

Enhancing Synergies for Mitigation and Adaptation in Cities

@ Empowering Local Government in Climate Adaptation
Korean Pavilion Side Event at COP28

Institute for Global Environmental Strategies (IGES)
City Taskforce

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1. Overall Context
2. Brief Overview of Mitigation/Adaptation Plans in Japan
3. Synergies Cases in Japan (small and medium sized cities)
4. Conclusion

Cities

- Contribute to two-third of Global GHG emissions
- are vulnerable to the impacts of climate change



Established cities

Emissions can be reduced by 23-26% by 2050 and offer public health benefits.
Options include:

Improved land use and rezoning, e.g. through spatial planning for compact and resource-efficient cities

Breaking out of lock-in – e.g. by replacing, improving or retrofitting buildings.

Electrifying the grid – and employing low emissions public transport.

Rapidly growing cities

Designing human-centered streets and infrastructure layout is essential for lowering urban demand for energy and achieving low- or net-zero carbon.

Employing low-emissions materials and reducing embodied emissions.

E.g. going straight to electrification of urban services, like transport, heating, cooking etc.

E.g. with urban planning for compact urban areas and co-locating homes with jobs

New cities

These yet-to-be-built cities have tremendous opportunity for low emission design and construction. Achieving this provides benefits for health and economic development.

Smaller-scale, walkable cities

Reducing materials demand and use



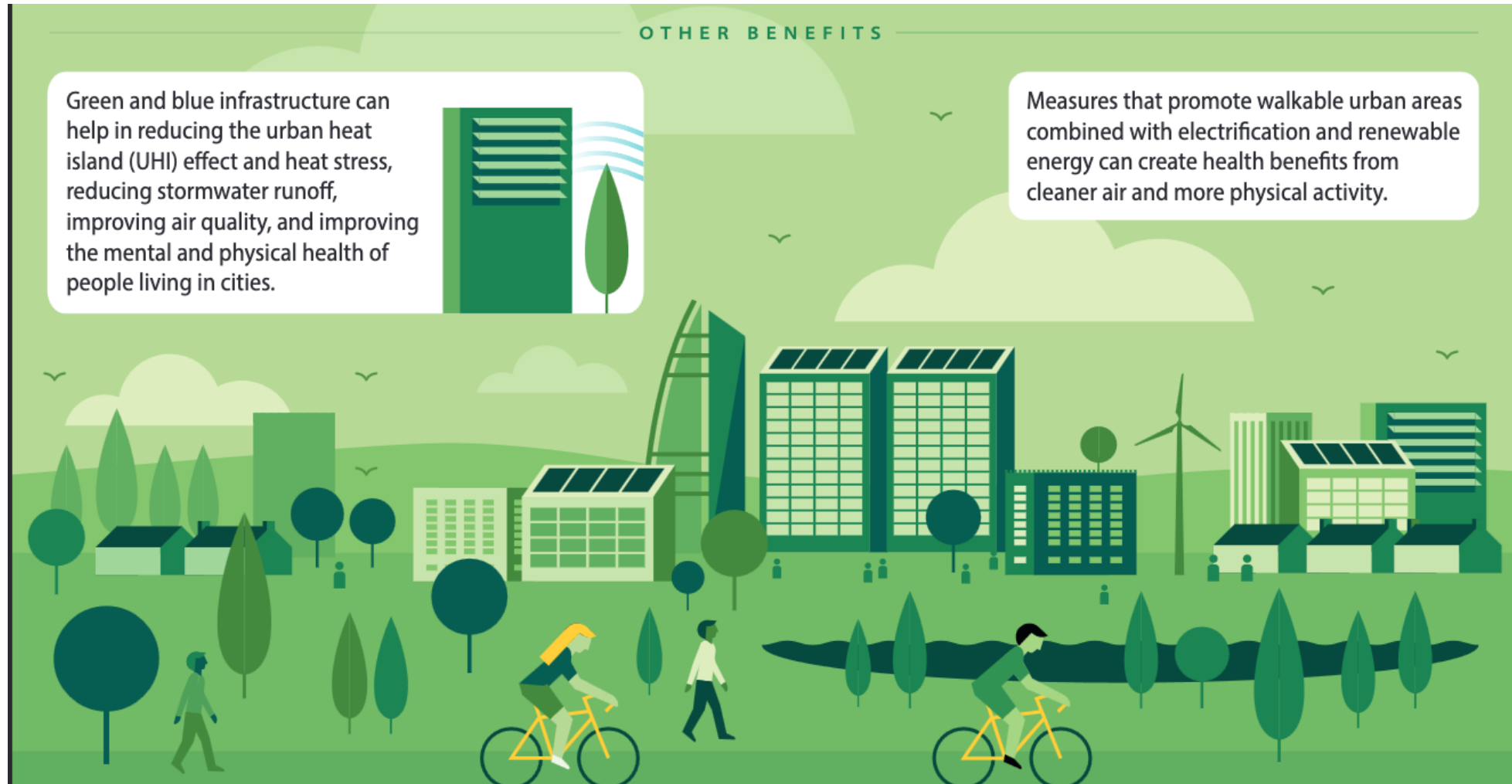
Urban green and blue infrastructure (in all cities): Urban forests, street trees, green roofs and other permeable surfaces can directly mitigate climate change by sequestering and storing carbon. They can also indirectly help by creating a cooling effect which reduces demand for energy and water.

