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Regional Development Initiatives:

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Contents

1. Introduction.....	6
2. Theoretical Basis.....	9
2.1. Sustainable Development and Sustainability Theories	9
2.1.1. Weak Sustainability and Anthropocentrism.....	12
2.1.2. Strong Sustainability	14
2.2. Sustainable Development Goals	16
2.3. Regional Revitalization and Urban Development in Japan.....	17
2.3.1. “Eco Model Cities” and “Environmental Future Cities”	18
2.3.2. <i>Machizukuri</i> and <i>Toshi keikaku</i>	21
2.3.3. Smart City Concept and Society 5.0	23
2.4. Relevance and Gap	25
3. Methodology.....	26
3.1. Framing Theory	26
3.2. Qualitative Content Analysis.....	31
3.3. Data Selection.....	32
3.4. Analysis process	35
4. Results.....	37
4.1. Commonalities.....	37
4.2. Specifics.....	42
4.2.1. Fuji City.....	42
4.2.2. Gifu Prefecture	43
4.2.3. Inabe City	44
4.2.4. Iwate Town.....	45
4.2.5. Minamata City.....	46
4.2.6. Mitoyo City	47
4.2.7. Okazaki City.....	47

4.2.8.	Tosa Town.....	48
4.2.9.	Toshima Ward.....	49
4.2.10.	Tsuruoka City.....	50
4.2.11.	Tsushima City	51
5.	Interpretation: Framing of Sustainable Development.....	52
6.	Conclusion	61
	Bibliography.....	65
	Primary Sources	72
	Attachment 1: Codebook.....	74
	Attachment 2: Overview of Themes and Topics.....	78
	Attachment 3: List of Solution Frames	82
	Summary	83
	Zusammenfassung.....	84

List of Figures

Figure 1: Triple Bottom Line Model.....	13
Figure 2: Strong Sustainability Model	15
Figure 3: SDGs "Wedding Cake".....	17
Figure 4: Triple-bottom line Model in the National Guideline for Environmental Future City Initiative	39
Figure 5: TBL Model Visualization According to Common Themes in the Sample Data.....	41

List of Tables

Table 1: Environmental Future Cities	33
Table 2: Sample of Regions/Cities.....	35

1. Introduction

Sustainable development is a concept that was first put on the international agenda at the 1972 United Nations Conference on the Human Environment. It was defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development 1987). However, this definition lacks precision in multiple aspects; thus, in 2015, the Sustainable Development Goals (SDGs) were introduced to provide a set of general guidelines that could be used globally (United Nations n.d. a).

In Japan, the SDGs are the central guidelines that provide the basis for many of the nationwide initiatives developed by the government. One of the main projects regarding sustainable development is the “Future City” initiative, which includes two initiatives: the “Eco-Model City” initiative and the “Environmental Future City” initiative, sometimes referred to as the “SDGs Future City” initiative. This project is a part of the “Regional Revitalization SDGs”, within which the national government has proposed plans for regional development in line with the SDGs guidelines (Prime Minister’s Office of Japan n.d. a; Prime Minister’s Office of Japan n.d. b). The “Environmental Future City” initiative was launched with the aim to develop and provide successful models of sustainable economic and social systems through regional urban development. It is promoted as a regional revitalization initiative and strives to provide solutions for common problems, such as environmental issues, ageing society. Simultaneously, it also creates social, environmental, and economic “value”. The project was launched in 2018 and in the first annual selection 29 regions were classified by the Cabinet Office Regional Revitalization Promotion Office (内閣府地域活性化推進室, *naikaku-fu chiiki kassei-ka suishin-shitsu*) as “Environmental Future Cities”. Since then, every year, new cities and regions have been selected by the Regional Revitalization Promotion Office and added to the programme. These participating regions formulate individual plans and projects for their local problem areas that focus on a variety of environmental, economic, social goals. Looking at the year 2020, which is the focus of this thesis, 33 regions created individual plans and were selected as participants in the “Environmental Future City” initiative (Prime Minister’s Office of Japan n.d. a; Prime Minister’s Office of Japan n.d. b; Prime Minister’s Office of Japan 2020a; Prime Minister’s Office of Japan 2020b).

Much scientific research has been done on the planning and implementation of these projects by the individual regions. However, the initiatives are a space within which different actors, such as the government, ministries, companies, investors, local government, etc., aim to

accomplish their individual agendas. As such, these actors use the initiatives to present sustainable development in a specific way; a framing that presents certain problems, aims, causes, and solutions, which suit the actor's agenda (Mino/Kudo 2020:9). Thus, sustainable development, as proposed in the initiatives, possesses an implicit political connotation that shapes the way the initiatives are presented and structured. Therefore, before we focus on the implementation and evaluation of the initiatives, it is important to analyse the contents of the initiatives themselves, the way sustainable development is constructed and framed by the actors and the agendas that hide in the background.

This thesis aims to contribute to the previous research through the analysis of the frames used to present sustainable development within the “Environmental Future City” initiative by the involved actors. This includes the national government proposal of the initiative and a sample of eleven individual proposals from selected regions that became “Environmental Future Cities” in the year 2020. By analysing this sample of data, this thesis hopes to show how sustainable development as a concept is framed and used for the achievement of individual agendas of the involved actors within the selected cases of the “Environmental Future City” initiative. Furthermore, the analysis provides an overview of the individual framings used in the sample data to construct a “unique”, “context-specific” model of sustainable development.

The main research question of this thesis is: How is sustainable development framed by the national and local governments of the eleven chosen regions from the “Environmental Future City” initiative? In order to be able to describe the frames used in these documents adequately, the following sub-questions were proposed: Which topics are mentioned in the documents? Which elements or aspects are mentioned as part of sustainable development? What are the problems or issues that are presented in the documents? What causes are presented for the specific problems? What recommendations are proposed? These sub-questions are based on Entman's definition of frames that can include four framing elements: (1) a problem definition, (2) a causal interpretation, (3) a moral evaluation, and/or (4) treatment recommendation for the topic in question (Entman 1993:52).

The aim of this thesis is to identify the frames/framing of sustainable development within the selected proposals. The commonalities and differences between the singular cases, their main topics and overall characteristics are used to help determine the concrete frames of sustainable development. In order to achieve this goal, the selected data was analysed with the help of qualitative content analysis. For this analysis, I used both a set of predetermined deductive codes, based on previous literature and inductive codes obtained directly from the texts. The scientific literature, specifically from the Japanese academic community, provides

several codes and categories that were used for the creation of deductive codes for the content analysis. An example of useful codes and categories comes from Yamashita (1999), who proposes five broad categories of indicators, based on the triple-bottom-line and some additional elements: ecology or environment, economy, society, social welfare, and the system (Yamashita 1999:67).

With the usage of the proposed categories and codes, the data was coded in multiple coding passes. In the first pass, the documents were coded in detail, according to the proposed deductive codes. Simultaneously, new inductive codes were generated directly from the data, which provided a rich description of the contents. Next, in the subsequent passes, the inductive codes were condensed into categories together with the pre-existing deductive codes. The resulting categories showed the scope of trends and themes, and the possible patterns of commonalities (Mayring 2014). Lastly, the codes were used to develop frames that aim to project a specific set of aspects on the topic of sustainable development.

The contents of this thesis consist of six different chapters. In chapter two, this thesis establishes the central terminology, concepts, and theories that are relevant for the research topic in question. Here, I first discuss the crucial scientific literature on sustainability and sustainable development. I also determine the main concepts, terminologies and theories that are vital for the following research. Then, I provide an overview of the current state of the research regarding the sustainable development initiatives in Japan, and the “Environmental Future Cities” initiative in particular. Lastly, I discuss the relevance of my research for this research field.

Chapter three focuses on the methodology of this thesis. Here, I first discuss my choice of analysis method, and then present the process of determining the sample in detail. Lastly, I address the process of data collection and give in-depth insights into the analysis process.

In chapter four, I present the results of the sample data analysis. First, I give insight into the commonalities of the sample cases, before moving on to the differences and specifics of each individual case. Here, I introduce the main topics and characteristics of the individual cases, the problem definitions, causal interpretation, solutions, and recommendations within the sample data. I focus on the specifics of each case and identify the unique elements that distinguish one case from the other in their framing of sustainable development for their specific circumstances.

The results are discussed based on the insights gained from the scientific literature in chapter five. Here, the information gained from the analysis is presented through an overview of the various framings on sustainable development that is presented in the sample data and

discussed with the consideration of scientific theories and concepts in the field of sustainable development and sustainability. The data gives a clear overview of the specific type of sustainable development that is presented in the sample data, and it enables a discussion of the advantages and shortcomings of this approach to sustainable development.

Lastly, in chapter six, I draw a concluding summary of the main results and answer the main research question of this thesis. Furthermore, I give an outlook on the possibilities for future research on this topic.

2. Theoretical Basis

This chapter addresses the scientific literature, terminology, concepts and theories regarding sustainability, sustainable developments, and further related topics. In the following sections, I first discuss theories of sustainability and sustainable development that have been proposed and used in various global initiatives and plans. Then, I give more insight into the existing scientific literature on the regional revitalization efforts in Japan, that specifically focuses on the “Environmental Future Cities” initiative and related projects from the years prior. Lastly, as part of this segment, I focus on related concepts, such as smart cities and society 5.0, which were utilized as a part of the “Environmental Future Cities” initiative towards achieving their goal. These scientific texts provide a comprehensive overview of the literature that has been provided on the relevant concepts and enable the identification of a research gap within this scientific field. The concrete relevance of this thesis is discussed in the last segment of this chapter.

2.1. Sustainable Development and Sustainability Theories

According to modernisation theory, the level of modernisation and progressiveness of a society is based on its structural specialisation and differentiation. The society develops through a linear model of progression characterized by “stages of economic growth”. According to this model, traditional societies develop into a stage of “economic take-off”, later progressing into “maturity” where steady economic growth outstrips population growth. Lastly, societies advance into the “final stage” when high mass consumption allows the emergence of social welfare (Rostow 1960; cit. in Baker 2016:2; Pepper 1996; cit. in Baker 2016:2). The assumption of one global path of development pushes developing countries to “catch up” with the developed countries. However, modern environmentalism emerged as a critique of this development model. It highlights the failure of the development model and its resulting

ecological destruction, challenging the assumptions that the “Western” model of development makes about the use of natural resources and the meaning of progress (Baker 2016:2).

Environmentalism focuses on the economic, social, and ecological aspects and consequences of development. It criticises the understanding of progress found in the Western model, in terms of “increased domination over nature and the use of her resources solely for the benefits of humankind” (Baker 2016:3). Here, nature is reduced to a natural resource with only “instrumental value” that is exploited and used for economic development, ignoring the “intrinsic value” of the natural world (Baker 2016:3). This deterioration of the natural environment results in social disruptions, insecurity, and damage to human health (Baker 2016:4). Moreover, contrary to the development model, environmentalism focuses on the “quality of life”, which refers to the collective level and enhancing the quality of the public domain, and not the “standard of living” (Baker 2016:3-4).

Environmentalism points to the failure of the Western development model to acknowledge the limits of economic growth. The limits are imposed by several factors: (1) the “carrying capacity of the planet”; (2) the finite amount of resources that the planet contains; and (3) the steady reduction and elimination of said ecosystem services through overuse. Furthermore, environmentalism argues that these limits cannot be solved by technological advancement (Baker 2016:5). Consequently, development must be structured around the need to adapt the human activity to the planet’s ecological boundaries (Rockström *et al.* 2009; Baker 2016:5).

The “sustainable development” model is an example of the environmentalist approach, as it seeks to reconcile the ecological, social, and economic dimensions of development, and to adopt a global perspective in order to achieve this goal (Baker 2016:6). There are, however, various versions of the sustainable development model.

It is important to note that sustainability and sustainable development are two very loosely defined concepts that are used interchangeably in both media and academic articles. Sustainability is usually viewed as a guide for economic and social policies in balance with environmental conditions (Seghezze 2009:539; Baker 2016:9). According to UNESCO, sustainability is considered a “long-term goal” of managing resources without depleting them for future generations, while also aiming for economic and social sustainability. On the other hand, sustainable development refers to the processes and ways to achieve this sustainability, including acts such as the “promotion of sustainable agriculture and forestry, sustainable production and consumption, good government, research and technology transfer, education and training, recognition of cultural values and different forms of knowledge” (UNESCO 2021;

Baker 2016:9). According to "Our Common Future," the 1987 report published by the World Commission on Environment and Development (WCED), chaired by Brundtland (also referred to as the Brundtland Commission or the Brundtland Report), development is "sustainable" if it "meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987). This concept of sustainable development was utilized by WCED as a "global goal" to guide policies aimed at reconciling "economic and social systems and ecological conditions" (Elkington *et al.* 2007:1; cit. in Seghezzo 2009:539). It is often presented with the "triple bottom line" of economy, environment, and society. These are also known as the "three pillars of sustainable development" (Ekins 2000; cit. in Baker 2016:9). This triple bottom line can also be presented as a triangle of People (society), Planet (environment), Profit (economy) (the three Ps), where profit is sometimes substituted for Prosperity and is commonly used in business and government institutions (Seghezzo 2009:539).

Much research has been done on the practical implementation of these concepts. Some scientists argue that sustainable development is ambiguous and that it includes an aim that has been agreed upon as a product of political compromise at a specific time. To counteract these concerns, many frameworks for the practical application of the concepts and new proposals were developed and made to improve the WCED definition. According to Seghezzo (2009), the WCED definition is essentially anthropocentric; this negatively impacts the ability of the conceptual framework to discuss issues of development (Seghezzo 2009:542). He argues that the concept lacks an unbiased inclusion of all three aspects of sustainable development, instead of focusing primarily on the economic aspect (Seghezzo 2009:543-544). As a solution, Seghezzo proposes a new five-dimensional conceptual framework that replaces the three Ps with a five-dimensional sustainability triangle of "place", "permanence" and "people". The "place" aspect contains the three dimensions of space (x, y, and z), "permanence" is the fourth dimension of time (t), and the "person" aspect adds a fifth individual and inner human dimension (i). This framework offers the potential for plurality and adaptability to specific regional contexts and attitudes, making it more appropriate to understand local, regional, and global processes (Seghezzo 2009:539, 547-551).

Other critical voices have argued that the concept of sustainable development, as proposed in the WCED definition, is problematic, as economic growth is not sustainable because it is accompanied or even dependant on the depletion of natural resources and deterioration of environmental services (Spaiser *et al.* 2017:457). Redclift (2005) refers to the idea of sustainable development as an oxymoron, which disguises the inherent conflict of human and natural systems (Redclift 2005).

In the following segments, I discuss two important approaches regarding the operationalization of sustainability and sustainable development that were developed in the field of economics - strong and weak sustainability - and how these define the relationship between the natural and man-made capital. Here, I also discuss two important worldviews that are integral to the environmental movement and have greatly influenced the sustainability debate: anthropocentrism and non-anthropocentrism (Pepper 1996; cit. in Seghezzo 2009:541).

2.1.1. Weak Sustainability and Anthropocentrism

The sustainability of economic growth and its effects on the environment are issues that have been discussed since the late 1960s. Weak sustainability is a concept, created in the neoclassical economics of the 1970s and it was developed by Robert Solow and John Hartwick. According to this concept, the “economy is considered sustainable if its savings rate is greater than the combined depreciation rate on natural and man-made capital” (Cabeza Gutiérrez 1995:147). Essential to this understanding of sustainability is the concept of “capital”, which is central to the idea of intergenerational equity. To ensure a fair distribution of resources and assets between generations, the concept of “capital” is needed to assess this distribution and decide whether intergenerational equity is achieved. This capital approach distinguishes between different types of capital and gives it an economic value or price, most commonly referring to human or man-made capital, such as skills, knowledge, infrastructure, labour, and natural capital, such as minerals, water, fossil fuels, biodiversity, ecosystems, etc. The capital approach assumes that the amount of capital a generation has at its disposal is integral to its development; therefore, sustainable development is achieved when the capital stock remains at the minimum unchanged (Cabeza Gutiérrez 1995; Pelenc *et al.* 2015; Uwasu 2011:9, 16; Pearce 1994; cit. in Baker 2016:41-42; Pearce 1995; cit. in Baker 2016:41-42).

The concept of weak sustainability makes no restrictions on the degree of substitutions between natural and man-made capital. The central aspect of the concept is the maintenance of the total value of the aggregate stock of capital for the sake of future generations (Solow 1993; cit. in Pelenc *et al.* 2015). Thus, in this concept sustainability is equivalent to non-decreasing total (human and natural) capital stock and it enables environmental destruction to some degree in the interest of development (Cabeza Gutiérrez 1995; Seghezzo 2009:542; Uwasu 2011:16).

Weak sustainability, essentially, enables the maximization of monetary compensations for environmental degradation, as it assumes technological progress to be capable of generating technical solutions to environmental problems, caused by the increased production of goods and services (Ekins *et al.* 2003:168). Therefore, there should be no need to change current

development patterns radically.

Furthermore, as stated before, the central idea of weak sustainability, human well-being as the deciding factor for defining environmental policies, is shared in the theory of anthropocentrism. Anthropocentrism is a worldview, which bases itself on human-related values and assumes the “welfare of mankind as the ultimate drive for defining policies related to the environment” (Norton 2005; cit. in Seghezzo 2009:541). This theory follows the aforementioned concept of capital substitution between natural and man-made capital (Seghezzo 2009:541). Thus, the influence of this worldview can be seen clearly in the assumptions and goals of the weak sustainability concept.

The concept of weak sustainability can be represented through the triple bottom line. According to Cato (2009), the three aspects of the economy, society, and environment, are represented in a Venn diagram as three circles of equal size that interact but are not interdependent, as can be seen in figure 1. The equal size of the three aspects is meant to represent equality in importance; however, in practice, the aspect of economy carries more weight in decision making, while the society and the environment bear the cost of this asymmetric relationship (Cato 2009:36-37).

The concept of sustainable development, defined by the Brundtland Commission, falls into the category of weak sustainability, as it refers to the environment as a form of “natural capital”, which can be used as a resource for human activity, i.e., the health of the ecosystem is the “bottom line” guiding the development (Baker 2016:26). However, several criticisms have been made against the weak sustainability model. Dasgupta (2013) remarks that the “architecture of contemporary development thinking is stacked against nature” (Dasgupta 2013:2). She argues that this contemporary model of growth and development ignores nature as a form of productive capital, i.e., natural capital (Dasgupta 2013:2).

