SDGs by Built Environment
(SDGs: Sustainable Development Goals)

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SDGs by Built Environment
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The Sustainable Development Goals are the blueprint to achieve a better and more sustainable future for all.

They address the global challenges we face, including those related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice.

The Goals interconnect and in order to leave no one behind, it is important that we achieve each Goal and target by 2030.

“The 2030 Agenda for Sustainable Development” was adopted by all United Nations Member States in 2015.

At its heart are “the 17 Sustainable Development Goals (SDGs),” which are an urgent call for action by all countries - developed and developing - in a global partnership.

They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.
The SDGs build on decades of work by countries and the UN, including “the UN Department of Economic and Social Affairs.”

In June 1992, at the Earth Summit in Rio de Janeiro, Brazil, more than 178 countries adopted “Agenda 21,” a comprehensive plan of action to build a global partnership for sustainable development to improve human lives and protect the environment.

Member States unanimously adopted “the Millennium Declaration” at the Millennium Summit in September 2000 at UN Headquarters in New York. The Summit led to the elaboration of eight “Millennium Development Goals (MDGs)” to reduce extreme poverty by 2015.

“The Johannesburg Declaration on Sustainable Development” and “the Plan of Implementation,” adopted at the World Summit on Sustainable Development in South Africa in 2002, reaffirmed the global community's commitments to poverty eradication and the environment, and built on Agenda 21 and the Millennium Declaration by including more emphasis on multilateral partnerships.

At the United Nations Conference on Sustainable Development (Rio+20) in Rio de Janeiro, Brazil, in June 2012, Member States adopted the outcome document "The Future We Want" in which they decided, inter alia, to launch a process to develop a set of “SDGs” to build upon the MDGs and to establish the UN High-level Political Forum on Sustainable Development.

The Rio+20 outcome also contained other measures for implementing sustainable development, including mandates for future programmes of work in development financing, small island developing states and more.

In 2013, the General Assembly set up a 30-member Open Working Group to develop a proposal on the SDGs.

In January 2015, the General Assembly began the negotiation process on the post-2015 development agenda.

The process culminated in the subsequent adoption of “the 2030 Agenda for Sustainable Development,” with 17 SDGs at its core, at the UN Sustainable Development Summit in September 2015.
2015 was therefore a landmark year for multilateralism and international policy shaping, with the adoption of several major agreements:

1) Sendai Framework for Disaster Risk Reduction (March 2015)

2) Addis Ababa Action Agenda on Financing for Development (July 2015)

3) Transforming our world: the 2030 Agenda for Sustainable Development with its 17 SDGs was adopted at the UN Sustainable Development Summit in New York in September 2015.

4) Paris Agreement on Climate Change (December 2015)

Now, the annual High-level Political Forum on Sustainable Development serves as the central UN platform for the follow-up and review of the SDGs.

Today, “the Division for Sustainable Development Goals (DSDG)” in the United Nations Department of Economic and Social Affairs (UNDESA) provides substantive support and capacity-building for the SDGs and their related thematic issues, including water, energy, climate, oceans, urbanization, transport, science and technology, the Global Sustainable Development Report (GSDR), partnerships and Small Island Developing States.

DSDG plays a key role in the evaluation of UN system-wide implementation of the 2030 Agenda and on advocacy and outreach activities relating to the SDGs. In order to make the 2030 Agenda a reality, broad ownership of the SDGs must translate into a strong commitment by all stakeholders to implement the global goals.

DSDG aims to help facilitate this engagement.
The 17 Goals are associated with the 169 Targets, to be measured by the 232 Indicators.
Goals

The 17 Goals are associated with the 169 Targets, to be measured by the 232 Indicators.

Goal #11: Make cities and human settlements inclusive, safe, resilient and sustainable.

Targets: SDG#11’s targets are most relevant to the Built Environment.

11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services, and upgrade slums.

11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.

11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.

11.4 Strengthen efforts to protect and safeguard the world’s cultural and natural heritage.

11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.
Targets (cont’d)

11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.

11.a Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.

11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels.

11.c Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials.