(IPCC WG3
Fact Sheet)

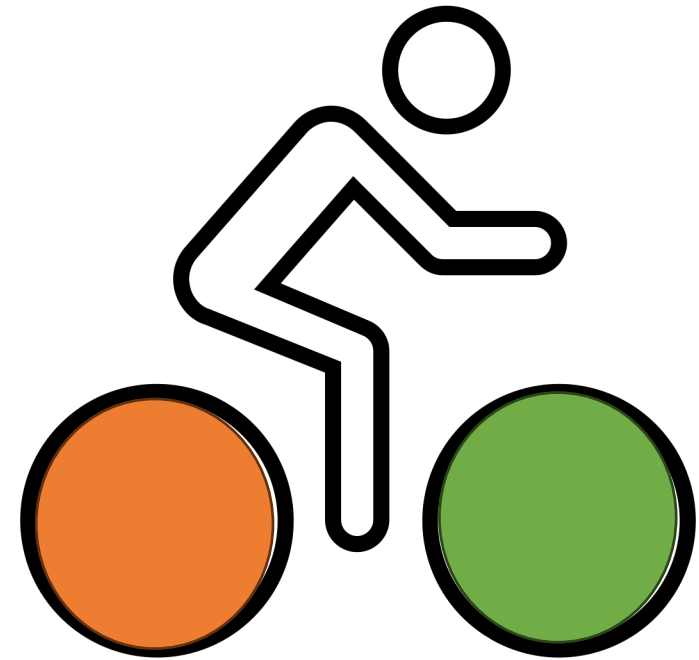
https://www.ipcc.ch/report/ar6/wg3/downloads/outreach/IPCC_AR6_WGIII_FactSheet_Urban_Systems.pdf

(IPCC WG3
Fact Sheet)

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Mitigation and adaptation measures are the two main components of climate action.



Mitigation

Adaptation

The National Laws defined the role of subnational governments and request to develop regional/local plans (1)

[Mitigation] Act on Promotion of Global Warming Countermeasure

Regional/local Action Plan against Global Warming (@ Dec. 2022)

	Own business	Regional
Regional government (prefecture)	47 (100%)	47
Ordinance designated city	20 (100%)	20
Medium cities	62 (100%)	62
Special cities	23 (100%)	23
Other municipalities	1,463 (89.4%)	455 (27.8%)
Total	1,615 (90.3%)	607 (33.9%)

The National Laws defined the role of subnational governments and request to develop regional/local plans (2)

Climate Change Adaptation Act

Regional/local Adaptation Plan (@ the end of Nov. 2023)

Regional government (prefecture)	47
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Ordinance designated city	20
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Municipalities	173
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Total	240
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A-PLAT: Information platform of adaptation