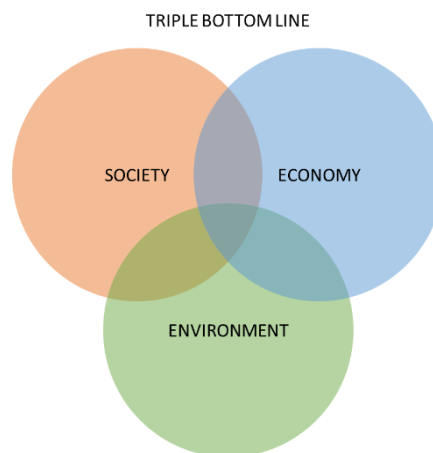


Figure 1: Triple Bottom Line Model (Cato 2009:37).

2.1.2. Strong Sustainability

The concept of strong sustainability was developed as a counter-model to weak sustainability. Essentially, the difference between weak and strong sustainability lies in the extent to which exchanges or substitutions between natural and human capital are acceptable (Ekins *et al.* 2003:167; Baker 2016:42). Strong sustainability regards natural capital as essential to providing some functions that are not substitutable by man-made capital. Although it assumes that human and natural capital are complementary, they are not interchangeable. In contrast to weak sustainability, strong sustainability emphasizes the ecological aspect over the aspect of economy. Therefore, this so-called “critical natural capital” must be maintained to ensure the well-being of future generations. Thus, strong sustainability defines sustainability in terms of maintaining the future stock of natural capital at an, at minimum, similar level to the present stock, i.e., sustainability is equal to the non-decreasing natural capital (Cabeza Gutes 1996; Pelenc *et al.* 2015; Ekins *et al.* 2003:165; Uwasu 2011:16; Redclift 2005:214).

Strong sustainability regards natural capital as a complex system of “evolving biotic and abiotic elements that interact in ways that determine the ecosystem’s capacity to provide human society directly and/or indirectly with a wide array of functions and services” (Pelenc *et al.* 2015:2). According to proponents of strong sustainability, natural capital cannot be substituted by human capital, because of three major reasons: (1) there exists a qualitative difference between (reproducible) manufactured capital and (irreplaceable) natural capital; (2) manufactured capital requires natural capital for its production, thus, it can never be a complete substitute for the natural resources provided by natural capital; (3) an increase of future consumption is not an appropriate substitute for losses of natural capital, i.e. there exists a need to include the intergenerational justice issue (Pelenc *et al.* 2015:2; Ekins *et al.* 2003:168-169). Consequently, certain elements of natural capital are critical, as they provide a unique contribution to human well-being (Pelenc *et al.* 2015:2; Ekins *et al.* 2003).

According to strong sustainability proponents, the ecological functioning of the natural system must be maintained above specific “thresholds of degradation” to preserve the capacity of natural capital to provide these critical services for the continued human existence and well-being (Pelenc *et al.* 2015:2; Baker 2016:26-27). These thresholds” are based on the planetary boundaries framework proposed by Rockström *et al.* (2009). They argue that in order to combat the global environmental change, brought on by the anthropogenic pressure on the Earth System, we must confine the human activity within certain planetary boundaries. The boundaries are defined as climate change; ocean acidification; stratospheric ozone; biogeochemical nitrogen

cycle and phosphorus cycle; global freshwater use; land system change; the rate at which biological diversity is lost; chemical pollution and atmospheric aerosol loading (Rockström *et al.* 2009:1).

According to Seghezzo (2009), The concept of strong sustainability was strongly influenced by the non-anthropocentric worldview. It rejects the idea that nature has value "only because, and insofar as, it directly or indirectly serves human interests" (McShane 2007:170; cit. in Seghezzo 2009:541). Moreover, this concept can include some more radical views, such as ecocentrism and biocentrism, which assign nature a value in itself, so-called "intrinsic value" (Seghezzo 2009:541).

Similar to the triple bottom line, this concept is often represented by three aspects of environment, society, and economy. However, in strong sustainability, these three aspects are interdependent and share a specific relationship, which can be best represented through differently sized circles (See figure 2).

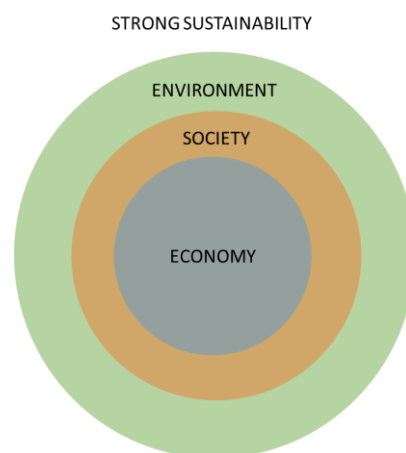


Figure 2: Strong Sustainability Model (Cato 2009:37).

The society or "sociosphere" is situated within the environment or "biosphere", while the economy or the "econosphere" is portrayed as part of society. Here, both society and economy are dependent on the environment. According to Cato (2009), this concept implies that economic activity is limited within a network of social relationships, i.e., it is a "subsystem of human society" (Cato 2009:36-37). Furthermore, human society is a "subsystem of the totality of life on Earth" (Cato 2009:36-37). Ultimately, this understanding of sustainability proposes hard limits on economic and social activity, which must not expand beyond the capacity of the total system of life (Cato 2009:37).

2.2. Sustainable Development Goals

A central concept in this thesis are the Sustainable Development Goals (SDGs) that were adopted by all United Nations Member States as part of the 2030 Agenda for Sustainable Development in 2015. The SDGs are comprised of 17 goals and 169 targets, which provide a common pathway towards “peace and prosperity” (United Nations n.d. a; United Nations n.d. b). The SDGs are based on the triple bottom line of people, planet, and prosperity, i.e., the social, environmental, and economic aspects, while incorporating aims towards eradicating poverty, establishing socio-economic inclusion, and protecting the environment (Spaiser *et al.* 2017:457). They are partially based on the preceding Millennium Development Goals (MDGs), which were adopted in the year 2000 and expired in 2015. The SDGs can be divided into goals 1–6, which build on the agenda of the MDGs, and goals 7-17, which were newly formulated (Hák *et al.* 2016:566; United Nations n.d. b). Kumar *et al.* (2016) further divide the second category of goals into “inclusiveness goals” (Goals 8-10) and “goals on sustainability and urbanization (Goals 11-17) (Kumar *et al.* 2016:2). While the goals present common aims toward which the governments must strive, the targets are aspirational, enabling the individual governments to set their own national targets based on national circumstances (Kumar *et al.* 2016:2).

Although the SDGs seem to closely follow the weak sustainability perspective, as can be seen by the representation of goals along with the triple bottom line model, some scientists have proposed other alternatives. Namely, Rockström and Sukhdev proposed an alternative to the weak sustainability perspective in 2016, which falls in line with strong sustainability perspectives (Stockholm University 2016). As seen in figure 3, the economic and social aspects are seen as embedded parts of the environment or biosphere (Stockholm University 2016).

There has been much criticism on several aspects regarding the SDGs. The International Council for Science (ICSU) expressed concerns about the potential incompatibility of the SDGs, referring specifically to the incompatibility of socio-economic development and environmental or ecological sustainability. The SDGs are further criticised for having a weak theoretical foundation and a lack of comprehensive sustainable development theory at its base (Spaiser *et al.* 2017:457).



Figure 3: SDGs "Wedding Cake" (Stockholm University 2016).

2.3. Regional Revitalization and Urban Development in Japan

In the following segments, I focus on the state of the research regarding the regional revitalization initiatives in Japan. I include examples of relevant studies regarding regional revitalization and urban development initiatives and concepts in Japan, which will give a comprehensive overview of the state of the scientific literature. The focus of this segment is put on a variety of concepts and initiatives that have been used in urban planning and regional revitalization in Japan, which are also relevant for the case study of the “Environmental Future Cities” initiative. These concepts include the main focus of this thesis, the “Environmental Future Cities” initiative, as well as the “Eco-city” initiative as its predecessor. Furthermore, the concepts of *machizukuri* and *toshi keikaku*, as well as the “Smart city” concept and the “society 5.0” concept, must be mentioned as they are all integrated into the “Environmental Future City” initiative to various degrees and often play a major role in the selected data of this thesis.

Regional revitalization has been a central priority of the Japanese government since the beginning of the 21st century. It is focused on creating industries and employment by utilizing existing resources in the region, with the aim of stopping the economic and social decline within the said region (Tabata *et al.* 2020:33). Japan has several overarching issues that these initiatives aim to tackle under the umbrella term of regional revitalization, including a significant population decline, ageing society, and long-term public debt. Current regional revitalization plans are focused on improving the Japanese economy by “creating a flow of people from urban to rural areas, increasing income in rural areas, and conducting regional revitalization, through such measures as reforms to tourism and agricultural industries” (Japan GOV: The Government

of Japan n.d.).

This segment cannot provide an in-depth review of all scientific literature within this field. Nevertheless, as this thesis is interested in the concept of sustainable development employed in the “Environmental Future City” initiative, these scientific texts were chosen as examples to provide a comprehensive overview of the literature that has been written on the relevant topics and which aspects have been less present in scientific research so far. Consequently, they enable the identification of a research gap and provide the relevance of this thesis within this scientific field.

2.3.1. “Eco Model Cities” and “Environmental Future Cities”

There has been much research undertaken regarding the “Eco-Model City” and the “Environmental Future City” initiatives, both in Japanese and English academic communities. The majority of this research is based on the individual cases of different cities and analyses aspects such as planning, implementation, and evaluation of the implementation.

To begin with, the studies focus on a variety of different cities and regions, with different regional characteristics. On the level of policy and promotion, some of the following studies exemplify the scientific research on environmental policies and their promotion. Ito and Kawazoe (2019), and Ito (2019), focus on eco-policies and their promotion in Toyota City. Ito and Kawazoe (2019) analyse the environmental awareness of citizens, along with the variables: residence, time of research, sex, and age, to assess which population segments are unaware of the cities’ eco-policies. Ito and Kawazoe determine that all variables can be associated with a difference in awareness, i.e., individuals who are residents, who took part in research studies in the years 2015 and 2018 are more likely to be aware of eco-policies. Furthermore, male correspondents, as well as correspondents who are over 30 years old tend to have a higher awareness of eco-policies (Ito/Kawazoe 2019).

Similarly, Ito (2019) provides a detailed case study of the implementation of eco-policies and their national and international promotion in Toyama City, based on literature reviews and interviews with personnel from the Environmental Policy section at Toyama City Hall (Ito 2019:34-36). The text concludes that, in terms of promotion, cities with limited financial, human, and technological resources should focus on investing their resources into a small number of segments, which are crucial for promoting eco-policies (Ito 2019).

Ito and Igano (2020) focus on the analysis of a place-based environmental education tool, the eco-picture diary, and its possible contributions towards promoting eco-initiatives in Yokohama. Yokohama itself was designated as an Environmental Model City in 2008, an

Environmental Future City in 2011 and Sustainable Development Goals (SDGs) Future City in 2018 and is also recognized by the World Bank as one of the “Eco Cities” in 2010 (Ito/Igano 2020).

On the other hand, some studies focus on the initiative as a whole in the context of one example city. For example, Takeyasu *et al.* (2018) focus on the “Future City” initiative, which was introduced in 2010 as the predecessor of the “Environmental Future City” initiative. The study aims to define the current situations and problems of the “Future City” initiative based on a case study on Yokohama City, Kanagawa Prefecture. Specifically, the study examines the efforts of Yokohama City, regarding environmental issues and problems of an ageing society, the issues with maintaining the initiative as a local government relying mainly on funding from tax revenue, and the international contribution of the “Future City” initiative to realizing a sustainable society (Takeyasu *et al.* 2018:130-131). Takeyasu *et al.* conclude that the “Future City” initiative is aimed towards effectively implementing the 2030 Agenda for Sustainable Development by utilizing the “Future City” initiative as a project interlinked with the SDGs in the aspects of environment, society, and economy. Moreover, the overall goal is to encourage the promotion of regional revitalization in the future, through the close connection between the “Future City” initiative and the SDGs (Takeyasu *et al.* 2018:133).

Furthermore, some studies regard policies for climate change adaptation as a whole, not differentiating between initiatives that might be in play, and analyse these based on one example case. In their text, Mabon *et al.* (2019) focus on local climate change adaptation policies, particularly the role of urban and green space planning in facilitating adaptation actions in the case of Fukuoka City, Kyushu (Mabon *et al.* 2019:273). Mabon *et al.* conclude that within Japan, Fukuoka has made early progress on local governance of climate change adaptation. Furthermore, Fukuoka stands out regarding the existence of scientific evidence produced by local scholars and institutions, which serve as scientific research to support the decision of municipal policymakers (Mabon *et al.* 2019:283). The article supports the argument that Japan already possesses comprehensive policy frameworks in place in areas such as environmental protection, disaster prevention, and informed greenspace planning, which can be used as a foundation for climate change adaptation (Mabon *et al.* 2019:283-284).

Some studies deal with the historical developments of the eco-city concept and sustainable urbanism in Japan. Low (2013) provides both a historical overview of the eco-cities concept in Japan, throughout the twentieth and twenty-first centuries and a case study of three cities that utilize this concept in various ways: Minamata, Kitakyushu and Kawasaki. The study aimed to identify key features of eco-cities/eco-towns in Japan and focused on the roles of

citizens, the government, and the private sector within the implementation (Low 2013:7).

Likewise, Joss (2015) focuses on the “eco-city” concept and other practices and concepts of sustainable urbanism, such as “sustainable city”, “smart city”, “low-carbon city”, and “resilient city” (Joss 2015:829). His work gives an overview of the “eco-city” concept, its aims, core aspects, implementation examples in Japan, and issues of this concept. The work suggests that the concept of “eco-city” is an umbrella term that combines multiple forms of sustainable development, which is applied at different urban scales and locally contextualized. Furthermore, according to Joss, the concept of “eco-cities” is based on the triple bottom line model of sustainability, ecological modernization, and scientific-technological innovation (Joss 2015:829-830).

Regarding Japanese literature, there has also been a variety of studies focusing on different aspects, such as sustainable development, SDGs, “Eco-Model City” initiative, “Environmental Future City” initiative, and the local implementations of these initiatives. But I would like to present a few works that will be important for my further research.

Yamashita (1999) focuses on sustainable city initiatives and the importance of local structures for the successful implementation of global concepts on the regional level. Furthermore, he presents three approaches to sustainable development, based on the three aspects that form the triple-bottom-line of sustainable development: (1) the ecological approach, which emphasizes the sustainability and stability of ecosystems, specifically aims for self-sufficiency within the region regarding natural resources and energy; (2) the economic approach, which emphasizes the sustainability and stability of the economic system, by building a city that is “economically vibrant, in harmony with the environmental boundaries, and achieves stable economic development”; and (3) the social approach that emphasizes the improvement of quality of life, specifically centring on resolving problems, such as overcrowding, providing a stable population structure, safety and increasing overall welfare.

The use of the triple-bottom-line for developing indicators and codes is a common practice. For example, Toyonari and Tabata (2020) evaluate the effects of the implementation of all participating regions of the “Eco-Model City” and “Environmental Future City” initiatives, based on a set of items and indicators based on the three aspects of the environment, economy, and society. They concluded that the achievement rate of “Environmental Future Cities” was higher than the achievement rate of the compared cities not partaking in the initiative; however, the achievement rate of the cities selected as “Environmental model cities” was lower than the achievement rate of the compared cities not partaking in the initiative. These results point towards the consistent production of environmental, social, and economic value in the case of

“Environmental Future Cities” and the lack of such in “Environmental Model Cities”, which also lacked the achievement of their greenhouse gas reduction target that is central to achieving the goal of a low-carbon society in this initiative (Toyonari/Tabata 2020).

Moreover, Tabata *et al.* (2020), propose new ideas for localizing the goals and targets of the SDGs into policies of local governments, based on the example of the forest management of Mt. Rokku in Kobe City, which can then be utilized as a revitalization model in other local communities in Japan (Tabata *et al.* 2020). Similarly, Nakahara *et al.* (2019) focus on the case of Mt. Rokku and Kobe, analysing the environmental and economic aspects and societal acceptance of establishing a bathing business that utilizes woody biomass as its heat source (Nakahara *et al.* 2019:243).

Shirai (2019) undertakes an analysis of the SDGs, the proposed goals and targets, and the triple bottom line of environment, economy, and society. Shirai argues that sustainable development is an ambiguous concept, where the aim of sustainable development has been agreed upon as a product of political compromise at a specific time. He proposes that four specific norms are stressed in the sustainable development discussions of what sustainable development should be. These are separate from the triple bottom line and can be seen as human activity areas (Shirai 2019:156): (1) the social and economic vitality; (2) consideration for others, divided into (2.1) consideration for the environment and resources and (2.2) consideration of fairness; and (3) preparedness for risk. The second frame, consideration for others (2), is divided into two aspects, the first of which (2.1) refers to a non-anthropocentric view on the consideration of the value of nature and the rights of non-human beings, while the second (2.2) considers fairness in terms of vulnerability of human individuals depending on attributes such as gender, age, physical characteristics, place of residence, etc., and focuses on enabling equal opportunities and services for all residents. The frames (1), (2), and (3) can be seen as common frames, as they are either based on the TBL model that is the basis of the initiative or refer to the common theme of disaster prevention in Japan.

2.3.2. *Machizukuri* and *Toshi keikaku*

There is much research on the differences between large-scale top-down *toshi keikaku* (urban planning) and the local bottom-up concept of *machizukuri* (community development). These two concepts present opposing approaches to urban development from the perspective of the citizens on the one hand, and the government, on the other hand. Thus, they are important in the Japanese context of development, as they have shaped different approaches towards urban planning and community development within various regional revitalization and sustainable

development initiatives in Japan.

Hein (2002) focuses on the impact of *toshi keikaku* and *machizukuri* for Japanese urban planning within the reconstruction of the inner-city neighbourhoods in Kobe. Hein defines the two complementary concepts of *toshi keikaku* (urban planning) as “administration initiatives that focus on overall physical structure and layout”, and *machizukuri* (community building) as “small-scale urban design that arises out of citizen participation and community organization” (Hein 2002:221-222, 227). The study focuses on both the urban planning and local initiatives, social organization and urban streetscapes in Japan’s urban history and the case analysis of urban planning initiatives and community building activities in three neighbourhoods of Kobe City after the 1995 Earthquake (Hein 2002:221).

Likewise, Mavrodieva *et al.* (2019) analyse the role of civil society in bottom-up “sustainable urban renewal” (*machizukuri*) after the Great Hanshin earthquake, also referred to as the Kobe earthquake of 1995. They translate *machizukuri* as “place/city making”, referring to the direct participation of citizens in urban planning and construction, which was first introduced in Japanese society after the Second World War (Mavrodieva *et al.* 2019:1). Mavrodieva *et al.* argue that the culture and personal engagement of the citizens, the commitment of national and local governments to cooperate with civil society groups, are both essential factors in the process of *machizukuri*. Furthermore, the paper suggests that the use of the concept of *machizukuri* provides certain benefits in engaging civil society in decision-making processes and initiatives (Mavrodieva *et al.* 2019:1). The study concludes that the voluntarism aspect of *machizukuri* groups and the pre-existing social formations, significantly facilitated the recovery of the affected areas and contributed to the development of a resilient civil society (Mavrodieva *et al.* 2019:10-11).

