGE SINCE TIME IMEMMORIAL AND ARE STILL PREDOMINANT
- THE STRUCTURE OF TRADITIONAL AGROFORESTRY IN THE MOST PART RESEMBLE FORESTS WITH A MULTI-LAYERED CANOPY STRUCTURE
- COMBINING THE NATURAL ASPECTS OF WITH THOSE FOR FULFILLING THE SOCIO-ECONOMIC FUNCTIONS OF THE PEOPLE IN WHICH REPRESENT A VARIETY OF NATURE-HUMAN RELATIONS

## Traditional Homegarden (Pekarangan) as Agriculture Heritage System



PROVIDES A MULTITUDE OF PRODUCTS THAT FULFILL HUMAN NEEDS FOR SUPPLEMENTARY INCOME, FIBERS, SPICES, FOOD, FUELWOOD AND MEDICINE;

Traditional homegarden or *Pekarangan* is well known that this garden has a **multiple function**, such as conservation of genetic resources, soil and water, crop production, and socio-cultural relationship pre-dominate in Agrobiodiversity

Agroforestry **potential to store and remove carbon** from the atmosphere it has high carbon storage (sequestration) potential; it help in conservation of C stocks in existing forest by alleviating the pressure on forest; it can function as carbon substitution of energy demand ---fuelwood production



PROVIDE SOCIAL FUNCTION : LANDLESS OR POOR FARMERS ARE ALLOWED TO TAKE FALLEN BRANCHES AND TWIGS OR CUT DEAD WOOD FOR FUELWOOD.

### ECOLOGICAL SERVICES



VARIOUS DOMESTICATED AND WILD PLANT SPECIES ORIGINATED FROM THE FOREST USUALLY INHABIT DIFFERENT VEGETATION STRATUM---HIGH DIVERSITY AND HYDROOROLOGICAL FUNCTIONS



# The Similarities Pekarangan with Tokyo Urban Agriculture Heritage in Recycling and Waste Minimization Function

Pekarangan



Japanese Homegarden



Indigenous/Native	Scientific name	Vernacular name	Other uses
	<i>Bouea macrophylla</i> Griffith	Jataké	Wood for house building, tool handles
	<i>Garcinia celebica</i> L.	Mangu leuwung	Wood for contemporary construction, poles, interior trim, furniture, fencing
	<i>Mangifera laurina</i> Blume	Buah peré	Construction, outdoor application
	<i>Spondias pinnata</i> (L.f.) Kurz	Kadondong leuwung	For muldings, interior finishing, drawers, pulp, matchboxes, boxes, crates, carving
	<i>Stelechocarpus burahol</i> (Blume) Hook.f. & Thomson	Burahol	Wood is used for household article, house building

Austronesian Legacy (4000 BCE)	Scientific name	Vernacular name	Other uses
	<i>Azarea bilimbi</i> L.	Calingcing	Leaves for fevers and intestinal problems, fruit for coughs and aphthos
	<i>Diospyros blancoi</i> A.DC.	Bisbel, bibbel	Wood is used for handicrafts
	<i>Durio zibethinus</i> L.	Kadu, duru	Roots used for treating fevers; Wood for indoor construction and cheaper types of furniture
	<i>Garcinia mangostana</i> L.	Mango	Light indoor construction, temporary construction, plywood
	<i>Mangifera foetida</i> Lour.	Limus pit (small-fruit variety), limas tipung (large-fruit variety)	

Indianization Legacy (100-1500CE)	Scientific name	Vernacular name	Other uses
	<i>Citrus maxima</i> (Burm.) Merr.	Jeruk bali	Leaves used for swelling and chancres, flowers for perfume and treating cardiodysia
	<i>Limonia acidissima</i> L.	Kawista	Timber for house construction, posts, agricultural tools.
	<i>Mangifera indica</i> L.	Buwah, mango	Construction, outdoor application
	<i>Tamarindus indica</i> L.	Asam Jawa	Medicine
	<i>Artocarpus heterophyllus</i> Lam	Manha	Wood for musical instruments