**A-PLAT**
気候変動適応情報プラットフォーム
CLIMATE CHANGE ADAPTATION INFORMATION PLATFORM

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**気候変動と適応**

**国の取組**

**地域の適応**

**事業者の適応**

**個人の適応**

令和5年度 地域の気候変動適応推進に向けた意見交換会

国立環境研究所では地域の適応への取組をさらに推進することを目的に、
「令和5年度 地域の気候変動適応推進に向けた意見交換会」を下記の要領で開催いたします。
地域気候変動適応センターやセンター設置に取り組む自治体の皆様にお集まりいただき、地域の適応
の取組事例や課題等を共有しつつ、地域気候変動適応センターの中長期的なあり方について議論します。
同じ目的意識を持ったメンバー間での意見交換、交流の場としてもご活用いただければ幸いです。

日時 令和5年12月22日(金) 10:00～16:30 (開場 9:30) **場所** ビジョンセンター東京 京橋4階402号室
※現地開催のみ (オンライン開催はありません)

主催：国立研究開発法人国立環境研究所 気候変動適応センター

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更新情報

適応ニュース [すべて](#) [国の取組](#) [地域の適応](#) [事業者の適応](#) [個人の適応](#) [その他](#)

2023.11.28 **NEW** 取り組み事例インタビューに「適応策 Vol.26 富山県：富山で生まれた水稻の高温耐性品種『富富富』の普及を目指す」を掲載しまし