Furthermore, Kusakabe (2013) examines the workings and effects of community networks that target sustainable development at the local level (*machizukuri*) and incorporates three examples of action towards sustainability in Japanese cities (Takashima, Yasu, Kyoto), specifically focusing on social capital networks and the role of the local government in the process (Kusakabe 2013). The study aims to quantitatively examine the impact of social capital accumulation through citizen participation on the progress towards sustainability and the possibilities of generating and utilizing social capital networks for the goal of sustainability. Kusakabe concludes that both the social capital accumulation and the types of governance and networks available in communities can impact the level of sustainability that can be achieved (Kusakabe 2013).

Other studies focus on environmental movements in general, their developments, actors,

and impacts on the implementation of policies. Ueno and Sonobe (2006) provide a case analysis of the developments of the environmental movements in the context of public participation. This study examined the collaborative linkages between citizens and government based on the example of environmental movements in Kamakura City (Ueno/Sonobe 2006:209).

Moreover, Ortiz-Moya (2020) assessed the impact of environmental grassroots movements on the promotion of social and environmental justice in shrinking cities and the utilization of policies for coping with urban shrinkage and environmental degradation. His study focuses on the case of Kitakyushu City and examines how grassroots movements seeking environmental justice can trigger wider regeneration efforts contributing toward the development of an urban revitalization model to cope with urban shrinkage (Ortiz-Moya 2020).

2.3.3. Smart City Concept and Society 5.0

There are some studies on the subject of the Smart City Initiative, analysing the innovation system itself and how this can be further developed into the concept of Super City and Society 5.0 introduced in 2016. These concepts were later included in several of the “Environmental Future City” proposals, as many of the participating cities were previously designated as “Smart Cities”, and include efforts towards the Smart city concept or utilize smart technology in their efforts towards sustainable development.

The idea of Society 5.0 was introduced in 2016 as part of the *5th Science and Technology Basic Plan*. It presents a vision of the future in a society guided by scientific and technological innovation, which ultimately merges the physical living space with cyberspace, by employing ICT, into an “ideal form” of future society, i.e., a “super-smart society” (Hitachi-UTokyo Laboratory 2020:xi). Society 5.0 is a term that indicates “the new society created by transformations led by scientific and technological innovation, after hunter-gatherer society, agricultural society, industrial society, and information society” (Hitachi-UTokyo Laboratory 2020:xi).

On the other hand, “Smart City” initiatives integrate IT into various areas of life, such as services, activities, physical systems, in order to address any issues of a city and improve convenience, comfort, and safety in the city. These initiatives encompass a variety of community services, including energy, transport, welfare, and waste disposal, and provide methods and models for improvement (Deguchi 2020:45).

In his work, Deguchi (2020) provides a historical overview of smart city and smart community projects that have been implemented in Japanese cities (Deguchi 2020, 43). He describes the technologies used in these projects, reviews the social background and promotion

process of the pilot projects together with energy-conscious policy-making and sustainable urban development with the SDGs in Japan, and summarizes the achievements of the first-generation pilot projects (Deguchi 2020:43, 54). Furthermore, Deguchi compares the trends of smart cities in Japan (examples include Yokohama, Kitakyushu, Keihanna Science City, Toyota, Kashiwa-no-ha Smart City, Fujisawa Sustainable Smart Town, Nihonbashi and OMY-District in Tokyo) with cases from the EU and USA, suggesting that the initiative has experienced a shift from the top-down type initiative by government or big companies to bottom-up type initiative with citizen-oriented technology based on the concept of “Society 5.0” (Deguchi 2020:43, 54-55). Deguchi identifies three types of “Smart City” initiatives in Japan: (1) business-led initiatives executed together with large-scale urban developments; (2) government-led initiatives; and (3) initiatives led by citizens or based on citizen participation (Deguchi 2020:55-56).

Gao *et al.* (2016) focus on the case of Kitakyushu and examine the development, potentials, and challenges of smart communities in Japan (Gao *et al.* 2016:109). After giving an overview of the developments in Japanese environmental policy from the end of the Second World War, Gao *et al.* examine the Japanese model of the smart community by analysing the case of Kitakyushu to estimate the low carbon potential of the Japanese smart community (Gao *et al.* 2016:110-113). They conclude that the “Smart City” initiative in Japan includes a wider range of concepts, from urban development, transportation infrastructure, and energy supply infrastructure to city lifeline and information infrastructure. Furthermore, in contrast to their US and European counterparts, the Japanese “Smart City” model focuses on both energy saving and low carbon, as well as disaster resistance (Gao *et al.* 2016:117).

Similarly, Yarime and Karlsson (2017) examine the innovation system of smart cities in Japan and its implications for implementing system transformation towards sustainability (Yarime/Karlsson 2017:1). Utilizing a bibliometric analysis of scientific and project documents in Japan, Yarime and Karlsson conclude that Japanese smart city concepts focus on areas of renewable energy, energy storage, community energy management, and applications for home appliances and electric vehicles (Yarime/Karlsson 2017:1). Furthermore, they conduct a network analysis of actors to conclude that large actors, such as government organizations and electric and electronic companies, present the dominant actors in the actor-network (Yarime/Karlsson 2017:1-2).

Moreover, Yarime (2020) focuses on several key actors in academia, industry, and the public sector, who have specific knowledge, and technological domains concerning smart cities. Furthermore, the research also includes policies that are central for Japan’s smart city

development to tackle Japan's concerns over efficiency and sustainable energy supply and uses (Yarime 2020:94).

2.4. Relevance and Gap

In this last segment, I shortly reiterate the relevance of this thesis for the greater scientific field on this topic and the specific gap in research that this research aims to fill. As seen in the aforementioned academic papers, none of the available studies analyse the concept of sustainability and sustainable development within the regional revitalization initiatives in Japan. The research on sustainability focuses primarily on definitions, concepts, and indicators of sustainability. On the other hand, research on regional revitalization initiatives in Japan primarily deals with case studies of implementation, promotion and concrete efforts made towards the aims of the initiative. This leaves a clear gap in research regarding the conceptualization of sustainable development in the initiatives and the framing that is used to present the specific understanding of sustainable development in the individual proposals.

Mino and Kudo (2020) argue that development initiatives represent a space within which different actors aim to accomplish their individual agendas. As such, the local actors use the initiatives to present sustainable development in a specific way; a frame that presents certain problems, aims, causes, and solutions, which suit the actor's agenda (Mino/Kudo 2020:9). Consequently, I argue that, although each initiative sets a common goal, the concrete efforts and implementations are dependent on the local specifics, issues, and resources. Therefore, sustainable development, as proposed in the initiatives, possesses an implicit political connotation, which shapes the way the initiatives are presented and structured.

Therefore, before we focus on the implementation and evaluation of the initiatives, it is important to analyse the contents of the initiatives themselves, the way sustainable development is constructed and framed by the actors and the agendas that may hide in the background. By focussing on these areas, we can highlight the understanding of the concept of sustainability and sustainable development that is used to build the initiatives, and further explore the regional specifics, which differentiate the participating areas and how these are used to propose different models of sustainable development.

Analysing the conceptual framework of sustainable development enables a better understanding of the concept itself and the advantages and disadvantages related to this specific conceptualization. It highlights the assumptions, aims and way of action that is presupposed in the specific conceptualizations and gives insight into how these assumptions, aims and actions

are used in various regional contexts to construct and frame sustainable development into a specific model for the affected area.

3. Methodology

In this segment, I discuss the methodology used in this thesis to select and analyse the primary data. Firstly, I give insight into the method of framing analysis and content analysis, which are central methods of analysis for this thesis. Following this, I present the data sampling criteria and the data sample that has been chosen for this thesis. Lastly, I focus on the analysis process that was used to examine and assess the data. Here, I give in-depth descriptions of the coding process of the data.

3.1. Framing Theory

As mentioned before, literature suggests that initiatives, such as the “Environmental Future Cities” initiative, represent a space within which different actors aim to accomplish their individual agendas. These actors utilize the initiatives to present sustainable development in a specific way; a framing that presents certain problems, aims, causes, and solutions, which suit the actor’s agenda (Mino/Kudo 2020:9). Based on this argument, this thesis uses the concept of “frame analysis” as a basis to enable an analytical approach to the investigation of the construction of sustainable development within the initiative proposals.

Framing has been regarded as both a theory and analytical concept across various academic disciplines, including psychology, linguistics, sociology, communication and media studies, and political science. Thus, it has been defined by various scientists from these different traditions. The theory of framing is based mainly on the works of sociologist Ervin Goffman and anthropologist-psychologist Gregory Bateson, who has been credited as the originator of the metaphor (Reese 2001:7). Goffman defined frames as “the principles of organization which govern events – at least social ones – and our subjective involvement in them”, these frames are “schemata of interpretation” that allow individuals “to locate, perceive, identify, and label” occurrences or events in their everyday life (Goffman 1974:21; cit. in Linström/Marais 2012:22-23). Goffman argues that, in the journalistic tradition, frames are used to “organize strips of the everyday world, a strip being an arbitrary slice or cut from the stream of ongoing activity” (Goffman 1974:10-11; cit. in Linström/Marais 2012:23).

Robert Entman (1993) developed Goffman’s theory further and evolved frame analysis into a research methodology in the field of mass media research to explain how the media

structure the delivery of news while promoting specific interpretations of events by selecting certain facts. Entman (1993) defines the practice of framing as follows:

“To frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described” (Entman 1993:52).

Thus, according to Entman (1993) frame analysis serves four main purposes within the context of media research: problem definition, diagnosing a course, making value judgments, and suggesting remedies (Entman 1993:52). Problem definition involves determining “what a causal agent is doing with what costs and benefits, usually measured in terms of common cultural values”; diagnosing the causal explanations for the issue focuses on identifying the “forces creating the problem”; making moral judgments centres on evaluating “causal agents and their effects”; and, lastly, suggesting remedies aims to “offer and justify treatments for the problems and predict their likely effects” (Entman 1993:52). Furthermore, Entman argues for the importance of salience and the absence of certain elements in texts (Entman 1993:53). Salience can be increased by placement, repetition, or through associated symbolism. Frames can be used to highlight certain aspects of reality, while also obscuring other elements, which do not fit into the projected image (Entman 1993:55).

As there are many varying definitions of framing in different disciplines, there also exists a variety of approaches and types of framing devices applied in the framing literature depending on the research discipline. For example, de Vreese (2005) differentiates between two main types of media frames: issue-specific frames and generic frames. The issue-specific frame “is pertinent only to specific topics or events”, while the second type, the generic frames, “transcend thematic limitations”, and can, therefore, be identified concerning certain topics (de Vreese 2005:54). However, using an issue-specific approach makes it difficult to generalise, compare or to use the results for theory building (Linström/Marais 2012:28).

Similarly, Iyengar differentiates between two main journalistic frame types: the episodic frame and the thematic frame (Iyengar 1991:14; cit. in Dahinden 2006:130). The thematic frame provides an account of a public issue in a general context, often providing an in-depth background report (Iyengar 1991; cit. in Aalberg 2014:377). Episodic frames, on the other hand, depict issues in terms of individual cases or refer to specific events (Aalberg 2014:377). According to Aalberg (2014), for the news coverage of politics, two additional types of frames are common: framing of politics as a strategic game and framing with a focus on political

substance and issues. The former is characterized by focussing on questions related to the winning/losing party, the performances of politicians/parties, and on campaign strategies/tactics. The latter focuses more on real-life conditions with relevance for issue positions (Aalberg 2014:377).

As an example of a more recent definition, Reese (2001) proposes the definition of frames as “organizing principles that are socially shared and persistent over time, that work symbolically to meaningfully structure the social world” (Reese 2001:11). According to Matthes (2011), frames “guide how elites construct information, they impact journalists’ information selection, they manifest in media texts, and they interact with audience members” (Matthes 2011:124). Moreover, according to Scheufele and Tewksbury (2007), framing is at its core based on the assumption that “how an issue is characterized in news reports can influence how it is understood by audiences” (Scheufele/Tewksbury 2007:11). In their work, Scheufele and Tewkesbury conceptualize framing as both a macro level and a micro level construct. On the one hand, the “macroconstruct” of framing refers to “modes of presentation that journalists and other communicators use to present information in a way that resonates with existing underlying schemas among their audience” (Scheufele/Tewksbury 2007:12). On the other hand, as a “microconstruct”, framing “describes how people use information and presentation features regarding issues as they form impressions” (Scheufele/Tewkesbury 2007:12).

As the concept is used in various fields of scientific research, the methodological approaches also vary from quantitative content analysis or computer-assisted frame analysis, or, on the other hand, some prefer the text-based interpretative, qualitative approach (Linström/Marais 2012:25). Reese (2007) argues for framing analysis as a model that combines these two fields (Reese 2007:148).

On the one hand, qualitative text analysis is based on a small sample of text that is heavily interpreted and examined in-depth, to identify and describe frames sued within the data. Another type of qualitative approach, linguistic approaches, focus more on identifying structural features of frames derived from factors such as syntax, script, theme, and rhetoric (David *et al.* 2011:331). These qualitative approaches are advantageous, as they reveal important frame-relevant elements through a close reading of the material, that might be missed in an automated approach. Yet, they also possess disadvantages in terms of applicability to only a small sample size, which hinders their generalizability (David *et al.* 2011:331).

On the other hand, quantitative approaches, such as computer-assisted approaches are “strictly reliable since the output “word structures” are mathematically derived through cluster algorithms” (Miller 1997; cit. in David *et al.* 2011:331). This method involves the mapping of

frames through word frequencies and co-occurrences, which draw a network structure of words that indicate frames within the data. While the quantitative approaches are more objective regarding objective coding, they possess several issues, such as a lack of validity due to not detected elements and factors in the data (David *et al.* 2011:331-332).

Similarly, Linström/Marais (2012) refers to disadvantages of framing research, mainly regarding validity and reliability. Qualitative frame analysis exhibits issues with the validity of the operationalization of frames, the lacking distinction between different definitions and concepts of news frames, and the verification of the frames (Klandermans/Staggenborg 2002:62; cit. in Linström/Marais 2012:27). The process of framing analysis and interpretation is a subjective endeavour, which only produces a list of frames through inductive frame analysis (D'Angelo/Kuypers 2010:104; cit. in Linström/Marais 2012:27).

Methodologically, Linström and Marais (2012) gives a concrete, step-by-step-research method, for news media framing analysis. Firstly, after deciding on the topic, timeframe of data, sample selection and deciding on the unit of analysis, the frame typology must be selected. The researcher must decide on the approach (deductive or inductive) which will be used to generate frames. Secondly, the selected news frames must be operationalized by providing concrete definitions for each frame. Then, these frames can be used in an analysis to identify news frames by following the method of content analysis. This can be done according to various methods, for example, a first reading of the articles provides descriptive notes on the content, in a second reading the recurring themes, frames, values, topics are identified, and lastly, an in-depth interpretation of the articles is conducted (Alozie 2005:66; cit. in Linström/Marais 2012:31). In order to analyse the sample data according to these steps, the researcher must pay attention to both rhetorical devices and technical devices within the data (Gamson/Lasch 1983:399; cit. in Linström/Marais 2012:31). Rhetorical devices include word choice, metaphors, exemplars, key phrases, keywords, sources of information, etc. Technical devices include elements of news writing and technical elements, such as headlines, photo captions, visual elements, layout options, source selection, quote selection, concluding statements, etc. (Reese *et al.* 2003:101; cit. in Linström/Marais 2012:32).

Ultimately, political, and social realities are not simply reflected or transported by strategic actors, journalists, and audiences; they are subject to various patterns of selections and interpretations, which are negotiated, contested, and modified over time. Frames, thus, provide selective views on issues, which help construct reality in a specific way, which leads to different evaluations and recommendations (Matthes 2011:124). According to Matthes (2011), there are four distinct fields within framing research: strategic framing of communicators, framing in the

minds of journalists, frames in media content, and framing of individual audience members. For this thesis, the first, strategic framing, is the most relevant. Strategic framing refers to the development of frames by actors, such as political elites, social movements, lobbyists, or activists. They aim to establish their own frames regarding an issue in the public discourse and the news media (Matthes 2011:127).

Framing research has been undertaken on the topic of sustainable development framing in both news media, scientific literature, and policies in various contexts. To begin with, Dauda and Nik (2018) focus on the framing of sustainable development goals (SDGs) in the context of Malaysian online newspapers. They use thematic frame analysis and conclude that five significant themes were present in the finding: economy, education, environment, infrastructure, and poverty (Dauda/Nik 2018:1).

Triandafyllidou and Fotiou (1998) give insight into the framing of sustainability within policy-making in the European Union. They examine discourses of social movements and institutional actors in the context of public policy-making, specifically social actors who participate in the making of EU environmental policy based on two case studies. They conclude that three central frames emerged from the analysis of the data: (1) scientification and rationalisation, which refers to the “objective” validity of scientific knowledge on which modern society is based; (2) shared responsibility, partnership and moralisation, which refers to the “appeal to the common interest of the collectivity and the common responsibility of all social actors as partners-stakeholders”; and (3) economic interest, which includes the “framing of sustainability with reference to economic interests, growth, employment and market expansion” (Triandafyllidou/Fotiou 1998:3.9, 4.3-4.11, 4.12-4.18, 4.19-4.27).

Mino and Kudo (2020) focus on the framing of sustainability challenges within sustainability science (Mino/Kudo 2020:3). Mino and Kudo argue that sustainability contains a normative dimension, thus, framing of sustainability is built upon social values and individual beliefs. They propose a conceptual framework composed of key elements for visualizing transformation to a sustainable society and argue that both top-down approaches and bottom-up approaches to sustainability must be applied together to enable an analysis of the complexity within the structure of the sustainability issue, to develop action plans towards a sustainable society, which also incorporates the uncertainty in the action planning process, and to evaluate the framing process in terms of the issue identification, action plan development, and implementation (Mino/Kudo 2020:9).

3.2. Qualitative Content Analysis

Content analysis, more specifically qualitative content analysis is the central method of analysis for this thesis. The methodology employed for the analysis of the data sample is based on the analysis method proposed by Phillip Mayring (2014; 2019). Qualitative content analysis methods were developed at the end of the 1970s in communications and media science for analysing material in the mass media (Mayring 2019:Introduction). According to Mayring, the idea behind this approach is to build upon the rule-based systematic principles of the quantitative content analysis, while aiming to “develop and substantiate qualitative procedures that didn't exclude quantitative analyses (category frequencies) for a variety of qualitative text analysis tasks (summarizing, explication, structuring of text material)” and is best suited for “larger amounts of text to be able to go beyond a purely case-by-case exploratory research strategy” (Mayring 2019:Introduction; Mayring 2014:10). Mayring characterizes qualitative content analysis as a mixed-methods approach, i.e., the “assignment of categories to text as qualitative step, working through many text passages and analysis of frequencies of categories as quantitative step” (Mayring 2014:10).