Sinicization Heritage (100-1500 CE)	Scientific name	Vernacular name	Other uses
	<i>Citrus x aurantium</i> L.	Jeruk bengkak	Bark used for dyspepsia
	<i>Diospyros kuhl</i> L.f.	Kesemek	Roots and leaves are used to treat stomach ache
	<i>Glycinia tochiobanensis</i> (Lour.) Pierre ex Engl.	Gonggeng	
	<i>Morus alba</i> L.	Bebesaran	Roots used to treat gonorrhea, hemorrhoids, toothaches and menstrual disorders, leaves for fevers, diabetes and gonorrhea; For furniture, cabinet work, beams, posts, flooring, bridge building.
	<i>Ziziphus jujuba</i> Mill.	Widara	

Colonial Heritage (1600-1940s)	Scientific name	Vernacular name	Other uses
	<i>Carica papaya</i> L.	Gedang	Roots used to treat renal calculus and headaches, and as an antihelmintic, leaves used for treating fevers, asthma, and beriberi, flowers used for sore throat and as a depurative
	<i>Chrysophyllum cainito</i> L.	Samo héjo	Wood used for small articles and firewood
	<i>Spondias mombin</i> L.	Kadondong sabrang	Wood for muldings, interior finishing, drawers, pulp, matchboxes, boxes, crates, carving
	<i>Hastegia calabra</i> L.	Rásson, talak	Flowers for headaches and influenza; wood for fuelwood
	<i>Persea americana</i> Miller	Alphabet	Medicine, young leaves for hair treatment



## Ethnobotanical Heritage Preserving Bio-cultural Diversity

## THE CURRENT DEVELOPMENT OF TRADITIONAL HOMEGARDEN AS AGRICULTURE HERITAGE SYSTEM

INTENSIVE AGRICULTURAL DEVELOPMENT PROGRAMS HAS ENGINEERED CONSIDERABLE TRANSFORMATION OF THE TRADITIONAL SUSTAINABLE AGRICULTURAL SYSTEMS TOWARD MORE COMMERCIALIZED MONOSPECIFIC PRODUCTION SYSTEMS.

IN THE LAST DECADES THE CHANGES IN THE ROLE OF THE HOMEGARDENS WERE CAUSED BY SEVERAL FACTORS, SUCH AS SOCIAL AND ECONOMIC CONDITIONS, AND URBANIZATION

LANDUSE/BIOTIC CHANGES: BAMBOO-TREE GARDENS

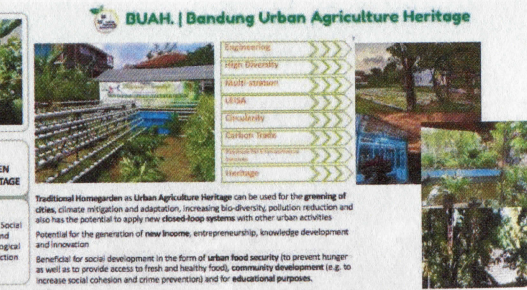


LANDUSE/BIOTIC CHANGES: HOMEGARDENS

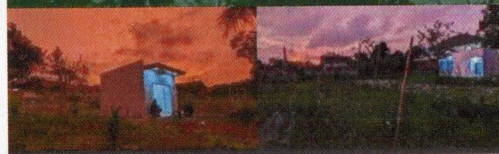


COMPLEX VEGETATION LAYERING HAS BEEN REPLACED BY A SIMPLE VEGETATION LAYER HAS THE MAIN FUNCTION FOR ECONOMIC PURPOSE

BRING EFFECT TO THE COMPOSITIONAL AND STRUCTURAL PATTERN—EFFECT PLANT AND FAUNAL DIVERSITY—LOW DIVERSITY...HOMOGENIZATION OF AGRICULTURAL LANDSCAPE—AGROBIODIVERSITY LOSS—LOSS OF HERITAGE CONTEXT