Agriculture, Forestry, Fisheries

Human Health

Water Environment and
Resources

Industries and Economic
Activities

Natural Ecosystems

Life of Citizen

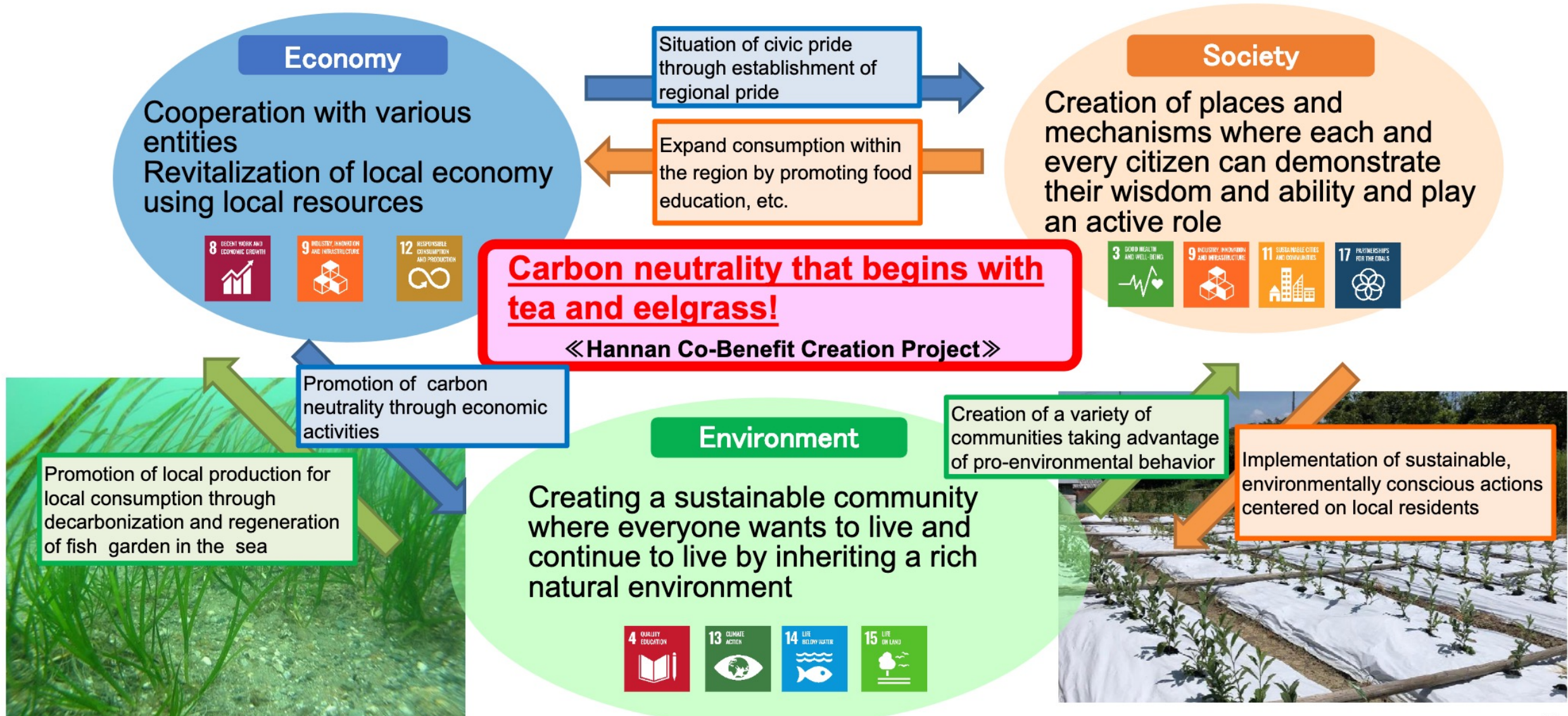
Natural Disasters

**Action areas identified by the
Adaptation Act**

**Promotion of
integrated/synergetic
approach at local level by
national government**



Hannan Co-benefit Project - Hannan City, Osaka

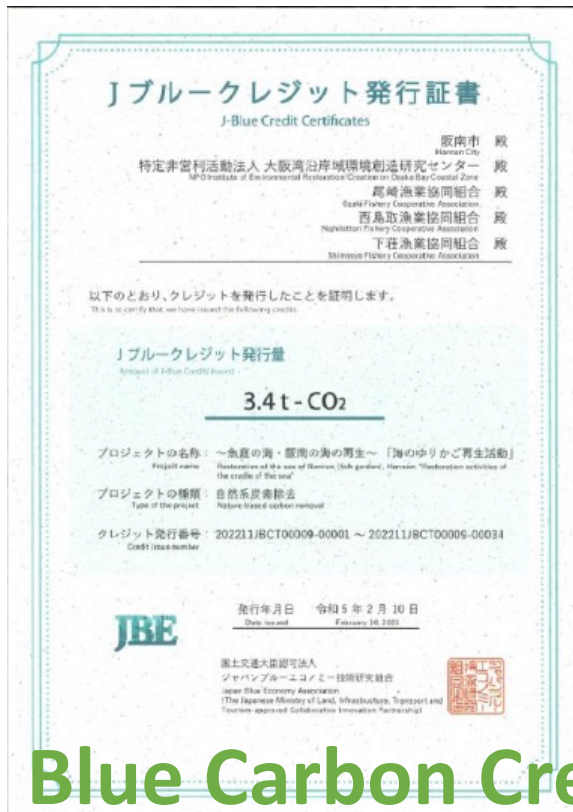


(Source: Hannan City)