One of the main advantages of the qualitative content analysis procedure is its primarily research question-oriented nature. Analytical questions are derived from the main aims of the research project and the procedure seeks to provide an answer to these questions at the end of the analysis. The process itself is systematic and adheres to strict rule management, which results in the ability to describe the process step-by-step (Mayring 2019:Foundations; Mayring 2014:65-105). This analysis process follows seven steps: (1) Development of concrete research question); (2) Linking research question to theory; (3) Definition of the research design (explorative, descriptive, relational, causal, mixed); (4) Defining of the sample or material and the sampling strategy; (5) Methods of data collection and analysis (deductive or inductive), pilot-tested; (6) Processing of the study, presentation of results in respect to the research question; (7) Discussion in respect to quality criteria (Mayring 2014:11-14).

Regarding quality criteria, the classical criteria of objectivity, reliability and validity cannot be simply transferred to qualitative approaches (Mayring 2014:14). According to Mayring, objectivity refers to the “independence of research findings from the person of the researcher”, reliability is the “stability and precision of the measurement, plus consistency of the measuring conditions” (Friedrichs 1973:102; cit. in Mayring 2014:107), and measures of validity are related to the question “whether what is measured is what ought to be measured” (Friedrichs 1973:100; cit. in Mayring 2014:107). Mayring argues that validity is “less of a

problem within qualitative approaches because they seek to be subject centred, close to everyday life (naturalistic perspective, field research), especially when the research process remains theory driven (construct validity)” (Mayring 2014:14). On the other hand, it is important to enhance reliability, which can be strengthened by the rule guided procedures of qualitative content analysis. Lastly, objectivity, which Mayring defines as “total independence of the research results from the researcher”, is difficult to achieve within qualitative approaches. Thus, within qualitative approaches, the transparency of the researcher–subject interaction can strengthen objectivity (Mayring 2014:14).

Following the seven proposed steps by Mayring, the research question was formulated and presented in the first chapter of this paper. Next, the relevant theoretical basis was defined and discussed in the second chapter. As mentioned before, the research design of this paper is mainly focused on finding and developing the frames/framing of sustainable development within the selected regional development initiative; however, in order to develop the frames, the analysis relies on both deductive and inductive codes. Therefore, the research design is both explorative, as it develops codes and frames from the data directly, as well as descriptive, as it utilizes some codes from prior studies in this topic. The concrete deductive codes that were used and the method of coding is discussed at a later point of this chapter. The sample selection and criteria are discussed in the following segment. Next, the concrete analysis process is described, together with code development. Lastly, the results are presented and discussed in separate chapters, while the concrete answers to the research question are summarized and possible issues of this research paper related to quality criteria are discussed in the concluding chapter.

3.3. Data Selection

The “Environmental Future City” initiative was launched in 2018, with the aim to develop and provide successful models of sustainable economic and social systems through regional urban development. It is promoted as a regional revitalization initiative and strives to provide solutions for common problems, such as environmental issues, ageing society, while, simultaneously, creating social, environmental, and economic “value”. As these are also the central aspects of the SDGs, the initiative also incorporates the SDGs’ goals and targets.

It is one of the two initiatives of the “Environmental Future City” Concept, which incorporates two selection processes conducted annually by the Cabinet Office Regional Revitalization Promotion Office to determine the participating regions. First, the Office selects the “Eco-Model Cities” from the nationwide applications, based on the required criteria. Then,

in a second selection procedure, the Office selects several participating “Eco-Model Cities” as “Environmental Future Cities”, based on a new set of criteria.

In 2020, the Cabinet Office Regional Revitalization Promotion Office selected 33 regions as “Environmental Future Cities”, which are listed by name in table 1. These 33 regions formulated individual plans and projects for their local problem areas that focus on a variety of environmental, economic, and social goals. From the 33 regions, the Office selected 10 participants as “Municipal SDGs Model Projects”, based on the contents of their proposals (自治体 SDGs モデル事業, *Jichitai SDGs moderu jigyo*, marked in green).

“Environmental Future Cities” selected in 2020		
No.	Region/City	Population
1.	Iwate-ken, Iwate-chō	12,266(2020)
2.	Miyagi-ken, Sendai-shi	1,092,317 (2021)
3.	Miyagi-ken, Ishinomaki-shi	140,704 (2021)
4.	Yamagata-ken, Tsuruoka-shi	123,822 (2021)
5.	Saitama-ken, Kasukabe-shi	233,278 (2021)
6.	Tōkyō-to, Toshima-ku	287,381 (2021)
7.	Kanagawa-ken, Sagami-hara-shi	723,097 (2021)
8.	Ishikawa-ken, Kanazawa-shi	462,690 (2020)
9.	Ishikawa-ken, Kaga-shi	65,295 (2020)
10.	Ishikawa-ken, Nomi-shi	49,910 (2021)
11.	Nagano-ken, Ōmachi-shi	27,006 (2020)
12.	Gifu-ken	1,975,397 (2020)
13.	Shizuoka-ken, Fuji-shi	252,158 (2021)
14.	Shizuoka-ken, Kakegawa-shi	116,897 (2021)
15.	Aichi-ken, Okazaki-shi	386,256 (2021)
16.	Mie-ken	1,768,632 (2020)
17.	Mie-ken, Inabe-shi	43,231 (2021)
18.	Shiga-ken, Konan-shi	54,963 (2021)
19.	Kyōto-fu, Kameoka-shi	87,890 (2020)
20.	Ōsaka-fu, Ōsaka-shi	2,750,995 (2020)
21.	Ōsaka-fu, Toyonaka-shi	401,428 (2021)
22.	Ōsaka-fu, Tondabayashi-shi	111,033 (2019)
23.	Hyōgo-ken, Akashi-shi	299,666 (2021)
24.	Okayama-ken, Kurashiki-shi	481,385 (2021)
25.	Hiroshima-ken, Higashihiroshima-shi	189,475 (2021)
26.	Kagawa-ken, Mitoyo-shi	61,634 (2020)
27.	Ehime-ken, Matsuyama-shi	508,912 (2020)
28.	Kōchi-ken, Tosa-chō	3,697 (estimate 2021)
29.	Fukuoka-ken, Munakata-shi	97,177 (2021)
30.	Nagasaki-ken, Tsushima-shi	29,405 (2021)
31.	Kumamoto-ken, Minamata-shi	25,411 (2015)
32.	Kagoshima-ken, Kagoshima-shi	593,808 (2021)
33.	Okinawa-ken, Ishigaki-shi	49,823 (2020)

Table 1: Environmental Future Cities (Prime Minister's Office of Japan 2020b).

For this thesis, I selected eleven regions, based on three indicators: the population size in the year 2020/2021, the area size and the city's financial strength index (財政力指数, *zaiseiryoku shisū*) for the fiscal year 2019. I believe the inclusion of a variety of diverse areas will provide a higher variety of possible frames.

The financial strength index is an index that shows the financial strength of local governments, which is the average value concerning a period of three years, obtained by dividing the standard financial income by the standard financial demand. The higher the financial strength index, the higher the proportion of independent financial resources, and the stronger the financial strength of the local government. The index serves as one of the indicators for the calculation of the local allocation tax (地方交付税, *chihō kōfu zei*) which is used to adjust the uneven distribution of financial resources of local governments by the national government. More specifically, according to the Japan Local Government Bond Association, the local allocation tax is “set at a given percentage of the five major national taxes-income, corporate profits, alcohol, consumption, and tobacco. The allocations are distributed to correct inequalities among public bodies in Japan's regions and to ensure that citizens receive a consistent standard of public services regardless of area of residence” (Japan Local Government Bond Association 2015). The entities exceeding 1 are not normally granted local allocation tax (MIC n.d. a).

The local governments are classified into five groups, according to their financial strength index value: group A includes areas, whose value is more than 1.000; group B includes areas, whose value is between 0.500 and 1.000; group C includes areas, whose value is between 0.400 and 0.500; group D includes areas, whose value is between 0.300 and 0.400; and group E includes areas, whose value is less than 0.300 (MIC n.d. b).

I utilized this classification system to categorize the regions that participated in the “Environmental Future City” initiative in 2020, according to their financial strength index for the fiscal year 2019, as it was the most recent data available at the time of sampling. Based on this classification, two cases were selected from each group (A-E), excluding group B from which three cases were selected, as most participating regions fall into this category.

Thus, I have selected the following eleven cases, which can also be seen in table 2. As only two cases were classified in each of the three groups A, D and E, these were included automatically. Group A includes Okazaki City and Fuji City; group D includes Minamata City and Iwate Town; Group E includes Tosa Town and Tsushima City. In group B, the selection was aided by considering the population and area size. Toshima Ward was selected because of

its municipal status as a special ward of Tokyo, which is reflected in its small area size. Likewise, Gifu Prefecture was selected because of its status as a prefecture, because it has the largest area size and the second largest population size after Osaka City. Lastly, Inabe City was selected because it has the smallest population size within group B. Moreover, as most of the “Municipal SDGs Model Projects” are classified into group B, only two cases with this criterium could be selected, Inabe City and Toshima Ward. From group C, which included four participating areas, two regions were selected with the highest and lowest financial strength index value in the group: Mitoyo City with 0,46 and Tsuruoka City with 0,42.

No.	City	Type of Initiative	Population	Area (km ²)	Financial Strength Index (2019)
1.	Okazaki City 愛知県岡崎市	環境未来都市	386.256 (2021)	387,20 (市)	1,03 (A)
2.	Fuji City 富士市	環境未来都市	252.158 (2021)	244,95 (市)	1,01 (A)
3.	Inabe City 三重県いなべ市	自治体 SDGs モデル事業	43.231 (2021)	219,58 (市)	0,85 (B)
4.	Gifu Prefecture 岐阜県	環境未来都市	1.975.397 (2020)	10.621,29 (県)	0,56 (B)
5.	Toshima Ward 東京都豊島区	自治体 SDGs モデル事業	287.381 (2021)	13,01 (区)	0,54 (B)
6.	Mitoyo City 香川県三豊市	環境未来都市	61.634 (2020)	222,73 (市)	0,46 (C)
7.	Tsuruoka City 山形県鶴岡市	環境未来都市	123.822 (2021)	1.311,53 (市)	0,42 (C)
8.	Minamata City 熊本県水俣市	環境未来都市	25.411 (2015)	163,29 (市)	0,38 (D)
9.	Iwate Town 岩手県岩手町	環境未来都市	12.266 (2020)	360,46 (町)	0,34 (D)
10.	Tosa Town 高知県土佐町	環境未来都市	3.697 (2021)	212,13 (町)	0,21 (E)
11.	Tsushima City 長崎県対馬市	環境未来都市	29.405 (2021)	707,42 (市)	0,19 (E)

Table 2: Sample of Regions/Cities.

3.4. Analysis process

The data that is needed for this research project are proposal documents, published by the national and local government regarding the “Environmental Future City” initiative. This includes the proposal documents from the national government on the “Environmental Future City” initiative and the plans and proposals of the participating regions selected as the sample of this thesis. All of these are published on the official website for Regional Revitalization and

the dedicated web pages of the local governments; however, in the interest of transparency and uniformity of all documents, the primary data was acquired only from the official website concerning Regional Revitalization initiatives under the Cabinet Office of Japan (Regional Revitalization n.d.).

To find out which frames are present in the selected cases, the content of the gathered data was analysed with the help of qualitative content analysis. For this analysis, I used both a set of predetermined deductive codes, based on previous literature and inductive codes obtained directly from the texts. The scientific literature, specifically from the Japanese academic community, provides several codes and categories that were used for creating deductive codes for the content analysis. An example of useful codes and categories is Yamashita (1999), who proposes five broad categories of indicators, based on the triple-bottom-line and some additional elements: the ecological or environmental category, the economic category, the social category, social welfare, and system (Yamashita 1999:67).

Moreover, Shirai (2019) proposes four specific norms that could be used to present different views/ideas in the sustainable development discussions: (1) social and economic vitality, (2) consideration for the environment and resources, (3) consideration of fairness (related to living standards, north and south differences), and (4) preparation for risk (natural disasters) (Shirai 2019:156).

With the usage of the proposed categories and codes, the data was coded in multiple coding passes in the coding software MAXQDA. In the first pass, the documents were coded in detail, according to these deductive codes, while also generating new inductive codes directly from the data, which provides a rich description of the contents. Next, in the subsequent coding passes, the codes were condensed into categories (Attachment 1: Codebook). The resulting categories show the scope of trends and themes, and the possible patterns of commonalities (Mayring 2014). Lastly, the codes were condensed into frames or used to develop frames, which aim to project a specific set of aspects on the topic of sustainable development.

4. Results

This segment presents the results of the qualitative content analysis of the sample data that was described in the previous chapter. The results are divided into subchapters, which follow the research questions and first focus on the commonalities within the documents, followed by the differences or specifics of each case. To reiterate, the research question is as follows: How is sustainable development framed by the national and local governments in the “Environmental Future City” initiative? The sub-questions are: Which topics are mentioned in the documents and how are these topics presented/framed? What are the problems that are presented in the documents? What causes are presented for the specific problems? What recommendations are proposed? What elements (of sustainability) are mentioned? What similarities and differences can be found between the implementations?

Based on these questions the first segment focuses on the commonalities within the sample data. Here, the general layout and contents of the proposals are described, the common themes and topics, problems or issues, and the common elements of sustainability and sustainable development are presented. In the next segment, the specifics of each proposal are discussed. I present the area-specific topics and themes, some unique issues and causes, and specific recommendations and solutions for each area.

4.1. Commonalities

The proposal documents are applications for participation in the “Environmental Future Cities” initiative, thus, they follow a common layout and present the same contents for each individual area. The general layout and contents include an overview of the area in terms of geography, history, demographics, and economy, followed by an outlook for the area development until 2030. This section is used to describe the major issues and developments within the area, and the improvements to be undertaken in order to complete the future vision. Then, the concrete aims that are in line with selected SDGs are presented and broken down into individual steps or plans to be implemented. The next section describes the transmission of information regarding the presented plans to regional, national, and international partners. Next, the information dissemination plans are discussed for both the overall plans and the specific local SDGs model project. Lastly, the promotion system is presented, focussing on the administration and executive areas, while also describing the plans for collaboration with stakeholders and the construction of a public-private partnership platform and a so-called “autonomous virtuous cycle” (自律的好循環, *jiritsuteki kōjunkan*) in the area. The “autonomous virtuous cycle” is a

model for the reinvestment, return and circulation of funds within the region. The second part of the proposals is focused on the area's "Municipal SDGs Model Project" plan. It outlines the main issue(s), the aim, and efforts in line with selected SDGs. Next, the integration and synergistic effects of the triple bottom line are presented in detail. Lastly, the implementation plan for the autonomous virtuous cycle is presented. What follows are the funding details and partners, the schedule for all plans, and the short version of the proposal and "Municipal SDGs Model Project", together with other reference material or attachments. All of the proposals within the sample data follow this layout and contents.

As the proposals are part of a specific initiative and follow specific guidelines laid out in the national guideline, published by the Cabinet Office Regional Revitalization Promotion Office, for the "Environmental Future Cities" initiative there are many commonalities to be found. Starting with the national guideline, it represents an ideal version of a proposal for this initiative and focuses on two areas. The first is an overview of the initiative and a specification of selection criteria for the participating regions. Here, the main goal of the initiative is presented, the production of successful model projects that can be distributed to other areas with similar problems and resources (Cabinet Office Regional Revitalization Promotion Office 2022:19). The second is an introduction of an ideal SDGs Model project example which includes a visual representation of the triple bottom line in its typical TBL model (See Figure 4). The aspects of society, environment, and economy are presented as connected coloured circles in orange, green, and blue respectively. Some of the major themes of each aspect are included: health and education for society; energy and climate change for the environment; and economic growth, employment, infrastructure, industrialization, and innovation for the economy. The synergistic effects of the aspects are presented by several arrows that connect two of the three circles. Moreover, the 17 goals of the SDGs are included below the TBL model and integrated into the individual aspects to provide examples of application. Although the presented concept is kept vague and general, it can be adapted to local specifics. The overall concept is, therefore, loosely defined and provides a concept that is easy to adapt to every situation (Cabinet Office Regional Revitalization Promotion Office 2022:21).

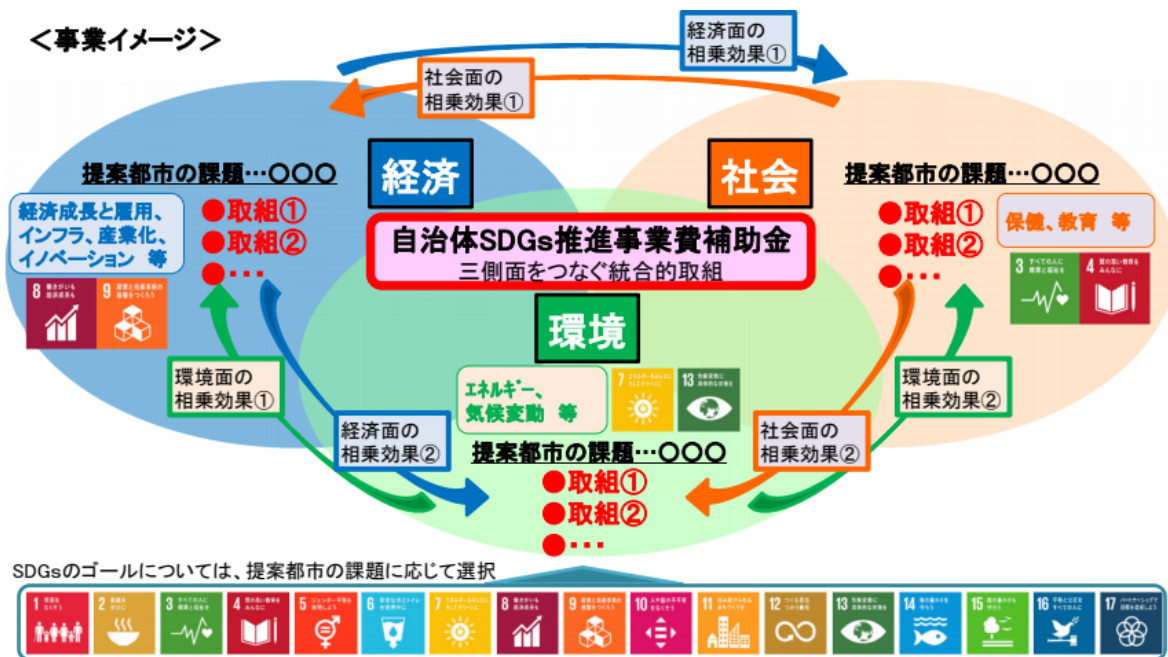


Figure 4: Triple-bottom line Model in the National Guideline for Environmental Future City Initiative (Cabinet Office Regional Revitalization Promotion Office 2022:21).

