Towards architectural realization of SDGs

through

<The Triple Bottom Line>,

constituted of

Environmental (Planet), **Social** (People) & **Economic** (Profit)

dimensions of sustainability,

as well as

<Forecasting> & ***<Backcasting>***,

the interactive time frame of creating the sustainable future.

by

Prof. Kazuo IWAMURA, JIA, UIA

Professor Emeritus, Tokyo City University, Japan
Visiting Professor, Chu Hai College, HK
CEO, IWAMURA Atelier Inc., Yokohama, Japan

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1. Foreword

The 17 SDGs are bold and noble statements. Some SDGs are more directly related to the designing of the built environment. Others are only indirectly affected by the hardware of architecture and landscape architecture.

Because they cover a very wide range of human living, and statements are necessarily general and vague, whatever you do, you can almost always find an interpretation that qualifies your project as satisfying one or two SDGs or even more.

If a set of criteria for a purpose is too vague, and thus easy to qualify, there is a danger that that purpose is used for non-substantive branding exercise only.

But SDGs address serious issues we face today, and are a worthy set of values that we wish to see penetrate the design professions, with real results and effects.

It requires deep understanding of what they need to achieve, as well as creative thinking about what our profession can do that is really significant in each of the goals.

2. A cloud of SDGs keywords

The following is a cloud of keywords picked-up from recent discussions in Japan about SDGs.

Accessible, Adaptive, Affordable, Awareness, Biodiverse, Clean, Collaborative, Connected, Creative, Cultural, Decent, Durable, Economic, Ecological, Environmental, Equitable, Healing, Healthy, Human, Inclusive, Innovative, Involved, Low-cost, Recycling, Regenerative, Renewable, Resilient, Safe/Secure, Social-responsible, Sustainable, Symbiotic, Transparent, Universal, Upcycle, Vernacular, Vital, Well-being, ZEB (Zero Energy Building), etc.

3. SDGs Triple Bottom Line

Those keywords can be sorted in a framework of the Triple Bottom Line (TBL), constituted of 3 major dimensions of sustainability as shown in Fig.1 on the right. TBL was developed by John Elkington in 1994 for the sustainable corporate accounting.

It was commented, however, that this TBL is short of the time dimension for operating the future transformation, to be included in the Quadruplet Bottom Line (QBL).