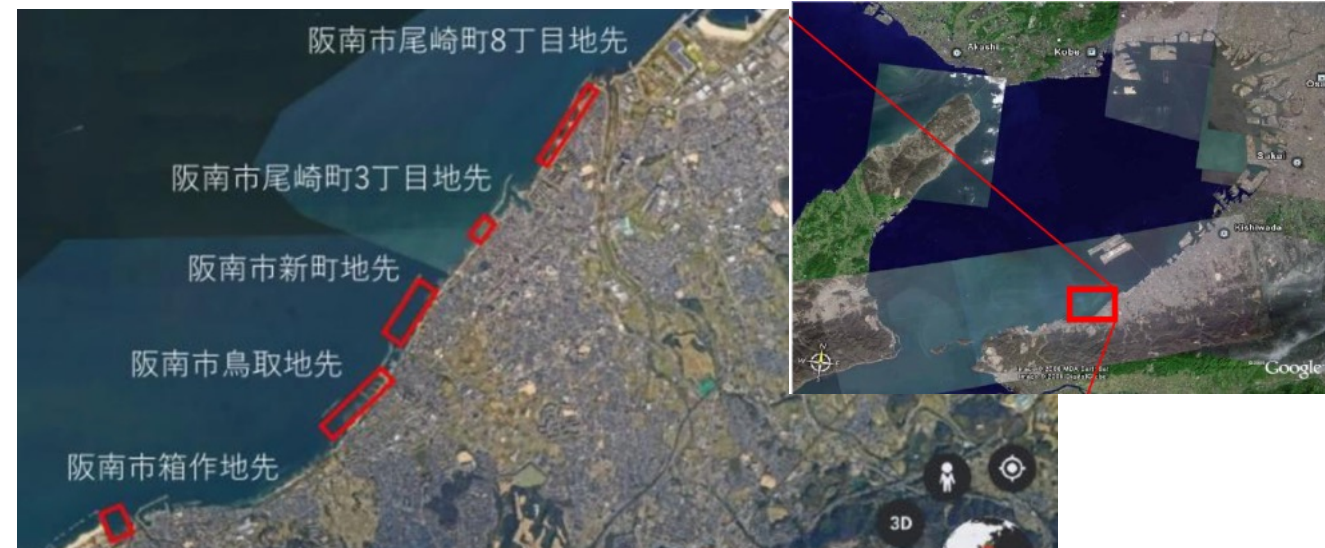


Environmental Education

Eelgrass habitation area in Hannan City



Blue Carbon Credit



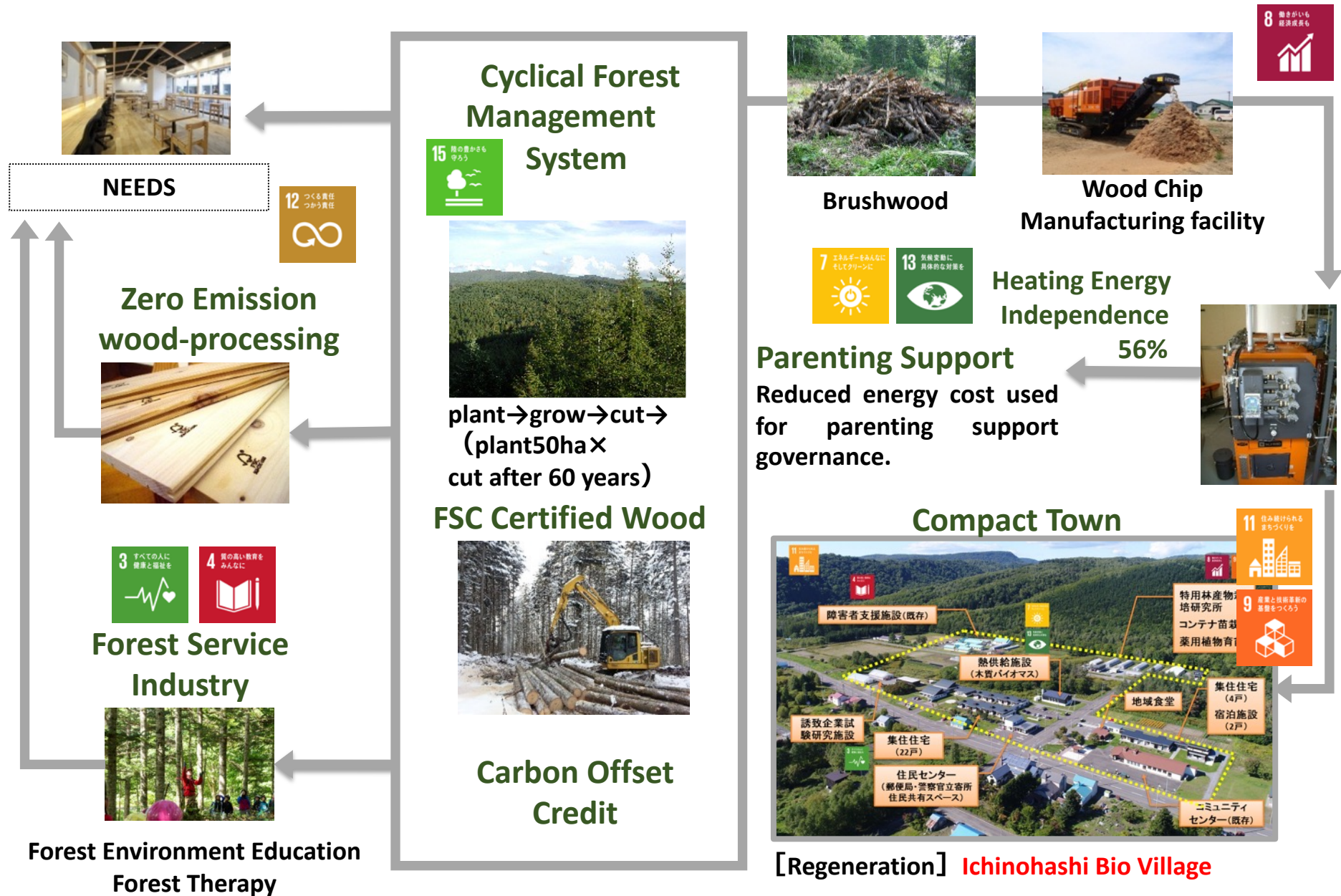
Total Area of habitation Area

1.17 ha (2018) → 1.87 ha (2023)

(Source: Hannan City.