Here, we can already see the major common topics that the sample of proposals focus on; topics of society typically include improvements of healthcare and education, environmental aspects include a focus on energy and climate change solutions, and economy includes topics of economic growth or revitalization, employment, infrastructure development, and innovation. These topics and themes also give us a good idea of the sustainable development definition that is used within this initiative (Cabinet Office Regional Revitalization Promotion Office 2022:21).

True to the national guideline the individual proposals define sustainable development in line with the TBL model presented above because they must follow the specific idea of sustainability that is expected by the government. Therefore, the proposals include the triple bottom line of economy, society, and environment, their integration of synergistic effects of all three areas. However, other aspects that are specific to the Japanese context, such as disaster prevention and safety, are also included. Disaster prevention is one of the common topics that is a major aspect that is included by most of the initiatives. Although the cause of disaster may vary – rainfall, deforestation, earthquake, tsunami, etc. – the areas in question focus on disaster plans and safety measures, based on previous experiences and resulting necessities.

Moreover, within the initiatives, the environmental aspect is seen less as a value on its own and more as a value for the aspects of society and economy. Thus, the proposals focus on the value that nature can provide for the economy and society, both in terms of resources and leisure (tourism and cultural activities).

Other common topics are public-private partnerships, the development of a dedicated

platform for these partnerships, and the implementation of a certification and registration system to help implement SDGs into businesses. The topic of partnerships also includes mentions of incentives for businesses to collaborate with the initiative, implement environmentally friendly concepts, and invest in sustainable development within their specific region. This topic is tightly connected to the theme of revitalization.

The regions partaking in the initiative share common issues and characteristics such as a high percentage of the elderly population, reduced childbirth/low birth rate, labour shortage and migration from the region, economic decline, high risk of natural disasters, and environmental degradation. Further commonalities can be found in the causal interpretation of these issues in factors such as a lack of employment options and attractive opportunities for migration into the region, a lack of appropriate infrastructure for elderly residents and residents in general, and a heavy focus on the primary and secondary sectors of the economy (agriculture, fishery, forestry, manufacturing).

As these regions share a variety of common issues, they are concerned with the revitalization of the region. Thus, revitalization is central to this initiative, as it is part of the national government's regional revitalization plan. In this initiative, revitalization can focus on both society and economy, or one of the two aspects. Revitalization in terms of economy in line with the SDGs is focused on expanding employment options, creating new economic value, and enabling the revitalization of the social aspect with new options for the town and community development. The integration of the SDGs forces the businesses in question to abide by certain sustainability principles, thus, making the revitalization a positive factor for the environment and natural resources within the area. The diversification of employment options makes the area more attractive for workers and promotes migration to the area, which also has a positive effect on the demographics and human capital within the area, promoting town revitalization. These effects are circular and aim towards establishing an autonomous cycle of resources and funds within the area.

Based on the common topics, issues, causal interpretations, and definitions of sustainable development, we can portray the common idea and topics of sustainable development within these proposals in a TBL model (See Figure 5). Based on the coding scheme provided by Yamashita (1999), the aspect of society includes common themes of migration to the area, an increase in workforce, town and infrastructure development, transportation, increase in attractiveness for families/migrants, and health and education. The economy focuses on common themes of attractive employment options, ensuring a supply of sustainable resources, investment and growth, a sustainable regional economy, and innovation

and new value in primary and secondary industries. Lastly, the environment aspect includes themes of sustainable resource management, environmental conservation, the idea that natural resources have value for the economy and society, climate change solutions, and energy and disaster prevention plans.

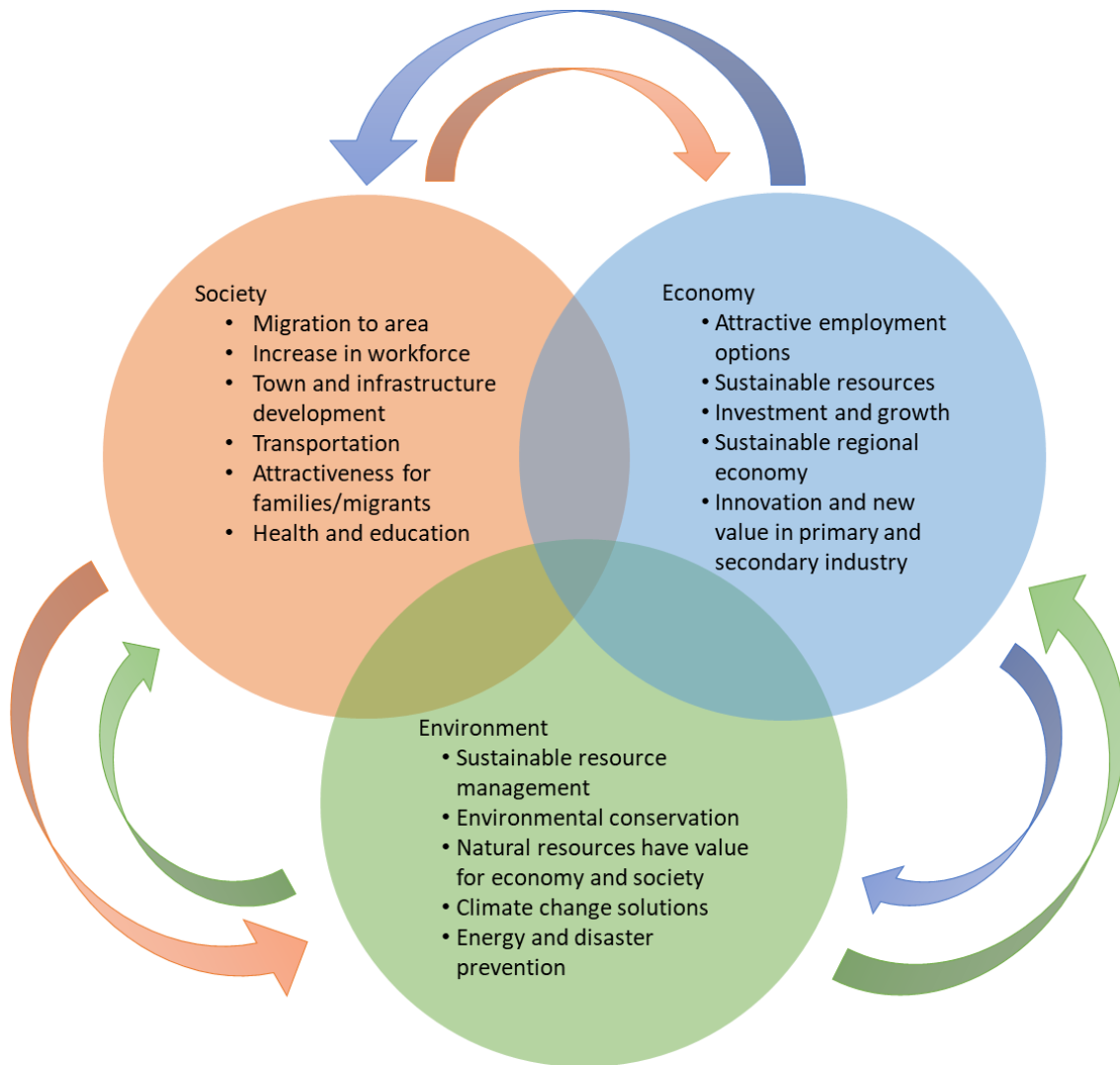


Figure 5: TBL Model Visualization According to Common Themes in the Sample Data.

Although these proposals share many common characteristics, topics, and themes, the specific implementation plans vary depending on the regional context of each participating city. These specific ways of implementation will be discussed in the following segment, together with other unique characteristics and elements that provide variety within the sample data (See Attachment 2: Overview of Themes and Topics).

4.2. Specifics

This segment focuses on the unique specifics and characteristics within each proposal. These various approaches to the implementation of the guidelines of the initiative represent different framing of sustainable development within each participating area, which will be discussed in the discussion part of this thesis. The following segments give an in-depth view of the results of the analysis of the eleven individual regional proposals. I investigate the main topics of the proposal, which coincide with the specific treatments or recommendations that the region proposes (See Attachment 2: Overview of Themes and Topics).

4.2.1. Fuji City

Fuji City, Shizuoka Prefecture, has the fourth largest population in the sample data (252,158 individuals in 2021) and the second-highest financial strength index in the sample (1,01 in 2019), which indicates that the area has a high proportion of independent financial resources and does not receive local allocation tax by the national government.

The analysis reveals the topics follow the suggested guidelines by the national government in terms of revitalization of the local economy and society. The industry focused on in the proposal is in the primary sector (forestry, agriculture, and fishery); however, a special focus is put on forestry, the cellulose natural fiber (CNF), and the paper and pulp industry. The CNF resource is the local specialty that is highlighted throughout the proposal. Moreover, the economic aspects include public-private partnerships and an aim towards diversifying employment to revitalize demographics in the area (Fuji City 2020:4, 6, 19, 29, 41).

The environmental aspect is closely connected to the economy, specifically forestry. The natural resource of the region are forests, which must be preserved to ensure a sustainable resource for the economy. Water-saving and efficient use of water resources for forest management are, thus, important aspects of environmental protection (Fuji City 2020:2, 7, 15, 28, 33-34).

Action against climate change includes the implementation of a microgrid system, energy supply changes, education of residents and businesses on environmental issues and preservation, and protection/prevention of natural disasters. The energy supply changes focus on the implementation of energy-saving practices and renewable energy resources, specifically using locally produced wood (Fuji City 2020:16, 35, 43).

To summarize the treatment recommendations or solutions for the regional issues focus on implementing the SDGs through public-private partnerships and with active collaboration

with the residents to revitalize the region. The area seeks to form an autonomous regional system, which focusses on forests as the main natural resource and the basis of economic activity. The primary industry is primarily forestry, with a focus on regional production of paper, pulp, and CNF.

4.2.2. Gifu Prefecture

Gifu Prefecture is a region with the largest area size (10.621,29 km²) and the second-largest population size (1.975.397 in 2020) within the sample data. The financial strength index for 2019 is set at 0,56, which places the Prefecture into the B category for the local allocation tax.

According to the analysis, the proposal again follows the suggested guidelines by the national government in line with the TBL Model. However, Gifu Prefecture utilizes various resources for the branding of local products and specialties. On the one hand, the economy is heavily focused on primary industries, such as agriculture, fishery, and forestry. These primary industries are the focus of innovation through smart technology, such as smart agriculture, smart forestry, conducting demonstrations and training of technologies related to smart agriculture, and forestry utilizing ICT, AI, robot technology, etc. To summarize, the local branding of the integrated efforts in the primary industry is focused on the promotion of “Ayu/Sweet fish caught in the clear stream of the Nagara River” through the deepening of the 3Cs concept (Communication, Collaboration, Contribution) and the achievement of SDGs through the connection of forests, villages, and the sea (Gifu Prefecture 2020:33).

On the other hand, the region is aiming to develop new economic value through the inclusion of tourism, international collaboration, and famous residents. The new addition specifically concerns “humanitarian tourism” and the famous local Chiune Sugihara (杉原千畝), who was a Japanese diplomat who served as vice-consul for the Japanese Empire in Kaunas, Lithuania, from 1939 (Gifu Prefecture 2020:5, 17). These two aspects were combined into a tourist route, the “Chiune Sugihara Route”, which is related to his achievements. Another aspect is the international collaboration and support for developing countries through inland fishery training for international students from developing regions. This theme is closely connected to the aspect of employment diversification and greater inclusion of residents into the workforce. The new economic value would then bring further revitalization for the economy and society within the region and enable the development of the communities and enhanced social capital (community management and social networks). Furthermore, the revitalization of the community is related to themes of town development and

infrastructure, and the development of human capital in the region, such as community leaders and active community engagement by residents, which also includes the topic of attractiveness for residents and migrants (Gifu Prefecture 2020:4-5, 32).

The environmental aspect includes topics of resource preservation and management for the resources water, forests, and the marine environment. A major topic in this aspect is the reduction of plastic pollution in bodies of water and the further implementation of environmentally conscious practices by businesses. Here, the themes of inclusion of environmental experts and further international collaboration are introduced. Climate action is another major theme, focusing on local energy production through thermal power. The topic of disaster prevention includes innovation through software and technology, aimed towards monitoring and warning systems (Gifu Prefecture 2020:4-6, 9, 24-26).

4.2.3. Inabe City

Inabe City, Mie Prefecture, is one of the two participating areas in the sample, which were classified as “Municipal SDGs Model Projects”. It has the smallest population size within the sample and is allocated to the B category of the financial strength index, with the value of 0,85 in 2019.

The themes and topics within this proposal follow a variety of plans. First, in the area of the economy, the themes of the revitalization of the industry and branding of regional products are central. One focus is on the manufacturing industry that uses local resources, with the development of a commercial zone; however, new economic value is created by developing a tourism industry with unique local branding “Yamabe”. The concept of “Yamabe” utilized the area that is close to the mountainside, yet, unlike “Satoyama”, it is unique to Inabe City and associates an area that is climatically and visually influenced by the Suzuka Mountains (Inabe City 2020:6). “Yamabe” tourism focuses on glamping in particular (Inabe City 2020:6-7).

Next, regarding the aspect of society, the themes center on town development, green infrastructure, and the promotion of the “universal design” (UD) font (Inabe City 2020:15). Town development is focused on providing attractive housing and facilities for old and new residents while solving the issue of vacant housing in the area. Green infrastructure refers to a commercial facility “Nigiwa no Mori”, which utilizes the surrounding forest and natural environment, helps with sediment-related disaster prevention, earthquake mitigation, and animal damage prevention, and serves as an attractive leisure facility for the residents. Lastly, UD is a type of font that is easy to read for vulnerable residents, such as children, the elderly, people with vision impairments, and reading disabilities. This enables a more independent and

active lifestyle for all residents (Inabe City 2020:2-7, 9, 14-15).

Lastly, the environmental aspect includes sustainable management of forest resources, which is aimed towards managing abandoned forest land and providing a vital resource for the “*Yamabe*” industry. Moreover, the conservation of water resources and the reduction of plastic waste are central. The region is also concerned with issues of fair trade and promotes ethical consumption of products within the region. Action against climate change serves a twofold goal of reducing greenhouse gas emissions and preventing natural disasters that result from climate change, such as wind and flood damage (Inabe City 2020:5).

4.2.4. Iwate Town

Iwate Town, Iwate Prefecture, has the second smallest population size and has a value of 0,34 on the financial strength index, thus, falling into the D category. Iwate Town introduces several new themes in its proposal. There is a heavy focus on the social aspect of sustainable development, and the concepts of Society 5.0 and Smart City are integrated into the initiative. The revitalization and innovation of town development include topics of international collaboration with “SDGs sister cities”, the “living lab” and the concept of “civic pride” (Iwate Town 2020:8-10). “SDGs sister cities” refers to the collaboration with other Cities, for the mutual achievement of SDGs and prevention of climate change, through the exchange of information, technical know-how on the economy, society, and environment (Iwate Town 2020:8-10). The “living lab” is a research concept that integrates user participation, research, and innovation of the living environment. Living labs can be described as forums “for innovation, applied to the development of new products, systems, services, and processes, employing working methods to integrate people into the entire development process as users and co-creators, to explore, examine, experiment, test and evaluate new ideas, scenarios, processes, systems, concepts and creative solutions in complex and real contexts” (JPI Urban Europe 2013; cit. in Bulkeley *et al.* 2016:13; Iwate Town 2020:9-10). “Civic pride” is a concept that originated in the UK and refers to a sense of pride in the town and promotes active and direct involvement in the local community development by the residents (Iwate Town 2020:8-9). Town development includes the implementation of a walking-friendly town, which contributes to environmental preservation and the prevention of climate change (Iwate Town 2020:19-20).

The economic aspects focus on the “Three Cultures/Arts” of Iwate, which refers to the areas of agriculture, sports, and arts and crafts manufacturing that are traditional for Iwate Town (Iwate Town 2020:9). The Town utilizes this unique branding for agricultural products (eco-

farming), livestock, and smart agriculture businesses (agri-culture), sports activities (specifically hockey), healthcare and life support (sports-culture), and stone carving craftsmanship and manufacturing of stone and wood resources for craft (craft-culture) (Iwate Town 2020:36, 40). As agriculture is a major factor for this region, a new value is produced by implementing farm stay tourism for students of the Faculty of Agriculture of Meiji University (Iwate Town 2020:16).

Environmental aspects are focused on the management of natural resources for economic use, development of energy resources through local power production and biomass resources, and activities against climate action, based on knowledge exchange with “sister cities” (Iwate Town 2020:23-24, 41).

4.2.5. Minamata City

Minamata City, Kumamoto Prefecture, has the third-smallest population size (25,411 in 2015) and a financial strength index of 0,38 in 2019 and is the second case from group D together with Iwate Town. Minamata City’s proposal is centered on the region's previous experiences with chemical pollution and the Minamata disease discovered in the 1950s, a neurological disorder caused by mercury poisoning as a result of untreated wastewater disposal into the Minamata Bay by a chemical plant (Minamata City 2020:2-4). Themes concerning the prevention of chemical pollution are connected to eco-agriculture, food safety, and the 3Rs (Reduce, Reuse, Recycle) for a low carbon society (Minamata City 2020:16, 30-31, 35). Minamata utilizes the Eco-Town branding to further encourage the development of the production of regional eco-products (Minamata City 2020:11-12, 31-33). Furthermore, the region is also producing new economic value through the inclusion of *onsen* tourism (Minamata City 2020:12, 27, 32).

In this case, the aspects of economy and environment are closely connected, and the implementation of environmental conservation and protection plans is centered on ensuring a clean and plastic-free environment. Climate change action is closely related to the reduction of plastic waste and chemical pollutants, but also includes the implementation of a low carbon society (Minamata City 2020:4, 7, 15).

The themes of healthcare and education, town development and transportation infrastructure, and Society 5.0 are central to the social aspect of the initiative (Minamata City 2020:20, 29, 32-35). There is a heavy focus on the subjective wellbeing of the community members, and the enhancement of public services provided for the residents (Minamata City 2020:5-7, 13-14, 20, 34).

4.2.6. Mitoyo City

Mitoyo City, Kagawa Prefecture, has a population size of 61,634 in 2020, an area size of 222,73 km², and has the highest financial strength index value within group C (0,46 in 2019). The main themes of this proposal focus on the concept of Smart City, or more specifically Smart Island, which integrates technology and innovation in the revitalization and development activities.

