

Sustainable Cities and Communities in New Zealand

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Abstrakt Agenda 2030 “Transforming our world: the 2030 Agenda for Sustainable Development”, is a development program for the next 15 years. The aim of the 2030 Agenda is to eradicate poverty and achieve sustainable development in all countries in the world by 2030. The aim of this contribution is to identify, on the basis of a content analysis in empirical research, the results of fulfilling Goal 11 “Make cities and human settlements inclusive, safe, resilient and sustainable” of the 2030 Agenda in the New Zealand in terms of global responsibility for their fulfilment. Then a relational comparison in terms of his performance in its implementation will be carried out on the basis of data obtained using the SDG Index. The result of this article is a systematic view of the fulfillment of goal 11 of Agenda 2030 and its shortcomings in New Zealand.

Keywords Sustainable urban development, New Zealand, cities and communities, SDG Index, Agenda 2030

1. INTRODUCTION

Sustainable development is a targeted, long-term, comprehensive and synergistic process that affects the conditions and all aspects of life (cultural, social, economic, environmental and institutional) at all levels (local regional, global) and tends to such a functional community model (local and regional). community (country, international community) that satisfies the biological, material, spiritual and social needs and interests of people, eliminating or significantly reducing interventions endangering, damaging or destroying conditions and life forms, and does not burden the landscape beyond the carrying rate and natural heritage (Bobáková 2019). The concept of sustainable development (or permanently sustainable development) represents an alternative model of society development as contrasted with the dominant industrial economy. It reflects the environmental limits of economic growth; policies based on this concept try to align economic and social development with the capacities of ecosystems, preserving natural values and biological diversity for current and future generations (Daly 2006). The traditional definition from a report by the UN Commission on Environment and Development (so-called Brundtland Report) from 1987 goes as follows: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs, without this being at the expense of other nations” (Mebratu 1998). Therefore, sustainable development originally only applied to environmental protection,

although now it has been expanded to cover sociology and economy (SDSN 2019).

The 2030 Agenda for sustainable development is a summary of global commitments for the international community to respond to the most serious challenges of our time (United Nations 2015). Climate change, poverty, increasing economic and social inequalities or the unsustainability of the dominant patterns of production and consumption are complex and interrelated problems (Biermann, Kanie, Kim 2017). The Sustainable Development Goals set by the 2030 Agenda apply to all countries regardless of their level of economic and social development – they are relevant to Somalia and the US, to Slovakia, the Czech Republic, Poland, Hungary or New Zealand (the Office of the Deputy Prime Minister of the Slovak Republic for Investments and Informatization 2017). The 2030 Agenda is a call for implementation and fulfilment not just for states, but also for individuals, because in trying to achieve sustainable development goals, we have to start with ourselves, so we can hand over our planet to future generations at least in the same or a better state. It is also important that the 2030 Agenda is not a legally binding document, but respecting it is a natural obligation of developed states, among which the New Zealand certainly belong.

1.1 Sustainable Development in New Zealand

In the New Zealand, the first Sustainable Development Strategy was approved in 2005. While the MDGs were about raising development indicators in developing countries, the SDGs will be universal. This means all countries - including NZ – will be responsible for working towards achieving them and measuring their progress as they go. New Zealand Ministry of Foreign Affairs and Trade have led the NZ contribution to the SDG process over the last two years. NZ’s contribution to negotiations has primarily been to ensure a standalone goal on oceans (Goal 14). The voice and interests of Small Island Developing States has also been key to NZ’s contribution. NZ is a member of the UN Statistical Commission and NZ’s Chief Statistician, attended the UN Statistical Commission’s 46th Session. A delegation led by MFAT attended the Conference on Financing for Development in Addis Ababa in July (New Zealand Parliament 2015).