<https://www.city.hannan.lg.jp/kakuka/mirai/promotion/SDGs/7843.html>

Integrated Approach to increase resiliency – Shimokawa Town, Hokkaido





map: <https://www.emerald-road.com/>

Creative Reconstruction: Actions for decarbonisation is the centre of the reconstruction from the damage of an extreme weather event - Kuma Village, Kumamoto



(eg) SDGs Future Cities Programme by the Cabinet Office, Japan

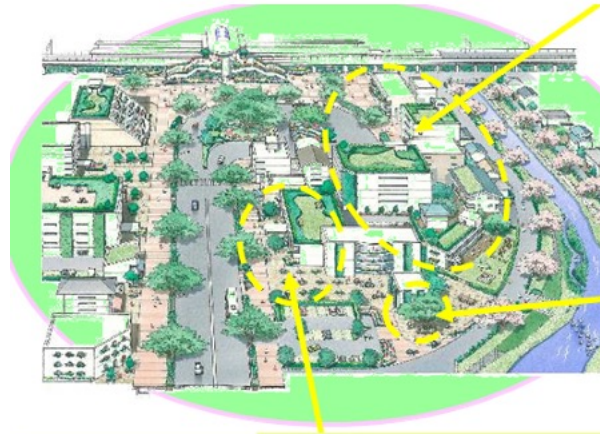
- **Integrated actions** on three dimensions of sustainable development
- Promotion of revitalisation of local economy and society
- Promotion of self-sufficient society

Green Infrastructure Development Support (by Ministry of Land, Infrastructure, Transport and Tourism)

By strategically incorporating green infrastructure into urban development and making better use of the functions of the natural environment in social infrastructure development, land use, etc., we can promote more effective and efficient development of sustainable and attractive cities.

Illustration of project in urban area
- Creating spaces that are easy to work in and attract a diverse workforce

[Illustration of a target area]



Private

Greening of private bldgs.

Public & Private

Greening of bldgs with misting

Public

Greening of public utility facilities (street space)



Public & Private

Rain gardens with soil that store rainwater



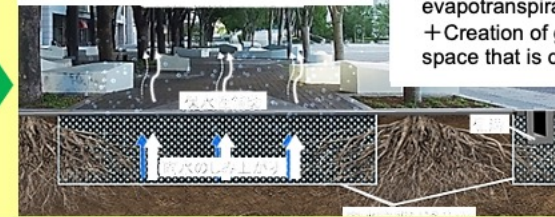
Public & Private

Development of parks and green spaces equipped with rainwater storage and infiltration facilities



Development of parks and green spaces equipped with rainwater storage and infiltration facilities

Rainwater storage, infiltration facilities



Retains and infiltrates rainwater, which helps plants grow, and contributes to heat-island control through evapotranspiration during rainy weather

Demo of diverse functions of nature

- + Temporary control of rainwater runoff
- + Control of road surface temperature rise due to evapotranspiration
- + Creation of green shade to create a lively urban space that is cool and comfortable even in summer

Key takeaway (1)

- Synergetic approach is essential for decarbonized, resilient and sustainable city development.
- In Japan, a certain progress has been made, with the support/guidance of the national government.
- Circular Ecological Sphere is the concept for holistic approach that address the triple challenges of our global community – climate, biodiversity loss, and sustainable development.

Key takeaway (2)

- Silo approach is still there – mainstreaming climate actions for transformative changes in local plans, especially in urban/town development plan
- Multi-level governance – national-local, inter-regional/local (beyond administrative borders, in local, etc..)
- Behavioral changes: how to encourage people to join the journey of transformation?