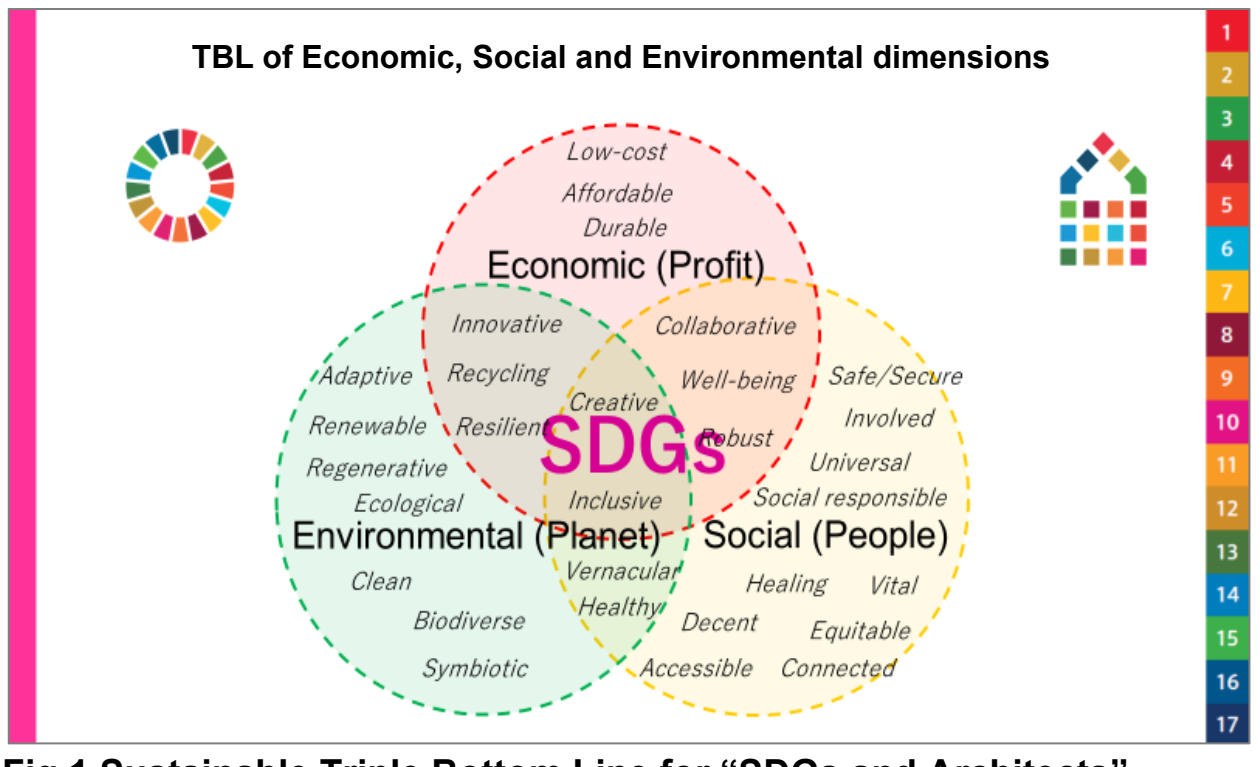

Fig.1 Sustainable Triple Bottom Line for "SDGs and Architects"

4. The 3 pillars leading towards Social Value Transformation by SDGs

Fig.2 on the right shows the social value transformation from current brown market towards future green market, by means of the 3 pillars representing Ethical and Beneficial Motives which generate the Green Behaviors of SDGs.

SDGs Architecture Guide can be herewith used as a communication tool helping stakeholders globally recognize the related issues.

Fig.2 SDGs realization by means of Social Value Transformation

5. Forecasting and Backcasting

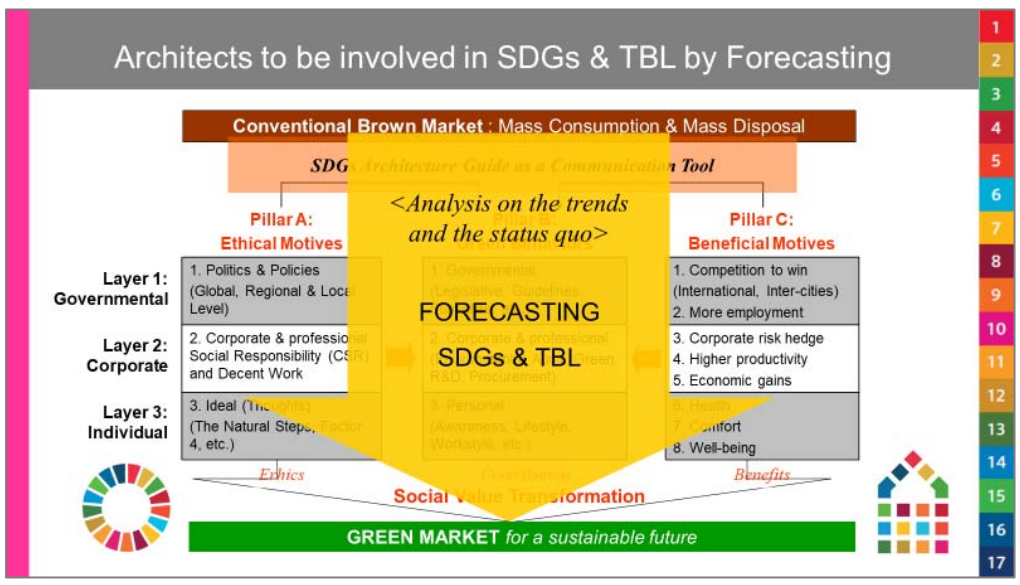

Fig.3 Realizing SDGs through Forecasting

Regarding the above transformation, there are two-way interactive time dimensions of greening sustainable future based on SDGs.

The first is “Forecasting” analyzing the past, trends and the status quo in order to inductively picture the future image as shown in Fig.3 on the left.