New Zealand is committed to playing its part at home and abroad to advance the 2030 Agenda for Sustainable Development and

achievement of the Sustainable Development Goals (SDGs). He waka eke noa - 'we are all in this together' – is a Māori proverb and the title to our first VNR reflecting the government's policy of 'leaving no one behind'. Indicators Aotearoa New Zealand will be the framework through which New Zealand identifies what it will measure and track in relation to sustainable development, including in relation to the SDGs. Like the SDGs, Indicators Aotearoa New Zealand will go beyond economic measures of progress, such as gross domestic product (GDP), to include social and environmental measures. The indicators have been developed with the need to report on the SDGs in mind, with a focus on sustainable development including international and distributional aspects. The Conference of European Statisticians (CES) Framework was chosen as the foundation for Indicators Aotearoa New Zealand. One of the reasons for its selection is it provides a direct link to the reporting on SDGs. Agencies and organisations will be able to create a dashboard from the Indicators Aotearoa New Zealand online tool to track their own progress and help them deliver on the SDGs. This set of indicators will allow Stats NZ to provide a significant part of the indicators required for the first VNR in 2019 (New Zealand Government 2018).

In July 2019, New Zealand introduced the first Voluntary National Review (VNR). It is first report on progress towards the implementation of the United Nations Sustainable Development Goals (SDGs) and the 2030 Agenda for Sustainable Development. New Zealand's first Voluntary National Review (VNR) covers all 17 SDGs with a focus on how we deliver outcomes most relevant to New Zealand. The VNR outlines New Zealand's approach to the SDGs and reflects commitment to productive, sustainable and inclusive economic development. The report highlights challenges as well as successes, and identifies areas where further work is needed. In parallel, Statistics New Zealand has developed a new set of metrics - Indicators Aotearoa New Zealand (IANZ). Like the LSF (Living Standards Framework), IANZ goes beyond traditional economic measures such as income and GDP, and includes wellbeing and sustainable development. IANZ will support the LSF, as well as monitoring and reporting against the SDGs (United Nations 2019).

In June 2019 it was also introduced "The People's Report on the 2030 Agenda and Sustainable Development Goals – 2019". The People's Report is an Alternate Report on the SDGs and includes 17 reports contributed to by more than 20 New Zealanders from different organisations. They share a commitment to a more just, equal and sustainable world and have individual or organisational perspectives on a particular goal or target. The reports vary in style and thinking, demonstrating the rich diversity of the sector, and work and focus of the organisations. The People's Report also includes newly released data; links to reports and reviews; case studies; interviews; recommendations and high level results from a survey of organisations in June 2019. The many people who have contributed to the People's Report in various ways hope that it, and the government's Voluntary National Review (VNR) report, will provide a basis for moving forward together – in greater partnership to implement a vision and framework that clearly link Te Tiriti o Waitangi, the SDGs and the Living Standards Framework, to create a more just, equal and sustainable future (New Zealand Sustainable Development Goals 2019).

In the area of goal 11, the report (VNR) refers to "We want all New Zealanders to work, live and play in safe, affordable and resilient communities where spaces and materials are, used in ways that preserve value and conserve natural resources". The vast majority of New Zealanders live in cities and urban settings.

The role of the management of each city should be to achieve the greatest prosperity and accordingly to follow current trends, the

implementation of which would lead to a better life of the inhabitants in the city (Koreňová 2019). It is estimated that 70% of the world's population will live in cities by 2050. This means that the role of cities in enabling a more sustainable future is now more important than ever. Cities are cultural and economic centres of the world whose progress depends on effective management and policy-making based on knowledge and experience (Čepelová 2019).

Therefore New Zealand government focused on a range of housing and urban development policies that address how cities and other urban areas deal with and adapt to change. In this goal 11, New Zealand is seeking to end homelessness, increase housing supply (both public and private), and improve the effectiveness of urban planning systems. Through Urban Growth Agenda (UGA), is seeking to increase housing affordability and create thriving communities by developing policy now that will have an effect across the medium to long-term. Beyond housing affordability, other objectives of the UGA include improved living standards and housing choices, improved access to employment, education and services, reduced emissions and increased climate resilience, improved infrastructure, and to provide quality built environments that avoid urban sprawl. All of these policies strongly reflect Goal 11, which seeks to make cities inclusive, safe, resilient, and sustainable. New Zealand is seeking to make longer-term changes that will see an end to homelessness, better integration of transport and urban development, climate change and disaster resilience, and improving freshwater quality in our urban areas. New Zealand's policies on urban planning, environmental management, and emergency management are also evolving to ensure that our cities are fit for purpose in the future, are sustainable, and resilient. Aspects of Goal 11 relating to risk and resilience are being addressed in the policy and monitoring spheres through New Zealand's implementation of the Sendai Framework for Disaster Risk Reduction. Alignment between Goal 11 and New Zealand's transport policy is also strong, with a focus on the areas of transport safety, sustainability, and accessibility – including public transport being featured in both. Sustainable environmental management and public participation are fundamental parts of New Zealand's resource management legislation (New Zealand Ministry of Foreign Affairs and Trade 2019).