Indicators: Extract from the 16 Indicators of the 10 Targets for the Goal#11

11.1.1 Proportion of urban population living in slums, informal settlements or inadequate housing

11.2.1 Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities

11.3.1 Ratio of land consumption rate to population growth rate

11.3.2 Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically

11.4.1 Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and World Heritage Centre designation), level of government (national, regional and local/municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private non-profit sector and sponsorship)

11.5.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population

11.5.2 Direct economic loss in relation to global GDP, damage to critical infrastructure and number of disruptions to basic services, attributed to disasters
About the UIA Commission on the UN Sustainable Development Goals

Mission

In this era of population shifts, climate change and unprecedented levels of urbanisation, architects have an important role in responding to the complex challenges of the built environment.

The UN Sustainable Development Goals (SDGs) set a framework for this agenda, as well as for alleviating poverty, protecting the planet and ensuring prosperity at a global scale.

The UIA is well positioned to create a bridge between the initiatives of the UN and the practical activities of architects around the world.

Through the establishment of a Commission that responds directly to the SDGs, the UIA can be influential in raising awareness, creating knowledge, facilitating communication and disseminating information across its global network of members.

The Commission aims to ensure that architects are not just responsive to the new Agenda for Sustainable Development, but prescriptive in its implementation and evolution.
Aims

1. To respond to each of the 17 Goals through adopted policy statements.

2. To have a visible and active presence at important UN meetings, including COPs and World Urban Forums.

3. To champion the importance of architecture in the development of well-functioning sustainable societies.

4. To establish a platform for exchange between members of the UIA.

5. To promulgate the Commission’s policy statements as widely as possible.

Structure-1

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Natalie Mossin
Ishtiaque Zahir Titas

Secretariat
Annette Blegvad
based in Copenhagen

UIA General Assembly

UIA Bureau

Co-Chair
Secretariat
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Steering
Meet annually

Members

Projects
Reports
Events
10 Steering Committee members represent the 5 regions of the UIA.

The Secretariat is based in Copenhagen.

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SUMMARY OF ARCHITECTURE GUIDE

to the UN 17 Sustainable Development Goals (SDGs)
January 2019

Original Book in English edited by: The Institute of Architecture and Technology at The Royal Danish Academy,
The Danish Association of Architects and
The UIA Commission on the UN SDGs

Summarized Book by Kazuo IWAMURA (Member, UIA Commission on SDGs & JIA Editing Committee of SDGs)

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PREFACE

The Sustainable Development Goals are a call for action by all countries – poor, rich and middle-income – to promote prosperity while protecting the planet.

Architects can provide basic ideas and proposals for regulations that make it possible for us to have sustainable cities and communities in the future. Architects can facilitate the open dialogue and work in partnerships to give us good solutions and can encourage authorities to make the regulations necessary to move forward.

Mogens Lykketoft

Former Danish Minister of Finance and of Foreign Affairs, President of the United Nation’s General Assembly from September 2015 to September 2016

November, 2018

INTRO

The 17 UN Sustainable Development Goals define the challenges we need to address to achieve a better and more sustainable future for all. The Goals are deeply interconnected, and to leave no one behind, the world must move significantly towards achieving each Goal by 2030.

The built environment, planning, architecture and design, interact with every goal. And most crucially: not just on an aspirational level or as future potential, but through realized buildings, settlements and cities all over the world. Architectural solutions are already there, everywhere, contributing to sustainable communities and quality of life.

However, the built environment is also a part of the current challenges a major consumer of energy and natural resources, and producer of waste. Furthermore, how we build can exacerbate inequalities and affect health.

That is why the Institute of Architecture and Technology at The Royal Danish Academy of Fine Arts Schools of Architecture, Design and Conservation, the Danish Association of Architects and the UIA Commission on the UN Sustainable Development Goals have created this architecture guide to the Goals.
With this guide book we hope to make it tangible how the built environment interacts with the goals and to inspire architects and stakeholders involved in the built environment to engage with the challenges. It is for each and every one of us to contribute to the realization of the goals.

The intention of this book is to provide an architecture guide to the Goals. The 17 chapters present how each Goal is defined by the UN, outlines how it interacts with the built environment and gives examples of realized projects that illustrate architectural contributions.

Many of the cases address more than one goal, but the aim here is not to explore sustainable projects in their full complexity, but to understand the Goals as they relate to architecture.

All cases are realized architectural projects, planning initiatives and structures. Our hope is that the cases will form a basis on which to start a conversation about how the built environment can contribute to each Goal.

In this first edition of the guide we have 2-3 cases to illustrate each goal, many from Denmark. In future editions we would like to expand the range of projects, and we welcome suggestions of cases to be included in the second edition, planned for 2020.

