Designing Nature Into Modern Society

-Reimagining Nature-Inclusive Urban Design-

Nagano Prefectural
UEDA Senior High School

1 Motivation/Purpose

Streets and houses
are becoming **dull** and **monotonous**

We need **design** to
incorporate **nature** into society

2 Previous Studies

Shared Planter/bed upkeep *2 (Ueda city, Nagano)

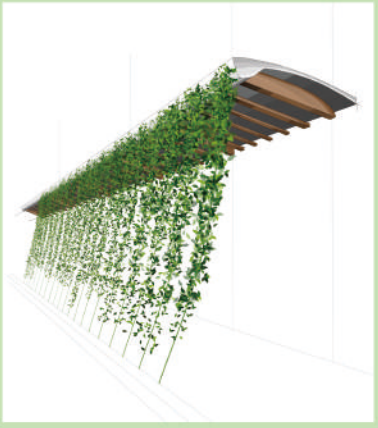
- The city provides planter & bed and residents co-manage them.
- Their cooperative spirit and the environment can be improved.

"LIQUID3"-photosynthesizing bench- *3 (From Serbia to the world)

- Tank is filled with algae, which change CO_2 into O_2 by photosynthesizing.
- It replaces one adult tree/200㎡ of lawn.
- Algae can be used as fertilizer.

3 Implementation

Hanging Living Green Screen



- Blocks the sunlight earlier than normal
- Grows downward due to gravity
- Stored rainwater can be used to grow
- Smart, planter-free design

Prototype

Advice

Dr. Takanori Kuronuma (Chiba Univ.)

- Roots may be stuck and rot
- Roots may penetrate the gutter
- Gutter should be slanted
- Ivy can be used *4

Final Design

Ivy *(Hedera rhombea Beam)*

- Stands cold, heat & shade
- Grows all over Japan
- Suits downward growth *4

4 Conclusion

Source/Contributor
*1:Taken by old friend, C.M. *2:Ueda city, Department of Urban Development, City Planing Division
*3:LIQUID3 DOO Beograd."LIQUID3 – Urban Photobioreactor". https://liquid3.rshttps://liquid3.rs, (Accessed 6 Dec.2025)
*4:Yongjin Park, Takeshi Okinaka."A Study on the Growth Characteristics of Main Adhesive Climbers in Climbing and Hanging type". Zouen-zasshi, vol.53, 1990, pp.115-120.