2. METHODS OF RESEARCH AND DATA

The SDG Index is a UN tool used for monitoring the fulfilment of the 2030 Agenda goals in individual UN member states (World Health Organization 2016). This index uses publicly available data published by official providers such as the World Bank, WHO and other international organizations, including research centre's (SDSN) and non-governmental organizations (Schmidt-Traub, Teksoz, Durand-Delacre, Sachs 2017). An SDG Index score indicates whether a country is among the worst (0%) or the best, or has target (100%) results. In order to be able to compare countries in terms of performance in fulfilling individual goals, the SDG Index needs to express data according to population size or other suitable reference points, or data for the same number of identified indicators (SDSN 2018). This means that in order to be able to identify shortcomings in fulfilling the 2030 Agenda goals (Goal 11 in our case) in New Zealand, we need to multiply an SDG Index score (0-100%) by population size, or divide it by the number of identically selected indicators. To calculate the fulfilment of Goal 11 in New Zealand, I chose the latter method of measuring shortcomings, which uses identically selected indicators.

Therefore, we will calculate shortcomings in fulfilling Goal 11 of the 2030 Agenda in New Zealand as follows:

SDG Index score

Identically selected indicators of the fulfilment of Goal 11 (A, B, C, D, E) – 100%

5 indicators (A, B, C, D, E) were selected, based on the availability of data for comparison, for the identification of shortcomings in fulfilling Goal 11 of the 2030 Agenda in New Zealand. The selected indicators are shown in the following tables.

Table 1: Indicator A of the fulfilment of Goal 11 in New Zealand

INDICATOR	DESCRIPTION
Average annual concentrations of particles smaller than 2.5 microns in diameter (PM 2.5) in urban areas (ng / m3)	Air pollution is measured as the average annual concentrations of PM2.5 for a country's urban population. PM2.5 are particles suspended in air with an aerodynamic diameter of less than 2.5 microns, which can penetrate deep into the respiratory system and can cause serious damage to health.

Source: Sustainable Development Solutions Network 2019

Table 2: Indicator B of the fulfilment of Goal 11 in New Zealand

INDICATOR	DESCRIPTION
Improved access to drinking water sources from municipal water supply networks (% of urban population with access)	Percentage of urban population with access to drinking water. An "advanced" water source is one which, when used correctly, protects the source against external contamination, especially by faecal substances.

Source: Sustainable Development Solutions Network 2019

Table 3: Indicator C of the fulfilment of Goal 11 in New Zealand

INDICATOR	DESCRIPTION
Satisfaction with public transport in %.	The percentage of respondents who answered "Yes" to the question "Are you satisfied or dissatisfied with public transport in your town or area?"

Source: Gallup 2018, United Nations 2019, own materials

Table 4: Indicator D of the fulfilment of Goal 11 in New Zealand

INDICATOR	DESCRIPTION
Housing affordability	Affordable housing contributes to people's well-being. For lower-income households especially, a high cost of housing relative to income is often associated with severe financial difficulty. It may mean households don't have enough money to meet other basic needs. This indicator measures the proportion of households spending more than 30 percent of their disposable income on housing.

Source: Ministry of Social Development (using data from Statistics NZ's Household Economic Survey) 2017

Table 5: Indicator E of the fulfilment of Goal 11 in New Zealand

INDICATOR	DESCRIPTION
Municipal waste generated in kilograms per capita.	Municipal waste is defined as waste collected and treated by or for municipalities. It covers waste from households, including bulky waste, similar waste from commerce and trade, office buildings, institutions and small businesses, as well as yard and garden waste, street sweepings, the contents of litter containers, and market cleansing waste if managed as household waste. The definition excludes waste from municipal sewage networks and treatment, as well as waste from construction and demolition activities. This indicator is measured in thousand tones and in kilograms per capita.