Each case in this guide is inspiring and noteworthy, but they are not the final answer to how the built environment can contribute to the realization of the Goals. There is no one answer to that.

To move towards the realization of the Goals, we need many new solutions, adapted to local climate, culture and challenges, and we need them not as ideas, but on the ground, implemented and in use. It is through realized buildings, settlements and planning the effect is achieved; environmentally and on our quality of life.

This publication is dedicated to the architecture students who will shape the future of architecture, planning and design; to the politicians who will aid them by understanding the intersections between architecture and the Goals; and to all citizens, professionals and institutions who join in the collective challenge ahead – to address social needs while protecting the planet.

On behalf of the Editorial Committee

Natalie Mossin

Chief Editor
Lists of the ACHITECTURE GUIDE to The UN 17 Sustainable Development Goals

(The following lists are the summary of the original Architecture Guide.)

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<thead>
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<th>No.</th>
<th>Logo</th>
<th>Goal</th>
<th>Architecture Guide</th>
<th>Case Practices</th>
<th>No.</th>
<th>Name/Photo</th>
<th>Place</th>
<th>Type</th>
<th>Specific Solutions</th>
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<tr>
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<td><img src="image1.png" alt="Logo" /></td>
<td>NO POVERTY</td>
<td>End poverty in all its forms everywhere</td>
<td>Voluntaria Honea for homeless children, Pooncherry, India</td>
<td>01-1</td>
<td><img src="image2.png" alt="Photo" /></td>
<td>Pondicherry, India</td>
<td>Housing</td>
<td>Houses for homeless children and their foster parents</td>
<td>AD, AD, AD, BE</td>
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<td>#02</td>
<td><img src="image3.png" alt="Logo" /></td>
<td>ZERO HUNGER</td>
<td>Zero hunger, achieve food security and improved nutrition and promote sustainable agriculture</td>
<td>Non-profit Affordable Housing, Odensehavn, Denmark</td>
<td>01-2</td>
<td><img src="image4.png" alt="Photo" /></td>
<td>Odensehavn, Denmark</td>
<td>Housing</td>
<td>Affordable housing for low income Pre-loved units stacked along a nave, creating a public space</td>
<td>AD, AD, AD, BD</td>
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<td>#03</td>
<td><img src="image5.png" alt="Logo" /></td>
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<td>Good health and well-being</td>
<td>Impact Farm, Rakslev, Denmark</td>
<td>02-1</td>
<td><img src="image6.png" alt="Photo" /></td>
<td>Rakslev, Denmark</td>
<td>Greenhouse</td>
<td>Promoting the use of local agriculture and livestock farming</td>
<td>AD, AD, AD, BD, CM</td>
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<td>#04</td>
<td><img src="image7.png" alt="Logo" /></td>
<td>QUALITY EDUCATION</td>
<td>Quality education</td>
<td>The Michigan Urban Farming Initiative, Michigan, USA</td>
<td>02-2</td>
<td><img src="image8.png" alt="Photo" /></td>
<td>Michigan, USA</td>
<td>Urban farm</td>
<td>Improving the health of users by using natural resources</td>
<td>AD, AD, AD, BD, CM</td>
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Legend: BE, Building Element; ED, Equipment Design; AD, Architectural Design; CD, Community Design; LD, Landscape Design; TP, Town Planning; PD, Political Design
Architecture cannot lift people out of poverty, but the built environment can affect the impact of poverty on people’s life through access to housing and institutions that are affordable.

End poverty in all its forms everywhere

Homes for homeless children and their foster parents are experimental affordable mud-brick houses burnt on-site, using local natural materials & techniques, such as ceramic materials produced in the house as a kiln.

End hunger, achieve food security and improved nutrition and promote sustainable agriculture

The built environment contributes to the securing of food supplies through planning, landscape design and building complexes that protect existing ecosystems and prioritize the preservation and expansion of areas for food production.