The geographic position of the area is utilized in the development of a new zone system, which divides the region into three zones: the coast and islands, the town, and the mountains and fields (Mitoyo City 2020:4). These three zones correspond with the new economic system and have an impact on various aspects of society: the coast and islands areas are focused on building a sustainable tourism industry, the town and rural area is the industrial and living zone focused on providing town development, infrastructure, and public services for the residents, and the mountains and fields are part of the agricultural zone focused on innovation and smart technology to support the local production of fruit and tea. Each of these three zones, thus, provides unique local products and services, as well as further options for employment (Mitoyo City 2020:6).

The ocean and island areas are especially important for the environmental aspect of the proposal. Mitoyo City has implemented measures for ocean environment protection and marine life preservation, through international cooperation with the Tara Ocean Foundation. The main focus is on the reduction and recycling of plastic waste in the ocean. Further topics related to the environmental aspect are actions against climate change, reduction of CO₂ and low carbon society, through the implementation of green mobility and delivery options, and a local energy supply in case of disaster situations (Mitoyo City 2020:4-6, 14, 28, 30-32).

4.2.7. Okazaki City

Okazaki City, Aichi Prefecture, is the second area from group A in the financial strength index (value 1,03 in 2019) and has the second-largest population (386,256 in 2021) within the sample data. The themes and topics of the proposal are focused on integrating the concept of Smart City into the initiative and focus predominantly on themes concerning aspects of the economy and society within the region.

While in the past the main economic focus lied on the automobile manufacturing industry, the economic aspect is now heavily focused on gaining new value through a new focus on the tourism and the service industries. The area incorporates MICE tourism (meetings, incentives, conferences, and exhibitions), which is a type of tourism in which large groups,

usually planned well in advance, are brought together, with creating new economic opportunities through night-time economy and attractions, such as illuminations, installations, and events (Okazaki City 2020:9-10, 20-23, 25). This development then includes changes and developments in infrastructure and transportation in the area. The development of the town is aimed towards providing urban and cultural facilities and areas within a walking distance while investing and incorporating smart technology and monitoring to ensure safety (Okazaki City 2020:8-10, 21). The economic developments are, thus, closely connected to community development measures and improvements in childcare, healthcare, support, and the overall vitality of residents (Okazaki City 2020:5-6).

The environmental aspects are mainly concerned with environmental preservation of the river and forest area, and the nature within urban spaces, which are important resources for the tourism industry in the region, as well as incorporating action against climate change. The topics concerning solutions for global warming and climate change include renewable energy sources, local production for local consumption, incorporating smart technology for more efficient energy use, and preventing natural disasters through monitoring and environmental protection (Okazaki City 2020:11, 23).

4.2.8. Tosa Town

Tosa Town, Kōchi Prefecture, has the smallest population size in the sample data (3,697 in 2021) and is one of the two cases from the E category in the financial strength index, with the second-lowest value of 0,21 in 2019 in the sample data.

The proposal of this region is concerned with developing social and economic aspects, based on a sustainable supply of local natural resources. The main industry within the area is forestry and timber production, which relies on a sustainable source of wood (Tosa Town 2020:3-5, 9). In order to provide better employment options and revitalize the economy, the initiative proposes innovation and entrepreneurship, together with environmentally friendly measures for companies (Tosa Town 2020:5, 7-8, 12-13, 21). A further new value is to be created through the implementation of a tourism industry focused on sports and activities (Tosa Town 2020:13).

The social aspects within the proposal are concerned with the wellbeing and quality of life in the area. To ensure an attractive social environment for new and old workers and residents, community development is highlighted by themes of childcare, education improvements, and public support for the elderly. The area employs a division of spaces into urban and rural areas, which serve different purposes. The urban area is characterized by ease of life, public services,

educational opportunities, promoting active participation for the elderly, and better employment perspectives for women. On the other hand, the rural area is primarily focused on nature and leisure. The theme of wellbeing and quality of life in the countryside is focused on combining these two areas and providing an environment where all residents can play an active role in the community (Tosa Town 2020:9-10, 14). Further topics focus on providing infrastructure and options for slow mobility and a walking-distance town (Tosa Town 2020:14).

Environmental measures focus on providing sustainable resources for the timber industry and water resource preservation. These primarily aim towards maximizing timber production with minimal water usage (Tosa Town 2020:4-5, 25-26).

4.2.9. Toshima Ward

Toshima Ward, Tokyo Metropolitan Area, is the second participant in the “Environmental Future Cities” initiative that was selected as a “Municipal SDDGs Model Project” case. The area has the smallest area size in the sample data (13,01 km²) and falls into the B category of the financial strength index, with a value of 0,54 in 2019. As it is an area located in the Tokyo Metropolitan area, the issues that the proposal highlights vary slightly from the other areas. The area has a high population density, which brings up unique issues, such as safety in an urban environment, subjective wellbeing in a dense urban area, traffic and a lack of natural space, and a need for healthcare for the elderly in an urban environment (Toshima Ward 2020:2-4).

To tackle these issues, the proposal focuses on improving the social and environmental aspects, while ensuring an attractive area for tourism and new residents. The area includes the popular commercial and entertainment district Ikebukuro, which represents the center for tourism and cultural attractions. The area, as a whole, aims towards diverse cultural exchange and cultural attractions that will enhance the tourism experience and diversify the resident population. A central theme is the inclusion of famous local *manga-ka* in a *manga* museum “Tokiwa-sō Manga Museum”, which would include individuals such as Tezuka Osamu, Fujio Fujiko, and Ishinomori Shotarō (Toshima Ward 2020:3, 7-9, 14).

The impact of the Ikebukuro area includes developments and improvements of transportation options to the area and further development of urban and green infrastructure and outdoor spaces, such as parks. In terms of transportation, the topics include green mobility and a reduction of greenhouse gas emissions through public transport options (Toshima Ward 2020:5, 14, 19-20, 36-38). The focus on outdoor space maintenance and maintenance and monitoring of water sources are central topics for the improvement of subjective wellbeing and quality of life, as well as prevention of disasters, such as flooding (Toshima Ward 2020:6-7, 10,

16-18). Further themes in this regard include renewable energy sources, green infrastructure, the 3R initiative, and measures for decarbonization (Toshima Ward 2020:7, 20, 24, 36).

Further topics concerning social aspects include an improvement of education, childcare, and healthcare options, and a focus on improving the life expectancy of elderly residents. The area aims towards an active population, and participation of all residents (Toshima Ward 2020:6, 10-12, 16-17).

Moreover, the area also aims towards international collaboration to attract international tourists into the area. The cooperation focuses on cultural events and collaboration with other cities in East Asia, members of ASEAN, and the European Capital of Culture. This collaboration focuses on Japanese popular culture, including music, J-drama, animation, manga, cosplay, and other industries. The aim is to revitalize the area through the development of new cultural venues and tourism opportunities (Toshima Ward 2020:6).

4.2.10. Tsuruoka City

Tsuruoka City, Yamagata Prefecture, is the second case within the sample from the C group of areas in the financial strength index, with a value of 0,42. The area has the second largest population size (123.822 in 2021) and the second largest area size within the sample (1.311,53 km²). The area proposes a variety of themes and topics for improvement as part of the “Environmental Future Cities” initiatives.

In the aspect of society, the themes of healthcare, childcare, and care for the elderly are present, while more specific themes for improvement of the area include the implementation of the Society 5.0 and Smart City concept together with smart technology (IoT, AI), safety monitoring and data collection (Tsuruoka City 2020:6, 8, 12-13, 26, 30). Another aspect of improving the quality of life is nutrition and food safety aspects to ensure the general health of residents (Tsuruoka City 2020:10, 22, 26). The town and infrastructure development includes aspects of disaster prevention and evacuation plans for disaster situations (Tsuruoka City 2020:8, 13, 23, 26-27).

Environmental aspects and topics focus on themes of abandoned land management, management of water and forest resources and areas, and energy developments towards renewable energy, such as solar and biomass, and other measures towards a low carbon society. The natural resources and general preservation of the environment and biodiversity is central to the economy of the area, as it relies on agricultural products and local gastronomic specialties (Tsuruoka City 2020:5-7, 9, 22-23, 27, 30).

The economic aspects of this area focus on the primary sector and the forest industry,

agriculture, fishery, and local products, such as breweries. The area integrates the UNESCO branding of the region as a “UNESCO Creative City of Gastronomy” utilizing the forest, fields in the *Shōnai* Plain, river, and sea resources in the area (Tsuruoka City 2020:2, 6). The topic also includes traditional agriculture and crops, such as the “Dadacha Edamame”, specific wild plants and mushrooms, and seafood, such as “Torafugu” (Japanese pufferfish), “Nodokuro” (black throat sea perch) and “Kandara”, a type of fish popular in the winter season in the Shōnai plain (Tsuruoka City 2020:2). Tsuruoka City is a member of the “UNESCO Creative City of Gastronomy” and uses this gastronomic branding to promote the revitalization of the region. This specific branding promotes tourism to the area based on the gastronomic specialties, together with *onsen* tourism within the area to develop new opportunities for the tourism industry (Tsuruoka City 2020:3).

4.2.11. Tsushima City

Tsushima City, Nagasaki Prefecture, is located on Tsushima Island in the Sea of Japan. The area has the third largest area size within the sample (707,42 km²) and a population size of 29,405 in the year 2021. Tsushima City has the lowest value on the financial strength index (0,19) and is the second case of the sample from group E. The proposal for the “Environmental Future Cities” initiative presents a concept of an “Independent Island” region, which integrates SDGs for revitalization. A local organization also applied a joint application with South Korea for the UNESCO “Memory of the World” brand regarding historical accounts of Japan-Korea relationships and records of diplomatic relations, the Joseon Tongsinisa (Tsushima City 2020:2).

The area pursues the idea of establishing an “Independent Island”, through promoting sustainable primary industry, environmentally conscious decisions by businesses, special interest tourism into the area, climate change prevention through decarbonization, preservation of the marine environment, and improvements of societal aspects, such as healthcare, childcare, transportation (automatic driving), and infrastructure development (Tsushima City 2020:6-14, 15-19, 24). This concept focuses on the self-sufficiency of the region and promotes the further revitalization of the economy and society through new economic value and innovation, employment diversification, and attractiveness for workers, U- and I-turn migrants (Tsushima City 2020:7). New economic opportunities include themes of innovation in the use of recycled plastic in businesses, biomass resource production for local energy needs, the development of a “blue tourism” industry, and regional products made from animal materials obtained through species control in the region, such as leather goods (Tsushima City 2020:8-9, 13-15, 17-18, 26).

“Blue tourism” is a worldwide initiative that refers to a long-term research and innovation project focused on the environmental management, governance, and planning of coastal and maritime tourism around major regional seas (Tsushima City 2020:13). In combination with special interest tourism “blue tourism” is used to promote environmental preservation measures for the marine environment. Furthermore, the production of leather goods has been introduced as a new opportunity to utilize animal remains obtained through local species control for the safety of the residents and preservation of the forest resources (Tsushima City 2020:13-15, 17).

5. Interpretation: Framing of Sustainable Development

This chapter discusses the results of the content analysis from the previous chapter. The elements and characteristics described in the previous chapter are used as a basis to determine the possible frames of sustainable development constructed in each proposal. First, this chapter investigates the concrete concept of sustainable development that can be found in the sample of proposals. Then, I discuss the possible framings of sustainable development that can be found in the individual cases, and the implications these frame types have for the overall initiative in terms of focus areas and implementations.

As discussed before, sustainable development represents the processes and pathways to achieving a long-term goal of sustainability. Sustainability has been understood according to two world views: weak and strong sustainability. Weak sustainability focuses on human well-being as the primary factor for defining environmental policies and seeks the maintenance of the total value of the aggregate stock of capital (human and natural), thus, making no restrictions on the degree of substitutions between natural and man-made capital. The concept of weak sustainability can be represented through the triple-bottom-line (TBL) model.

On the other hand, strong sustainability regards natural capital as essential to providing some functions that are not substitutable by man-made capital; however, while human and natural capital are both important for the wellbeing of humanity, they are not interchangeable. This concept is often represented by three aspects of environment, society, and economy, which are interdependent and share a specific relationship that can be best represented through the strong sustainability (SS) model.

The concept of sustainability and sustainable development in the “Environmental Future Cities” initiative follows the pattern presented in the national guideline of the initiative. The ideal example of the SDGs model project is based on the TBL model. The aspects of society, environment and economy include topics, such as health and education, energy and climate

change, economic growth, employment, infrastructure, industrialization, and innovation (Cabinet Office Regional Revitalization Promotion Office 2022:21).

This model of sustainability is inspired by the concept of weak sustainability outlined above. Sustainability is framed as a goal that can only be achieved through integrated efforts from the three equal aspects of economy, society, and environment. These three aspects must utilize local resources and create new value, in order to revitalize the economy and society, and further develop measures for sustaining the natural environment and resources (Cabinet Office Regional Revitalization Promotion Office 2022:21).

While environmental aspects are included as a central factor, they are commonly used as resources for economic revitalization. Some proposals focus on environmental preservation and management, which has the goal of providing a sustainable source of natural resources to the area, while others engage in environmental conservation intending to sustain the biodiversity, which is then also used for economic means, such as local delicacies or products. However, the environment is also considered an important factor for human wellbeing and the quality of the natural environment, such as drinking water, air quality and food safety, are seen as important areas for improvement.

Regarding the specific framing of sustainable development found in the individual proposals, a trend emerges from the data. While the individual proposals closely follow the loose ideas of the national guideline regarding the TBL model and topics, each case possesses unique factors and topics that are used to frame sustainable development in the regional context.

Commonalities in the framing can be clearly presented by drawing on the four common frames proposed by Shirai (2019). Based on the inclusion of the TBL model, the framing of sustainable development in the proposals focuses on the three aspects of economic revitalization, sustainability of environmental resources and town development and revitalization for the elderly residents, migrating workers and families. The proposals typically include the frame of risk preparedness in terms of preparedness for natural disasters and action against climate change. Thus, it can be seen as commonality of all proposals to include the following frames, proposed by Shirai: social and economic vitality, consideration for the environment and resources, consideration for fairness and preparedness for risk.

Drawing on Entman's (1993) definition of framing, each instance of framing can include one or multiple elements: (1) a problem definition, (2) a causal interpretation, (3) a moral evaluation and (4) a treatment recommendation or solution (Entman 1993:52). When looking at the sample data, we can see a further trend in the three aspects of problem definition, causal interpretation, and moral evaluation. The issues and problems described in all cases

present a similar array of topics to be improved. These are common for the areas in Japan and include issues such as an ageing population, a low birth rate, labour shortage, economic decline, a risk for natural disasters, and environmental degradation.

Similarly, these rural areas present similar causal interpretations for these issues and often a cause for one issue becomes another problem in the region. For example, the labour shortage is attributed to a lack of employment options and a lack of attractiveness for the workers to live in the region. However, issues such as low birth rate and ageing population also contribute to these difficulties, as less and less of the available population is able to work and the number of new residents is steadily decreasing. Moreover, a lack of appropriate infrastructure and public services, such as healthcare, education, childcare, and transportation, make it difficult for current residents to continue living in the area. Especially for families, it is difficult to remain if there are few options for their children's future. This lack of attractiveness in a region then leads to a further decline in economic activity. This creates an interconnected relationship between different issues and causes, which can only be solved through an approach that focusses on all three areas of economy, society, and environment as closely interconnected aspects.

Lastly, the proposals themselves do not contain any critical moral evaluation of the initiative and sustainable development. They are overwhelmingly positive in their efforts for improving the region and regard the SDGs as an opportunity to further develop and improve the situation within their region and develop a model for other similar cases.

The differences between the proposals and their ideas and framing of sustainable development are mostly visible in the topics and themes they focus on in their treatment of recommendations or solutions. Although all proposals include the general topics proposed in the national guideline, mainly the previously discussed areas of economy, society, environment and risk/disaster prevention, the participating regions undertake a variety of unique solutions. The individual proposals are embedded in a specific regional context, the situation of which they aim to further develop and improve through certain solutions and projects. Because the “Environmental Future Cities” initiative seeks to find model projects that can be used by other areas with similar circumstances to solve regional issues, the proposals necessarily include solutions that are context-specific and, in some way, unique.

Based on the results from the analysis of the sample data, we can find the following solution frames, which contain unique aspects of each individual proposal: (1) “Revitalization of economy and society through forest resources”; (2) “Economic and social revitalization through agriculture”; (3) “Revitalization of economy and society through smart innovation in

primary industry”; (4) “Developing new economic value through tourism and local specialities”; and (5) “Unique form of education/research/international cooperation” (See: Attachment 3: List of Solution Frames).

The frame “revitalization of economy and society through forest resources” is present when an area focuses on the primary industry, specifically industry reliant on forest resources (paper, pulp, CNF, timber, etc.), and includes these aspects as the main unique feature of the area’s branding of regional sustainable development. Next, the frame “economic and social revitalization through agriculture” is present when an area focuses on the primary industry, specifically agriculture and agricultural products (food, local delicacies) and includes these aspects as the main unique feature of the area’s branding of regional sustainable development. The third frame, “revitalization of economy and society through smart innovation in primary industry”, is present when an area focuses on the primary industry, specifically the innovation of agriculture/forestry/fishery through smart technology (AI, IoT, etc.), and includes these aspects as the main unique feature of the area’s branding of regional sustainable development. The fourth frame, “developing new economic value through tourism and local specialities”, is present when an area focuses on the tourism industry, specifically related to unique local attractions or aspects (*Yamabe*/nature/marine environment/culture/gastronomy) and includes these aspects as the main unique feature of the area’s branding of regional sustainable development. Lastly, the fifth frame, “unique form of education/research/international cooperation”, is present in proposals where an area focuses on areas of international cooperation, concepts such as Smart City/Society 5.0, education, and research, and includes these aspects as the main unique feature of the area’s branding of regional sustainable development. The proposals often include more than one of these frames and focus on various regional aspects and topics that make each individual case unique, together with the common frames discussed before (Attachment 3: List of Solution Frames).

To provide practical examples for these frames, it is necessary to look towards the sample cases, which we can categorize in three categories of proposals, based on the economic industry they favour. The first are proposals that focus only on the primary sector and mostly include one natural resource that is central to the region, as was the case with Fuji City. Next are proposals that focus on one primary sector, while including new economic value through the development of a unique tourism industry. These cases have two main focuses regarding the primary sector: forestry or production of local specialities (agriculture/fishery). In the category of cases focused on forestry and tourism, we can include the cases of Inabe City, Tosa Town, and Tsushima City. In the second category of cases focused on local specialities, we can

include Gifu Prefecture, Iwate Town, Mitoyo City, Minamata City and Tsuruoka City. Lastly, the cases that focus only on the service and tourism industry include Okazaki City and Toshima Ward. These eleven cases utilize the proposed framing of sustainable development to promote a specific story or focus for their region.