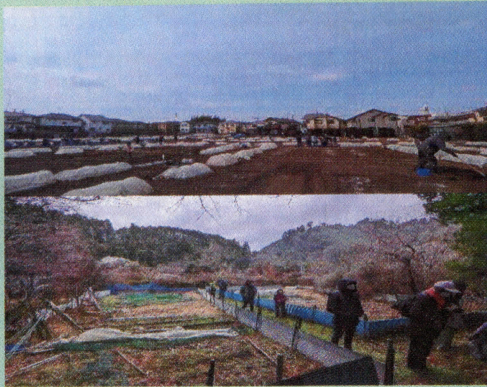
## TRADITIONAL AGROFORESTRY: NEED FOR REVITALIZATION IN THE CONTEXT OF THE SUSTAINABLE CIRCULAR PROCESS AND ECONOMIES



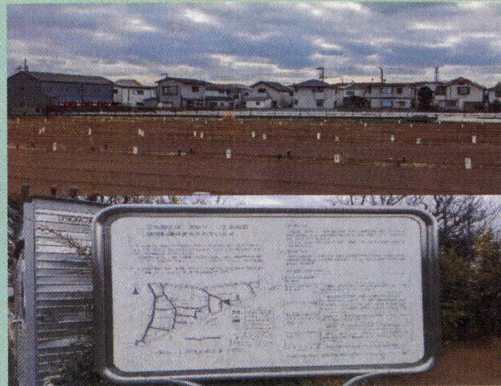
## LET THE AGROFORESTS PREVAIL...



## Lesson Learned

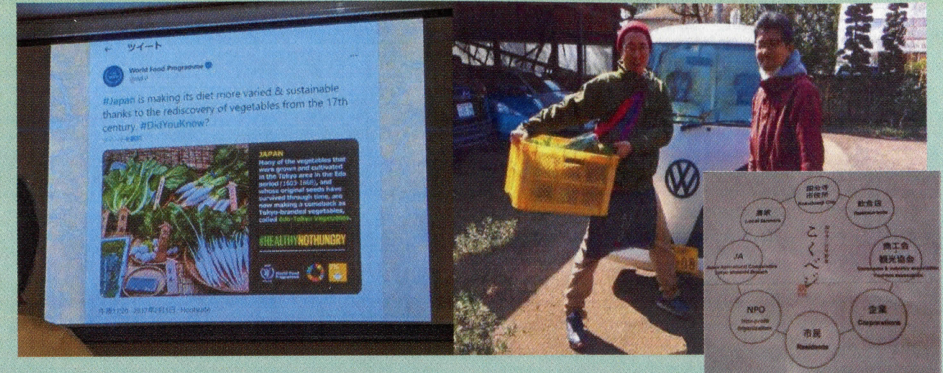


Community engagement built and develop in Nerima, Kokubunji and Hachioji were the efforts that need to be built, as an **insightful institutional development** that could be encourage in Bandung City



Some **Local Policy** regarding spatial arrangement and land use in Nerima City make it possible for some restriction and promoting inherit agricultural practices

## Lesson Learned



The way in **Preserving Edo traditional Vegetables**, is what that need to be learn how the stakeholder hand in hand to promoting this

**Koku-Vege** was an inspiring local supply-chain and network that could we encourage together with the UA enablers through the BUAH living lab as the Hub



## Feedback

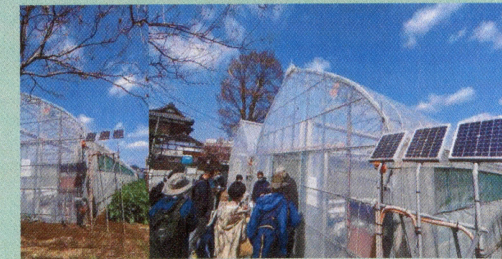
Need to revisit the **profitable practice** regarding the low income, and also the urban dynamic that in the future could be the potential pressure for the urban agriculture practices.

**Co-creation** with the community at the Living Lab as we saw from the *Koku-Vege*, could improve to preserve the heritage that could lead the **sustainable practices**



## Feedback

More **low carbon practices** could be feasible regarding the commercial agricultural that lead into fossil based agriculture practices



The future planning need to be arrange for the **underused land revitalization** regarding the urban development, land ownership and mutual benefit between the community and the landowner





# Thank You

learn from the past for sustainable future

nyawang masa ka tukang ! pikun nenteup ka hareup ! ku bukti nu aya kiwari  
looking back in time ! to look ahead ! with the evidence today