Economizing resources & time by using local agriculture, this is a new hydroponic system of high resource efficiency enabling significant freshwater saving. Locally and/or on-site produced & consumed foods are shared by the community.
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<th>General Goal</th>
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<tr>
<td>#03</td>
<td>Good Health and Well-being</td>
<td>Ensure healthy lives and promote well-being for all at all ages</td>
<td>03-1</td>
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<tr>
<td></td>
<td></td>
<td>Most people spend the majority of their life indoors, making indoor climate an influential factor of health.</td>
<td>The Magdala Project, Mapoed, Tanzania</td>
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<td></td>
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<td>1) Healthy indoor environment is a fundamental design goal. 2) This should be primarily concerned that the users are satisfied with the hospital for instance. 3) Use of environmentally sustainable materials &amp; substances should be avoided. 4) In addition to AD, CD &amp; TP are also crucial to reduce the spreading of diseases &amp; exposure to hazards. 5) Built environment design must include the promotion of users' activities. 6) Also, the design of a new building should be considered to reduce risk of any accidents. 03-2</td>
<td>Kendalia, Denmark</td>
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<tr>
<td></td>
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<td>1) Use of local, sustainable materials &amp; substances. 2) Design to reduce the spreading of diseases &amp; exposure to hazards. 3) Use of a new building should be considered to reduce risk of any accidents. 4) In addition to AD, CD &amp; TP are also crucial to reduce the spreading of diseases &amp; exposure to hazards.</td>
<td>Car Parking 3-3. Maggie’s at the Robert Parfett Building, Manchester, UK</td>
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<tr>
<td></td>
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<td>1) Maggie’s Centre socially supports cancer patients &amp; their families. 2) Ambitious mix of accommodation for healing by quiet &amp; active use. 3) Quiet &amp; active use by patients &amp; visitors. 4) ‘Home away from home’ with daylighting, greenery &amp; views. 5) Central kitchen &amp; dining room surrounded by a variety of spaces such as personal, social, library, exercise &amp; meeting rooms.</td>
<td>Maggie’s Centre socially supports cancer patients &amp; their families. 3-3 Maggie’s at the Robert Parfett Building, Manchester, UK</td>
</tr>
</tbody>
</table>

3-3. Maggie’s at the Robert Parfett Building

Manchester, UK

Maggie’s Centre socially supports cancer patients & their families, and the major architectural roles are to contribute to healing by silence & clean air.
**4 QUALITY EDUCATION**

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Schools and educational spaces are a crucial part of our investment in the future.

4-3. The Community Dome

Za´atari Village, Jordan

The purpose of “100 classrooms for refugee children” is to provide affordable & easy-to-build schools, as well as to promote this technique through participatory workshop.
To support a movement towards gender equality, the design of buildings, settlements and urban areas must be inclusive to all citizens regardless of gender.

5-3. Wonder Wood – a loop of movement

Skørping, Denmark

Men and women have different preferences for exercise facilities and space. This project’s aim was to promote physical exercise of girls at the school.

The cluster-wise dispersed play zones for girls are integrated with trees and a variety of wooden elements.
To take advantage of rainfall where clean water is scarce, buildings and urban areas must be designed so that rainwater can be collected, purified and used as drinking water.

Major health problems in Ethiopia are caused by the lack of clean water & sanitation systems.

Warka Tower makes it possible to harvest portable water from the atmosphere by collecting rain, fog and dew through the use of gravity, condensation & evaporation, without electrical power.
<table>
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<th>RDGs</th>
<th>General Goal</th>
<th>Architecture Guide Case Practices</th>
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<tbody>
<tr>
<td>7</td>
<td><strong>AFFORDABLE AND CLEAN ENERGY</strong></td>
<td>Ensure access to affordable, reliable, sustainable and modern energy for all</td>
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<td></td>
<td>The built environment is a major source of energy consumption and a potentially crucial energy producer.</td>
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7-3. **Paramit – factory in the forest**

Penang, Malaysia

Architectural design can affect the energy performance and ecological footprint.

This is constituted of factory, warehouse and offices, designed for engineering, manufacturing and post-manufacturing services.

Its high energy efficiency gives 45% reduction of energy consumption, compared to the former.
Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

The built environment interacts with decent work and economic growth on both a planning level and on a building level.

8-3. Moving Schools
Goa, India

The seasonal migrant labor population of India is estimated as high as 100 million, and their children face a crucial lack of education. Moving School is a series of mobile classrooms that are designed to float, roll and unfold. The 4th school in Goa opened in 2005 on a floating platform in the river for the children of labor groups moving on the river to extract the sand.
Since 1950 around 9 billion tons of plastic has been produced, and closed to 7 billion tons have become waste. Less than 10% of the discarded plastic has been recycled and it is estimated more than 450 years to biodegrade.

Simple Plastic integrated technology and art to disseminate the unexpected beauty of scraps.