In the first example, Fuji City, the framing is focused on regional branding in terms of primarily forestry, together with local agricultural and fishery products. The area presents itself as a region with abundant forest resources, which are used to supply the CNF, paper, and pulp industry. The framing of society is focused on the integrated and synergistic effects that the forest as a natural resource brings for the community. Based on these regional characteristics, we could name this framing “revitalization of economy and society through forest resources”. Another aspect of this framing is a focus on disaster prevention, mainly focused on the natural forest environment, through “smart technology” and “environmental education” on natural disasters. We can see that Fuji City frames itself as an area abundant in forest resources, which are the major resource for the economic growth and industries in the area (Fuji City 2020).

Fuji City is not the only participating region that focuses on forestry as the most vital area of economic revenue. However, other regions include various unique ideas for improvement and revitalization. The case of Inabe City includes forestry as the major industry of the primary sector within the region. Yet, the area also presents a unique concept of “Yamabe Tourism” which frames sustainable development within the region not only as “revitalization of economy and society through forest resources”, but also as an area aimed towards “developing new economic value through tourism and local specialities”. The social aspects are developed through improvements in infrastructure and consideration for all residents with the implementation of universal design font in the city (UD). Furthermore, the topic of disaster prevention is improved by relying on green infrastructure “Nigiwa no Mori”, which helps prevent sediment-related disasters, earthquake mitigation, and animal damage prevention in the forest region. Inabe City frames itself and regional sustainable development as an area with rich forest and mountain areas, which are used in both the primary industry, as a resource, and the tourism industry, as an area of relaxation and camping. The unique “Yamabe” concept packages this natural environment and presents it appealingly to further promote the area’s natural beauty (Inabe City 2020).

Tosa Town is another area that focuses on forestry as the primary area of economic growth. Similar to Fuji City, it aims towards “revitalization of economy and society through forest resources”, mainly focusing on timber production. However, the area also includes sports tourism as a new form of industry, specifically focusing on educational opportunities within the

area and job training. Based on the inclusion of tourism as a specific economic venture, this proposal can be said to contain the frame “developing new economic value through tourism and local specialities”. Thus, the revitalization of the economy and society are linked with the availability of natural resources, consequently, the solutions necessarily include a sustainable source of natural resources (wood). The improvement in the economy will then lead to an improvement in the attractiveness of the area for new workers, leading to the necessary development of infrastructure in both the town and more rural areas (Tosa Town 2020).

Other cases combine different primary industries and natural environments in their framing. The case of Tsushima City also includes a focus on forestry as one of the main industries of the primary sector. However, this case is not limited to timber production but explores other areas to provide new economic value. The forest environment is a central resource for the production of leather goods in the region, through species control. Moreover, Tsushima City presents itself as an “Independent Island”, a concept used to package the various improvement plans. This aim for independence also includes a unique form of the tourism industry, “Blue tourism”, which focuses on the marine environment, its protection and revitalization, again contains the frame “developing new economic value through tourism and local specialities”. As the area also includes fishery industry, improvements are needed towards sustainable practices to preserve the marine wildlife. The marine environment is also a central area for climate action, in the form of recycling, plastic waste reduction and decarbonisation within the region. Lastly, the inclusion of the city on the UNESCO list “Memory of the World”, provides a further unique branding to the area, which can be used for promotion. The inclusion of the UNESCO brand, thus, alludes to the frame “unique form of education/research/international cooperation” (Tsushima City 2020).

The specific framing of Gifu Prefecture is focused on regional branding in terms of innovation in primary industry and new economic value through humanitarian tourism and support for developing countries. The area presents itself as a region with abundant natural resources, which are used to supply agriculture, forestry, and fishery. Specifically, the freshwater resource of Ayu/Sweet fish is a major factor for the branding of this area. Moreover, the achievements of a famous former resident are integrated into a tourism route that is particular to this region. Thus, the framing of sustainability is focused on the integrated and synergistic effects that the natural resources of forests, freshwater, and fields can provide for the community and economy (Gifu Prefecture 2020). Based on these regional characteristics, we could name a few framings of sustainable development for this region: (1) “Revitalization of economy and society through smart innovation in primary industry”, (2) “Developing new

economic value through tourism and local specialties”, and (3) “Unique form of education/research/international cooperation”.

Similarly, Iwate Town includes the concepts of Society 5.0 and Smart technology for innovation in the primary industry, specifically agriculture. Therefore, this case also contains the frame “revitalization of economy and society through smart innovation in primary industry”. However, Iwate Town frames itself as an area with “Three cultures – Agriculture, sports culture and craft culture”. This unique branding further highlights the importance of agriculture as the main primary industry, while also providing a setting for the implementation of farm-stay tourism and eco-farming. Therefore, this proposal can be said to contain the frame “economic and social revitalization through agriculture”. Other economic ventures, such as sports, focusing on hockey and crafts, mainly stone carving are further unique aspects of the region and contribute to the regional branding. Lastly, Iwate Town includes a variety of initiatives and concepts for international collaboration with other cities towards sustainable development and climate change solutions. These concepts include international collaboration with “Sister Cities”, implementation of a “Living Lab”, and the concept of “Civic pride”, which are aimed towards the revitalization of the region in terms of society, environmental protection, and innovation of the living environment (Iwate Town 2020). Thus, this proposal includes the frame of “unique form of education/research/international cooperation”. Iwate Town frames itself as a city with abundant cultural resources, including agriculture, sports, and crafts, and also as a participant in many international collaborations and concepts aiming for innovation and improvement of all aspects of sustainable development and climate change solutions.

Next, Minamata City is a long-term participant in the “Environmental Future Cities” initiative, as well as several other revitalization initiatives in Japan. The unique branding and framing of the sustainable development in the Minamata area are based on the area’s previous experiences with chemical pollution of the natural environment and its severe consequences on the wellbeing of the residents. Minamata City’s specific framing focuses on the prevention of chemical pollution from agricultural activity, thus, focusing on eco-agriculture and food safety, which is in line with the frame “economic and social revitalization through agriculture”. This branding is then used as a basis for societal revitalization, improvement of wellbeing and resident-friendly town development in line with the concept of Society 5.0. Further new economic value is introduced through the inclusion of *onsen* tourism, as a region-specific form of tourism, which is in line with the frame “developing new economic value through tourism and local specialties” (Minamata City 2020).

Mitoyo City is a further example of an area with a heavy focus on both agriculture and

a unique tourism industry. The area brands itself as a Smart Island with smart agriculture, which is again in line with the frame “economic and social revitalization through agriculture”. However, the ideas also overlap with the frames “revitalization of economy and society through smart innovation in primary industry”, “developing new economic value through tourism and local specialities”, and “unique form of education/research/international cooperation”. The first two frames share innovation and revitalization in the area of agriculture, while the third and fourth frames are mainly focused on the development of the tourism industry focussed on the marine environment and integrating research on the marine environment in international collaboration with the Tara Ocean Foundation. The aspect of disaster preparedness is focused on planning for natural disasters, infrastructural development and the improvement of the local energy supply and emergency energy supply (Mitoyo City 2020).

Lastly, the case of Tsuruoka City can also be placed within this category of proposals that focus on agricultural products and a unique form of tourism. Tsuruoka City brands itself as an area with abundant natural resources for agriculture, fishery, and local food products, while utilizing these local products to improve the gastronomic tourism within the area. The frame of “economic and social revitalization through agriculture” is central as agricultural products are the main resource for other industries. Moreover, by utilizing the UNESCO brand of “Creative City”, the area was designated as a “Creative City of Gastronomy”, which further highlights the local specialities of the region. Through these industries the revitalization of the society in the region is implemented in line with the concepts of Smart City and Society 5.0, utilising smart technology for innovation in agriculture, improvement of safety in the region and climate change solutions via a low carbon society and utilization of renewable energy sources. Environmental protection, thus, focuses on the preservation of biodiversity of the river, sea, forest, and fields, which is a central resource for gastronomic tourism (Tsuruoka City 2020). Based on these topics the framing of the region also includes the frame “developing new economic value through tourism and local specialities” and a “unique form of education/research/international cooperation”.

The last two cases of Okazaki City and Toshima Ward can be included in a separate category of proposals, as they focus mainly on the service and tourism industry as the main economic areas. Both proposals also primarily engage with solutions regarding economic and social aspects, while environmental aspects are included as a resource or tourist setting for the economy.

Okazaki City brands itself as a Smart City, which aims towards disaster prevention and safety through smart technology and climate change solutions through disaster prevention and

implementation of renewable energy sources. The main area of the new economic value is MICE tourism, which focuses on large-scale events, such as meetings, conferences, and exhibitions. The attractions of Okazaki City are focused on night-time tourism and economy, including infrastructural developments of the attractions, illuminations, and an improvement of transportation options in the city (Okazaki City 2020). Thus, this area also includes the frame “developing new economic value through tourism and local specialties”.

Lastly, Toshima Ward represents an interesting case of a densely populated, urban area in the Tokyo Metropolitan area. The proposal of Toshima Ward is mainly focused on economic and social aspects and the improvement of the safety and wellbeing of the community. The main industry is focused on the service and tourism industries, as the area includes Ikebukuro, a commercial and entertainment district in Toshima Ward. The area is known for popular culture and can be seen as one of the centres of Japanese *anime* and *manga*. The development of tourist attractions, thus, focuses on this unique culture and includes a “Manga Museum” featuring famous local *mangaka*, which is a prime example of the frame “developing new economic value through tourism and local specialties”. The social aspects are focused on the development and improvement of the urban environment to improve the attractiveness of the area for old and new residents. Mainly the plans include the management and maintenance of outdoor green spaces, such as parks, improvements of safety through transportation and monitoring, and climate change solutions, such as renewable energy sources and decarbonisation (Toshima Ward 2020).

The combination of the common understanding of the sustainable development model (in line with the TBL model), and the focus on regional contexts for providing solutions, gives a clear picture of the overall approach used by the participating regions. We can say that the sample regions heavily rely on the national guidelines regarding the overall model of sustainable development, and the main topics that must be included. However, the solutions, the way towards the goal of sustainability, is individualized based on the local resources and contexts. Thus, the participants focus on creating a “unique concept or branding” for their region through the usage of local resources and the development of an autonomous system of a regional economy that will support societal revitalization and enable the circulation and reinvestment of funds within the region.

6. Conclusion

Sustainable development is an important concept that has been one of the guiding principles of international organisations and collaborations. It was defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development 1987). This thesis aimed to identify the frames of sustainable development within the selected proposals from the “Environmental Future City” initiative. The commonalities and differences between the singular cases, their main topics and overall characteristics were used to help determine the concrete frames/framing of sustainable development.

To reiterate, the main research question of this thesis was: How is sustainable development framed by the national and local governments of the eleven chosen regions from the “Environmental Future City” initiative? The sub-questions that were proposed were: Which topics are mentioned in the documents? Which elements or aspects are mentioned as part of sustainable development? What are the problems or issues that are presented in the documents? What causes are presented for the specific problems? What recommendations are proposed? By conducting a content analysis of the sample data, we can see that the proposals possess several common elements; however, each proposal also includes specific elements that are unique to the region and are used to propose a variety of context-specific plans for sustainable development.

Sustainable development represents the processes and pathways to achieving a long-term goal of sustainability. The concept of sustainability and sustainable development in the “Environmental Future Cities” initiative follows the pattern presented in the national guideline of the initiative and clearly follows the concept of weak sustainability. The ideal example of the SDGs model project is based on the TBL model, where the aspects of society, environment and economy are presented as equally important areas of development. Here, sustainability is framed as a goal that can only be achieved through integrated efforts from the three equal aspects of economy, society, and environment. Within the “Environmental Future City” initiative, these three aspects must utilize local resources and create new value, in order to revitalize the economy and society, and further develop measures for sustaining the natural environment and resources. Ultimately, while environmental aspects are included as a central factor, they are commonly used as resources for economic revitalization.

Specific framing of sustainable development found in the individual proposals suggests that individual proposals closely follow the loose ideas of the national guideline regarding the

TBL Model and topics; however, each case, simultaneously, possesses unique factors and topics that are used to frame sustainable development in the regional context.

The commonalities in the framing can be presented by drawing on the four common frames proposed by Shirai (2019). Based on the inclusion of the TBL model, the framing of sustainable development in the proposals focuses on the three aspects of economic revitalization, sustainability of environmental resources and town development and revitalization for the elderly residents, migrating workers and families. The proposals typically include the frame of risk preparedness in terms of preparedness for natural disasters and action against climate change.

When looking at the sample data, we can see a further trend in the three aspects of problem definition, causal interpretation, and moral evaluation. The issues and problems described in all cases present a similar array of topics to be improved. Similarly, these rural areas present similar causal interpretations for these issues and often a cause for one issue becomes another problem in the region. Lastly, the proposals themselves do not contain any critical moral evaluation of the initiative and sustainable development. They are overwhelmingly positive in their efforts for improving the region and regard the SDGs as an opportunity to further develop and improve the situation within their region and develop a model for other similar cases.

The difference between the proposals and their ideas and framing of sustainable development are mostly visible in the topics and themes they focus on in their treatment recommendations or solutions. The individual proposals are embedded in a specific regional context, the situation of which they aim to further develop and improve through certain solutions and projects. Because the “Environmental Future Cities” initiative seeks to find Model Projects that can be used by other areas with similar circumstances to solve regional issues, the proposals necessarily include solutions that are context-specific and, in some way, unique.

Based on the results from the analysis of the sample data, we can find the following solution frames, which can be further individualized based on the various unique aspects of each participation region: (1) “Revitalization of economy and society through forest resources”; (2) “Economic and social revitalization through agriculture”; (3) “Revitalization of economy and society through smart innovation in primary industry”; (4) “Developing new economic value through tourism and local specialties”; and (5) “Unique form of education/research/international cooperation”. The proposals often include more than one of these frames and focus on various regional aspects and topics that make each individual case unique, together with the common frames discussed before.

The sample cases can be categorized into three categories of proposals, based on the economic industry they favour. The first are proposals that focus only on the primary sector and include one natural resource that is central to the region, as was the case with Fuji City. Next are proposals that focus on one primary sector, while including new economic value through the development of a unique tourism industry. These cases have two main focuses regarding the primary sector: forestry or production of local specialities. In the category of cases focused on forestry and tourism, we can include the cases of Inabe City, Tosa Town and Tsushima City. In the second category of cases focused on local specialities/manufacturing, we can include Gifu Prefecture, Iwate Town, Mitoyo City, Minamata City and Tsuruoka City. Lastly, the cases that focus only on the service and tourism industry include Okazaki City and Toshima Ward.

We can see that, although the proposals follow a common understanding of sustainable development in line with the TBL Model, they utilize regionally specific contexts to give a unique packaging to their individual proposals. This leads to the conclusion that sustainable development in the “Environmental Future Cities” initiative remains a static concept, understood in only one specific way, the TBL Model, and only allows for individualisation in terms of specific elements, such as the natural resources and the economic sector that are vital for the region in question.

This development is important to note, as the sample cases represent only a small number of participating regions. Before focussing on the implementation and evaluation of the initiatives, it is important to analyse the contents of the initiatives themselves, the way sustainable development is constructed and framed by the actors and the agendas that hide in the background. The knowledge that the proposals follow a common guideline of the TBL Model, enables us to view the participants in the initiative from the anthropocentric point of view, and consider the advantages and disadvantages of this conceptual framework.

Future research on the “Environmental Future Cities” initiative, specifically and other similar initiatives, must consider the worldview that is presented in the proposals. Whether it is in line with weak or strong sustainability plays a central role in the way in which the issues and solutions are thought about and presented.

As this thesis utilized qualitative content analysis, it is important to discuss the possible issues of this method regarding quality criteria. As discussed before, the application of classical criteria of objectivity, reliability, and validity, is difficult for qualitative methods of analysis. We can argue that qualitative approaches, because of their subject-centred nature and, specifically qualitative content analysis, because of their rule-guided process, have less issue with validity, as they closely follow the research question and data, to produce results and

interpretations. Similarly, the rule-based process of qualitative content analysis enhances reliability, as it provides a step-by-step overview of the method. Lastly, objectivity is perhaps the most difficult criterium to establish, as it differs from objectivity as defined in quantitative research. We can argue for complete transparency regarding the researcher-subject interaction and constant reflection by the researcher regarding the separate stages of the research process, to bring light to possible biases.

The overall issues with the method of qualitative content analysis, as it was conducted in this thesis, is focused on the time-consuming analysis process, due to the large corpus of documents that had to be coded with both deductive and inductive codes. Possibilities for future improvements include a limitation to one approach, either deductive or inductive. The use of deductive coding could expand the corpus of documents, while the use of inductive coding could provide data-focused categories. Moreover, as this research was limited in both time and means, the analysis was conducted by only one researcher. In order to test the reliability, objectivity and validity of the developed codes and overall results, future research should aim for the inclusion of more than one researcher or coder, who could test the results for the reliability of the analysis process in producing similar or identical results.

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URL: https://www.chisou.go.jp/tiiki/kankyo/teian/2020sdgs_pdf/teian/72minamata.pdf (Accessed: 17.03.2022).

Mitoyo City

2020 *2020nendo SDGs mirai toshi tō teian-sho (teian yōshiki 1)*, 2020 年度 S D G s 未来都市等提案書（提案様式 1） [2020 SDGs Future Cities Proposal (Proposal Form 1)].

URL: https://www.chisou.go.jp/tiiki/kankyo/teian/2020sdgs_pdf/teian/65mitoyo.pdf (Accessed: 17.03.2022).

Okazaki City

2020 *2020nendo SDGs mirai toshi tō teian-sho (teian yōshiki 1)*, 2020 年度 S D G s 未来都市等提案書（提案様式 1） [2020 SDGs Future Cities Proposal (Proposal Form 1)].

URL: https://www.chisou.go.jp/tiiki/kankyo/teian/2020sdgs_pdf/teian/39okazaki.pdf (Accessed: 17.03.2022).

Tosa Town

2020 2020nendo SDGs mirai toshi tō teian-sho (teian yōshiki 1), 2020 年度 S D G s 未来都市等提案書（提案様式 1）[2020 SDGs Future Cities Proposal (Proposal Form 1)].

URL: https://www.chisou.go.jp/tiiki/kankyo/teian/2020sdgs_pdf/teian/67tosa.pdf

(Accessed: 17.03.2022).

Toshima Ward

2020 2020nendo SDGs mirai toshi tō teian-sho (teian yōshiki 1), 2020 年度 S D G s 未来都市等提案書（提案様式 1）[2020 SDGs Future Cities Proposal (Proposal Form 1)].