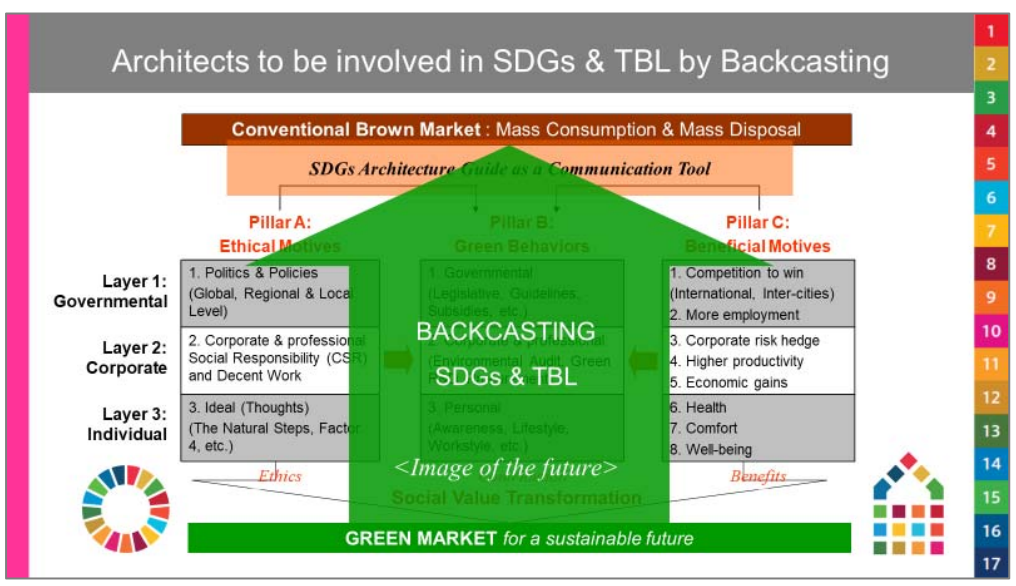

Fig.4 Realizing SDGs through Backcasting

The second process is “Backcasting” deductively picturing the sustainable future image first, and then coming back to the present step by step for finding issues and solutions as shown in Fig.4 on the left.

We, architect and/or planner, shall endeavor our profession, whatever mission we do, always those methods of the time frame directions. In short, what is important is whether we recognize those goals to achieve and methodologies, leaving no-one behind.

6. Reference: UIA SDGs Dhaka Declaration (signed by UIA, ARCASIA & IAB in Dhaka on 13th April, 2019)

Over the last few decades, tremendous progress has been made in improving the health, education, and well-being of people around the world. However, this development has been accompanied by environmental damage, climate change, and resource depletion as well as social and cultural challenges. In 2015, the nations of the world came together and laid out the United Nations 17 Sustainable Development Goals to be achieved by 2030.

Architecture interacts with each of the 17 SDGss and architects can help the goals to be achieved. As architects, we have the responsibility to contribute to the built environment and make choices that change the world for the better—through better buildings, settlements, landscape architecture and urban planning.

We call on architects worldwide to take action in their own practice and as civic leaders to shape their work and their words to help achieve these goals:

1. End poverty: Architects can seek to build in ways that help to eradicate poverty, by designing low-cost housing and institutions that are safe, healthy, and resilient.

2. End hunger: Architects can through planning, landscape and building design protect ecosystems and preserve areas for food production.

3. Good health and well-being: Architects can design and plan so that exposure to communicable diseases and pollution is reduced, daylight, good acoustics and air quality is provided, and healthy levels of activity promoted.

4. Quality education: Architects can design educational facilities that are affordable and inclusive.

5. Gender equality: Architects can help to shape buildings, settlements and urban areas to include all persons, regardless of gender and can work to promote gender equality in the design and construction industry.

6. Clean water and sanitation: Architects can design and plan to avoid water waste or excessive runoff, and to reduce the encroachment of saltwater on freshwater aquifers and bodies.

7. Affordable and clean energy: Architects can design and plan buildings and settlements to reduce energy use, produce renewable energy where feasible, adapted to geographic, climatic and cultural conditions.

8. Decent work and economic growth: Architects can specify building materials produced in safe and clean environments, and work to ensure secure conditions on building sites and in demolition processes.

9. Industry, innovation and infrastructure: Architects can seek to use services, products and systems that pollute less, use less energy, produce less waste, and provide solutions that are safe, healthy and less costly.

10. Reduced inequalities: Architects can promote design and planning approaches that are socially responsible, inclusive and accommodate the needs of all people

11. Sustainable cities and communities: Architects can promote measures that help to make cities more inclusive, safer and more resilient, and adaptive to anticipated climate change, with special attention to vulnerable segments of society.

12. Responsible consumption and production: Architects can seek to design for durability and for sustainable life cycles in building components and materials, favoring recycled materials wherever possible.

13. Climate change: Architects can take action to reduce or eliminate the climate changing emissions associated with the construction and operation of the buildings they design, and make their designs adaptable to anticipated changes in climate.

14. Life below water: Architects can exercise special care for buildings and settlements in coastal regions and in fragile aquatic ecosystems, taking all possible steps to reduce harmful effects of waste and pollution on water.

15. Life on land: Architects can help promote urban development that minimizes sprawl and so reduces threats to biodiverse habitats; they can design buildings and settlements that integrate landscapes, provides habitats and connects with larger ecosystems.

16. Peace, justice and strong institutions: Architects can advocate for policies on their projects that reduce opportunities for corruption, bribery, or unjust labor practices.

17. Partnerships for the goals: Architects can join with those who work to advance the goals. Working together we can achieve a prosperous and sustainable future.