All the building materials is handmade and composed of 100% harmless plastics that can be recycled and up-cycled.
Reduce inequality within and among countries

The built environment can act as an amplifier and enforcer of inequalities.

Regardless of political or religious belief, we require sometimes a moment of reflection in silence.

Traditionally, spaces of refuge and spirituality have been linked to specific beliefs with a different set of rituals and special concepts, which rarely facilitated inclusion and interaction of audiences.

This chapel has a space for cure & peace irrespective of religion, faith and origin.

It is located in the lively commercial center of Helsinki, and provides citizens with warm and comfortable atmosphere by using thick Finnish woods.
The built environment is crucial to the development of sustainable cities and communities.

**11-1. Low Impact Living Affordable Community**

**Leeds, UK**

Design can make our cities more inclusive, safe and resilient, sharing the common resources, reducing the use of space & energy.

LILAC is a co-housing project mixing private areas and common facilities.

A common house with household facilities surrounded by green areas promotes social activities of the residents.

By employing prefabricated building methods, using locally produced woods, straw bale and high efficient BE, an extremely low energy consuming and comfortable living environment has been created.

In addition, car-sharing, training of how to use equipment and tools, sharing of meals and growing food on allotment are managed and operated.
Ensure sustainable consumption and production patterns

The building industry is a major contributor to waste.

12-1. DESI Training Center
Rudrapur, Bangladesh

With increasing living standards come a change of life-style towards higher level of consumption and dependency on imported materials, which result in a large carbon footprint.

This is a vocational school built in a rural area of Bangladesh, mixing traditional and modern building methods.

An affordable & beautiful learning space has been created by using passive natural energy, rationalizing the space constitution, respecting the local aesthetics & lifestyle and applying self-build process, which the residents highly proud of.
**SDGs**

<table>
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<tr>
<th>General Goal</th>
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<th>Case Practices</th>
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<td>No.</td>
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<td>Basic Coat</td>
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**CLIMATE ACTION**

Take urgent action to combat climate change and its impacts

The CO₂ footprint of the built environment must be reduced, and buildings and settlements must be adapted to the changing climate.

13-1. **Qunli Stormwater Park**

Harbin, China

Chinese president Xi said “A city should be like a sponge,” supporting a new movement Chinese urban planning against floods called “Sponge City,” which reintroduced traditional methods into the rapid urbanization in China.

This example in Harbin is a landscape design, following the policy to renew the former wetland to a huge park.

This park stores and purifies the storm water coming from developed areas and provides wonderful green landscape.
We must pay attention to use as many BMs that can be recycled or up-cycled as possible.

As ca. 20% of all the plastics is used in the building industry, there is a tremendous possibility of recycling them.

This is an energy efficient lighting system with LED that can be applied to existing system, while all the materials and components are recycled and can be further recycled later.

Taking the serious problem of “Ghost fishing” by “Ghost nets” into account, this lighting has been developed using the ghost nets to be up-cycled, and installed in the National Aquarium Denmark.
Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss

The amount of buildings, settlements and cities taking up land is rapidly growing.

15.1. Red Ribbon Park
Qinhuangdao, China

Supporting natural wild life while creating access to green and lush areas in densely populated regions is a balance between intervention and preservation. This is a landscape architecture for recreation, which responds to the above purpose.

The impressive ribbon-like red object curves along the river bank, and invites the users to the open space associated with a variety of elements.

The boardwalks are the access for the citizens toward the river and wetlands.
Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

Parliaments, courthouses and public libraries are cornerstones in a just and peaceful society, while local community centers, places of worship and safe houses can represent citizens’ commitment to an inclusive and compassionate society.

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

Parliaments, courthouses and public libraries are cornerstones in a just and peaceful society, while local community centers, places of worship and safe houses can represent citizens’ commitment to an inclusive and compassionate society.

16-1. The International Criminal Court in Hague
Hague, Netherlands

Such institutions as ICC have a dilemma to keep them as public domains with the transparency & inclusion, while safety. This was designed not only to deal with risk issues but also to undermine inclusion & equal access to public space. The design team has coped with a variety of themes including terror-prevention, identity making, climate adaption, storm-water management and safety for stakeholders. The international significance is symbolically expressed in the biodiverse courtyard.
Strengthen the means of implementation and revitalize the global partnership for sustainable development

Every city is built by many hands, and similarly we need to work together to reach the 17 Sustainable Development Goals, as no single stakeholder can reach them alone.

104 million people live in slums in Latin America, lacking a proper home and access to basic services.