URL: https://www.chisou.go.jp/tiiki/kankyo/teian/2020sdgs_pdf/teian/15toshima.pdf

(Accessed: 17.03.2022).

Tsuruoka City

2020 2020nendo SDGs mirai toshi tō teian-sho (teian yōshiki 1), 2020 年度 S D G s 未来都市等提案書（提案様式 1）[2020 SDGs Future Cities Proposal (Proposal Form 1)].

URL: https://www.chisou.go.jp/tiiki/kankyo/teian/2020sdgs_pdf/teian/06tsuruoka.pdf

(Accessed: 17.03.2022).

Tsushima City

2020 2020nendo SDGs mirai toshi tō teian-sho (teian yōshiki 1), 2020 年度 S D G s 未来都市等提案書（提案様式 1）[2020 SDGs Future Cities Proposal (Proposal Form 1)].

URL: https://www.chisou.go.jp/tiiki/kankyo/teian/2020sdgs_pdf/teian/71tsushima.pdf

(Accessed: 17.03.2022).

Attachment 1: Codebook

1. 環境 - Environment

- Natural disaster prevention
- Preservation of natural resources
- 化学物質 - Chemical substances
 - Chemical fertilizer
 - Chemical pollution
- 生物多様性 - Biodiversity
 - 環境保全 - Environmental protection
 - 原種／外来種 - Progenitor/exotic species
 - 生態系 - Ecosystem
 - 絶滅危惧種・地域 - Endangered species/regions
 - Species control
- 大気環境 - Atmospheric environment
 - PM10
 - オゾン - Ozone
 - 酸性化 - Acidification
 - 騒音 - Noise
 - 大気の質 - Air quality
 - 窒素化合物 - Nitrogen compound
- 地球温暖化 - Global warming
 - Decarbonisation
 - Paris agreement
 - CO₂ reduction/greenhouse gas reduction
- Climate change action
- 物質循環 - Material cycle
 - 3R (Reduce, Reuse, Recycle)
 - 再資源化 - Recycling
 - 資源 - Resource
 - 廃棄物 - Waste
 - Plastic pollution
 - Reduce plastic
 - Clean up
- 水環境 - Water environment
 - 海洋 - Ocean
 - Marine environment
 - Coastal area
 - Marine pollution
 - 河川 - River
 - 景観 - Landscape
 - Abandoned cultivated land
 - Mountains

- Mountainside preservation – Yamabe

- 森林 – Forest
 - Abandoned forest management
 - Deforestation prevention
 - Dry forests
- 水質 - Water Quality
- 廃水処理 - Wastewater Treatment
- Water source preservation

2. 経済 - Economy

- Shareholders/Stakeholders
 -
- Economic Revitalization
 - Primary Sector
 - Agriculture
 - Smart agriculture
 - Recycling
 - Eco-farming
 - Organic farming
 - Local specialties (produce)
 - Forestry
 - Timber production
 - Forest resource management
 - Biomass
 - Wood related products
 - Fishery
 - Sustainable fishery
 - Local specialties (Fish/Seafood)
 - Secondary sector
 - Manufacturing
 - Local craft
 - Automobile industry
 - CNF
 - Medical supplies manufacturing
 - Local products
 - Animal products
 - Tertiary sector
 - Medical/healthcare industry
 - “Night-time economy”
 - Tourism
 - Humanitarian tourism
 - Cultural heritage site
 - Farm stay tourism
 - Blue tourism
 - Food culture/tourism
 - Cultural tourism/Pop culture
 - Sports tourism
 - MICE

- Historical tourism
 - Glamping
 - Eco tourism
 - Unique local concepts
 - Yamabe
 - Branding
 - Eco-label
 - Eco-town
 - Support local companies
 - イノベーション - Innovation
 - イノベーション - Innovation
 - 科学技術 - Science and Technology
 - Robotics
 - Big Data
 - CG
 - 5G
 - IoT
 - AI
 - ICT
 - 研究開発 - Research and Development
 - 特許 - Patent
 - Society 5.0
 - Create new value
 - Environmentally conscious companies
 - Use of recycled plastic
 - Sustainable resource management
 - エネルギー - Energy
 - エネルギー - Energy
 - 原子力 - Nuclear power
 - 再生可能エネルギー - Renewable energy
 - Solar
 - Hydro power
 - 電力 - Electric power
 - Energy company
 - Low carbon society/Households
 - Microgrid
 - Local power production/supply
 - Hydrogen energy
 - Heating
 - Energy saving
 - 経済成長 - Economic growth
 - サーキュラーエコノミー - Circular economy
 - Economic Cycle
 - Commercial zone
 - Economic spill over
 - Public-private partnerships
 - Entrepreneurship
 - 企業活動 - Corporate activities
 - 購買力 - Purchasing power
 - 財政 - Finance
 - 財務 - Finance
 - 産業構造 - Industrial structure
 - 生産 - Production
 - 投資 - Investment
 - 貿易 - Trade
 - 交通 - Traffic
 - Transportation companies
 - Car traffic
 - Work related migration
 - Monitoring
 - 消費 - Consumption
 - 消費支出 - Consumption expenditure
 - 所得 - Income
 - 所得 - Income
 - 所得額 - Income amount
 - 所得分布 - Income distribution
 - 二国間関係 - Bilateral relations
 - 海外直接投資 - Foreign direct investment
 - 途上国支援 - Supporting developing countries
 - 貿易 - Trade
 - International competition
 - Regional collaboration
 - Collaboration with other prefectures
 - Cooperation with Asian countries
- ### 3. 社会 - Society
- International collaboration
 - UNESCO
 - UN
 - Tara Ocean Foundation
 - ERAHS
 - ASEAN
 - SEAFDEC
 - JETRO
 - カジュアルな持続可能性 - Casual sustainability
 - Inclusion/Participation
 - People with disabilities
 - Women
 - Elderly
 - Livelihood

- Social vitality
- Independent Island Model
- Smart Island Model
- Smart City Concept
 - Smart Society
 - Traffic data
 - 3D-LiDAR
 - Security Camera/Monitoring
 - Data collection
- Zone Model
 - Urban area
 - Rural area
 - Decentralized administrative system
- 雇用・労働 - Employment/labour
 - 雇用 - Employment
 - 労働 - Labour
 - Labour shortage
 - Diversify employment
 - Work-life balance
 - No one left behind
 - Vocational training
 - Foreign human resources
- 人口 - Population
 - 人口学的特性 - Demographic characteristics
 - Population decline
 - Population increase
 - Declining birth rate
 - Migration
 - U/I-Turn
 - Aging population
 - Depopulation
 - 社会福祉 - Social welfare
 - Social services/Public services
 - Dense population
 - Social isolation
 - Living alone
 - Foreign residents
 - Diversify regional population
 - Support childcare
 - Promote connection to hometown
 - Alleviate child poverty
- 健康 - Health
 - 栄養 - Nutrition
 - Local produce
 - Food safety
 - Chemical pollution of living environment
 - 健康 - Health
 - Cancer prevention
 - End-of-life support
 - Extend life expectancy
- Long-term care
 - Education on health and health promotion
 - Healthcare/Medical care improvement
- 疾病 - Disease
 - Infectious disease
 - Minamata disease
- 安全性 - Safety
 - 犯罪 - Crime
 - リスク - Risk
 - Safe community
 - Safety from natural disasters
 - Safety from animals/predators
 - Disaster prevention
 - Disaster related to climate change
 - Emergency supplies
 - Emergency Power supply
 - Education on disaster prevention
 - Evacuation facilities
 - Evacuation plan
 - Software measures
 - Data monitoring
- 教育 - Education
 - 学校教育 - School education
 - 識字率 - Literacy rate
 - 社会教育 - Social education
 - 職業訓練 - Job training
 - STEAM learning
 - Physical and Mental injuries at school
 - Scholarship system
 - Distance learning
 - Improve education
 - Collaboration with overseas universities
 - Childhood education
 - Higher education facilities
 - Student researchers
 - Environmental education
- 文化 - Culture
 - 情報社会 - Information society
 - スポーツ - Sports
 - Tokyo 2020
 - 文化活動 - Cultural activities
 - 文化施設 - Cultural facility
 - Local culture
 - Cultural exchange
 - Multicultural environment

- Famous locals
- 時間利用 - Time use
 - 余暇 - Leisure
- 社会関係資本 - Social capital
 - 信頼 - Trust
 - Civic pride
- 都市 - City
 - コミュニティ - Community
 - Community development
 - Community management
 - Regional mobilization/Active participation
 - 都市施設 - Urban facilities
 - Communication infrastructure
 - Pedestrian infrastructure
 - Outdoor spaces/urban green spaces
 - Illumination
 - Convention facilities
 - Facilities for environmental education
 - 土地利用 - Land use
 - Urbanisation
 - Town development
 - Green infrastructure
 - Transportation
 - Automatic driving
 - Bus system
 - Railway
 - Green mobility
 - Slow mobility
 - Walking-distance town
 - Distribution services
 - Drones
 - Emergency supply distribution
- 居住 - Residence
 - 居住地 - Residence/address
 - 住居 - Residence/dwelling
- Vacant housing
- 4. 主観的福祉 - Subjective welfare
 - 生活満足度 - Life satisfaction
 - Happiness
 - Quality of life
- 5. 制度 - System
 - 議会民主制 - Parliamentary democracy
 - 行政 - Administration
 - 政治システム - Political system
 - 選挙 - Election
 - 法制度 - Legal system
 - 協働 - Collaboration
 - 市民参加 - Citizen participation
 - ボランティア活動 - Volunteer activities
 - Promotion
 - Local promotion
 - National promotion
 - International promotion
 - Events
 - Workshops
 - Conferences
 - Promotion for companies/Business PR
 - Media promotion
 - Autonomous virtuous cycle - 地域循環共生圏構築
 - Partnership platform
 - Certification/registration system
 - Information dissemination
 - Financial institutions
 - Financial resources
 - Private funding
 - Financial autonomy
 - Tax revenue
 - Social impact bonds
 - Subsidies

Attachment 2: Overview of Themes and Topics

Areas	Themes/Topics						
	Economic Revitalization	International Collaboration	Societal Revitalization	Environmental Sustainability	Environmental Protection	Disaster Prevention	Smart Society/Society 5.0
1. Fuji City	Forestry		Employment diversification		Climate change	Energy supply	
	(Agriculture)		Healthcare		Renewable energy sources	Microgrid	
	(Fishery)	UNESCO	Community Development	Resource availability and sustainability	Forest environment	Environmental Education	
			Transportation		Water resource conservation	Prevention of natural disasters	
2. Gifu Prefecture			Town development				
	Fishery	Job training	Community development		Biodiversity	Software and technology	
	Tourism	Environmental education	Town development		Climate change	Monitoring and warning systems	
		JETRO	Employment		Renewable energy sources		Smart agriculture/fishery
		SEAFDEC		Resource availability and sustainability	Marine/Forest environment		
		ERAHS	Healthcare		Recycling and Plastic waste		
3. Inabe City					Water resource conservation		
	Forestry		Town development		Climate change		
	Tourism		Green infrastructure		Forest environment		
			UD	Resource availability and sustainability			Green infrastructure “Nigiwa no Mori”
			Employment				
			Healthcare				

4. Iware Town	Agriculture	Sister cities	Community development	Climate change	
	Tourism	Living lab	Town development	Renewable energy sources	Smart city/society 5.0
		Civic pride	Transportation	Forest environment	(Climate change action)
			Sports/Health	Recycling and Plastic waste	
5. Minamata City	Agriculture	Chemical pollution prevention research	Healthcare	Climate change	
	Tourism	UN	Town development	Renewable energy sources	Society 5.0
			Subjective welfare	3R	(Climate change action)
			Education	Chemical pollution prevention	
6. Mito City	Agriculture		Community development	Biodiversity	
	Tourism		Town development	Climate change	
			Healthcare	Renewable energy sources	Disaster preparedness – energy supply
		Tara Ocean Foundation	Education	Marine/Forest/Mountain environment	Smart island concept
			Employment	Recycling and Plastic waste	
			Community development	Climate change	
7. Okazaki City			Town development	Renewable energy sources	
	Tourism		Transportation	Forest/River environment	Disaster prevention through Smart technology
			Healthcare	Urban green spaces	Smart city
			Education		

8. Tosa Town	Forestry			Forest environment	
	Tourism			Water resource conservation	
9. Tushima Ward				Resource availability and sustainability	
				Transportation	
				Healthcare	
				Education	
				Employment	
9. Tushima Ward		Culture Exchange	Community development	Climate change	Urban green space and green mobility
		ASEAN	Quality of life	Renewable energy sources	Decarbonization
			Town development	3R	Renewable energy
	Tourism		Green infrastructure	Resource conservation	
			Transportation	Urban green space	
10. Tsuruoka City			Health		
			Education		
	Agriculture		Community development	Climate change	
			Town development	Renewable energy sources	
	Tourism		Resource availability and sustainability	Forest/River environment	(Climate change action) Smart city/technology – safety, innovation
10. Tsuruoka City		International recognition of heritage - UN	Transportation	Recycling and Plastic waste	
			Health - nutrition/food safety		
10. Tsuruoka City			Education		

11. Tsushima City	Forestry	UNESCO ASEAN	Community development	Biodiversity	Decarbonisation
	Fishery		Town development	Climate change	Plastic waste reduction
	Tourism		Green infrastructure	Renewable energy Sources	
			Transportation	Resource availability and sustainability	Independent island
			Healthcare	Marine/Forest environment	
			Childcare	Recycling and Plastic waste	
			Education		

Attachment 3: List of Solution Frames

1. **“Revitalization of economy and society through forest resources”** - The area focuses on the primary industry, specifically industry reliant on forest resources (paper, pulp, CNF, timber, etc.), and includes these aspects as the main unique feature of the area’s branding of regional sustainable development.
2. **“Economic and social revitalization through agriculture”** - The area focuses on the primary industry, specifically agriculture and agricultural products (food, local delicacies) and includes these aspects as the main unique feature of the area’s branding of regional sustainable development.
3. **“Revitalization of economy and society through smart innovation in primary industry”** - The area focuses on the primary industry, specifically the innovation of agriculture/forestry/fishery through smart technology (AI, IoT, etc.), and includes these aspects as the main unique feature of the area’s branding of regional sustainable development.
4. **“Developing new economic value through tourism and local specialities”** - The area focuses on the tourism industry, specifically related to unique local attractions or aspects (*Yamabe*/nature/marine environment/culture/gastronomy) and includes these aspects as the main unique feature of the area’s branding of regional sustainable development.
5. **“Unique form of education/research/international cooperation”** - The area focuses on areas of international cooperation, concepts such as Smart City/Society 5.0, education, and research, and includes these aspects as the main unique feature of the area’s branding of regional sustainable development.

Summary

Sustainable development has been a major topic in both national and international discourse since the 1970s. The Sustainable Development Goals (SDGs) were added in 2015 and they represent central guidelines that provide the basis for global sustainable development initiatives. In Japan, the SDGs are the basis of the “Environmental Future City” initiative, which is a part of the proposed plans for regional development in line with the SDGs guidelines. Scientific research on this topic has dedicated much focus to the implementation and evaluation of the initiative; however, it has neglected the proposal documents which contain specific presentations of sustainable development by the involved actors. With the utilization of specific “frames”, the actors selectively present certain aspects of a perceived reality to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the topic in question. Sustainable development can, thus, be framed differently, depending on social values and individual beliefs.

This thesis contributes to the body of literature on sustainable development and the “Environmental Future City” Initiative, by showing how framing is utilized by the involved actors to present the elusive concept of sustainable development. For this purpose, this thesis analyses the framing of sustainable development, utilized by the national and local governments in their project proposals for eleven regions that were selected as “Environmental Future Cities” in the year 2020. I conclude that the participating regions construct a framing of sustainable development based on a common national guideline in line with the triple-bottom-line (TBL) model and a “unique concept or branding” that is specific to the regional context. Through this framing the regions aim to establish an autonomous and sustainable economic and social system within the region. This “unique concept or branding” can be categorized into five general frames, which are further individualized according to the concrete resources of the region.

Zusammenfassung

Nachhaltige Entwicklung ist seit den 1970er Jahren ein zentrales Thema im nationalen und internationalen Diskurs. Die Sustainable Development Goals (SDGs) kamen 2015 hinzu und stellen zentrale Leitlinien dar, die die Grundlage für globale Initiativen zur nachhaltigen Entwicklung bilden. In Japan werden die SDGs als eine Grundlage für die „Environmental Future City“ Initiative eingesetzt, die Teil der vorgeschlagenen Pläne für die regionale Entwicklung im Einklang mit den SDGs-Leitlinien ist. Die wissenschaftliche Forschung zu diesem Thema hat der Umsetzung und Evaluierung der Initiative viel Aufmerksamkeit gewidmet; vernachlässigt wurden jedoch die Projektvorschläge, die konkrete Darstellungen der nachhaltigen Entwicklung durch die beteiligten Akteure enthalten. Unter Verwendung spezifischer „Frames“ stellen die Akteure gezielt bestimmte Aspekte einer wahrgenommenen Realität dar, um eine bestimmte Problemdefinition, kausale Interpretation, moralische Bewertung und/oder Behandlungsempfehlung für das betreffende Thema zu fördern. Nachhaltige Entwicklung kann daher je nach sozialen Werten und individuellen Überzeugungen unterschiedlich „geframed“ werden.

Diese Arbeit leistet einen Beitrag zur wissenschaftlichen Literatur über nachhaltige Entwicklung und die „Environmental Future City“-Initiative, indem sie zeigt, wie Framing von den beteiligten Akteuren genutzt wird, um das schwer fassbare Konzept der nachhaltigen Entwicklung darzustellen. Zu diesem Zweck analysiert diese Arbeit das Framing nachhaltiger Entwicklung in den Projektvorschlägen der nationalen Regierung und von elf lokalen Regierungen, die im Jahr 2020 als „Environmental Future Cities“ ausgewählt wurden. Daraus erschließt sich, dass die teilnehmenden Regionen versuchen, ein Framing für nachhaltige Entwicklung aufzubauen, basierend sowohl auf einer gemeinsamen nationalen Richtlinie im Einklang mit dem Triple-Bottom-Line (TBL)-Modell, als auch einem „einzigartigen Konzept oder Branding“, das für den regionalen Kontext spezifisch ist. Durch dieses Framing zielen die Regionen darauf ab, ein autonomes und nachhaltiges Wirtschafts- und Sozialsystem innerhalb der Region zu etablieren. Dieses „einzigartige Konzept oder Branding“ kann in fünf allgemeine Frames kategorisiert werden, die je nach den konkreten Ressourcen der Region weiter individualisiert werden.