To cope with these problems, NPO TECHO was established, led by youth. The strategic objectives:
1) Promotion of community development in slums
2) Fostering social awareness and action
3) Political advocacy

TECHO is engaged in corporate partnerships with major international businesses who bring funding, knowledge and manpower.

17-1. TECHO - a youth led non-profit organization

Based In Miami, Florida & NY, USA
Appendix: Additional case practices

(The following additional examples are included in preparation for the 2nd edition.)

Appendix-1: Solar School

Kobe, Japan

2013 Grand Prix, JIA Environment Award, by Kazuo IWAMURA (IWAMURA Atelier Inc.)

To commemorate the 100 year’s anniversary, the German School in Kobe was rebuilt in 2009 as a highly environmentally conscious school, according to the following goals:
1) Region specific & adaptive design
2) Consideration for town-scaping
3) Wooden construction for all
4) Passive design by daylighting & natural ventilation
5) Diverse buffer zones
6) Active design by PV solar roofing
7) Waste reduction etc.

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Schools and educational spaces are a crucial part of our investment in the future.
A huge earthquake hit the northern Thailand in 2014, leaving 2,000 pupils no access to their schools. NPO “Design for Disasters” has started to build 9 schools, one of which was designed by J. Sekino associated with a variety of institutions including fund raising. Much efforts were given to design as much light and flexible construction as possible to meet the future changing demands.

Appendix-2: Baan Nong Bua School

Baan Nong Bua, Thailand

2018 Building of the Year, ARCASIA by Jun Sekino
(JUNSEKINO Architect & Design Co., Ltd.)

The 1st Open Building housing in Japan, built in 1993, is composed of the following experimental technology and management systems,
1) Skelton + Infill + Cladding (Open Building System)
2) Flexible Floor Plan
3) Fuel Cell Cogeneration
4) Gas-turbine Cogeneration
5) PV Power Generation
6) Waste Disposal System
7) Aqua-loop System
8) Urban Biotope
9) 3D Passage System
10) Life Cycle Analysis
11) Environmental Accounting

Appendix-3

NEXT 21

Osaka, JAPAN

by Prof. UCHIDA et al.
Take urgent action to combat climate change and its impacts

The CO₂ footprint of the built environment must be reduced, and buildings and settlements must be adapted to the changing climate.

2018 Grand Prix, JIA Environment Award

Japanese Consumers Cooperative Union (JCCU) set up the new policy of “CO-OP for SDGs (the 7 Goals of #12, #7, #1, #16, #5, #11, #13 and #3),” as core activities of the consumers’ cooperative organization. Accordingly, the new headquarters was designed and build in a central area of Tokyo, to create a region specific and decent office building including;

1) Energy efficiency using solar and co-generation
2) Safe interior with no hanging facility from the ceilings
3) Stable & comfortable indoor temperature at ave.20C.
4) Supporting space and provisions for disaster victims

The Great Earthquake and the following Tsunami hit the East Japan in 2011, and left huge amount of affected people evacuated in unhuman gymnasiums as refuges for long time.

Every city is built by many hands, and similarly we need to work together to reach the 17 Sustainable Development Goals, as no single stakeholder can reach them alone.
Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Every city is built by many hands, and similarly we need to work together to reach the 17 Sustainable Development Goals, as no single stakeholder can reach them alone.

Since Mar. 11th, 2011, Toyo ITO has been energetically committed in relief and recovery activities in the affected regions. “Home-for-All” projects are among them, providing a place for peace of mind for the victims to meet and communicate each other.

More than 10 “Homes-for-All” have been thereafter completed to date for a variety of affected people.

Appendix-6: “Home-for-All” Networking

Based in Tokyo, Japan

by Toyo ITO et al.

(TOYO ITO & ASSOCIATES, ARCHITECTS)

Emergency Architects for Disaster Relief

sent by JIA nationwide to date for:

1) Aftermath investigations in general
2) Damage level diagnosis of affected buildings
3) Consultation for victims

(Source: JIA Committee on Disasters, 2014)
NEXT STEPS TO GO

The next steps are planned to be executed as follows;

Communication
- Communication campaign / platform for wide scale promulgation

Data Bank
- Data bank of case studies and urban professionals.
- Develop an index of architectural qualities (in relation to SDG)
- Source, categorise, analyse case studies representing each UIA region

Education
- Develop education policies and summer school programme

To be continued...