Source: OECD 2019

3. RESULTS OF THE ARTICLE

Serious problem for New Zealand is air pollution, which has a negative impact on population health and natural functioning of ecosystems. Selected emissions of pollutants (particularly PM10 and PM2.5 particles) in certain areas exceed the limit values and have a significant negative impact on human health (UNSTATS 2016). The biggest sources of pollution are the transport industry and residential premises' heating, reduction of emissions therefore must become targeted measures in the energy, transport, industry and agriculture sectors. The value reached by Indicator A of the SDG Index is 16,1% in New Zealand, 21.4% in the Czech Republic, 23.1% in Hungary, 24.3% in Poland and 20.5% in Slovakia (SDSN 2019). Poland therefore has the worst results, while New Zealand has the best results of all countries in terms of the average annual concentrations of particles smaller than 2.5 microns in diameter (PM2.5) in urban areas. The problem is however the ever-expanding ozone hole located above New Zealand.

The consequences of uneven access to safe drinking water show in all aspects of life and affect all human activities. This does not just apply to health, but also, for example, to education. We should also note that a shortage of drinking water often causes conflicts between countries competing for this scarce resource (such as African countries). The value reached by Indicator B of the SDG Index is 99.9% in the Czech Republic and in the New Zealand, 100% in Hungary, 98.8% in Poland and 97.2% in Slovakia (SDSN 2019). So Slovakia has the worst results in terms of urban population access to water sources, although it is important to point out that Slovakia has the largest amount of water per person out of all V4 countries, but with the worst access. By contrast, the Hungary, New Zealand, Czech Republic have the best results in terms of access to water sources. Drinking water in New Zealand is also considered one of the cleanest in the world.

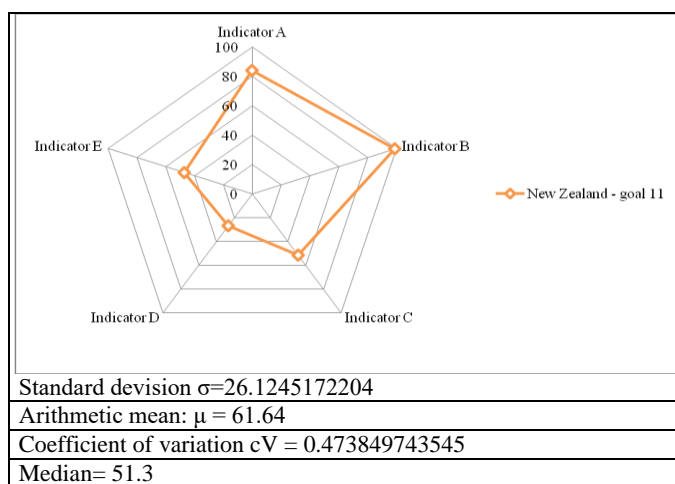
Public transport in New Zealand exists in many of the country's urban areas, and takes a number of forms. Bus transport is the main form of public transport. Two major cities, Auckland and Wellington, also have suburban rail systems which have been gaining more patronage and new investment in recent years. It is a country's duty to provide its citizens access to basic resources and services necessary for a high quality of life. Mobility (efficient and modern integrated public transport) is one of the key services ensuring the quality and sustainability of urban and regional development, as well as the socio-economic stability of regions. The main instrument of strengthening public transport is the construction of Park & Ride facilities and lanes restricted to urban public transport. At the same time it is important to provide disabled access, public transport affordability, as well as routes to remote areas (Douša, Koreňová 2018). The value reached by Indicator C of the SDG Index is 51, 3% in New Zealand, 70% in the Czech Republic, 64% in Hungary, 55% in Poland and 60% in Slovakia. So New Zealand has the worst results in terms of satisfaction with public transport. By contrast, the Czech Republic has the highest percentage of people who are satisfied with public transport.

In the D indicator area, almost 73% of New Zealand households spend more than 30% of their disposable income on housing. The issue of housing availability is one of the biggest challenges that New Zealand is currently facing. In the area of achieving Goal 11, 2030 Agenda in most EU countries, the greatest problem is urban transport and the associated environmental pollution. In New Zealand, the biggest problem is the availability and quality of housing, municipal waste.

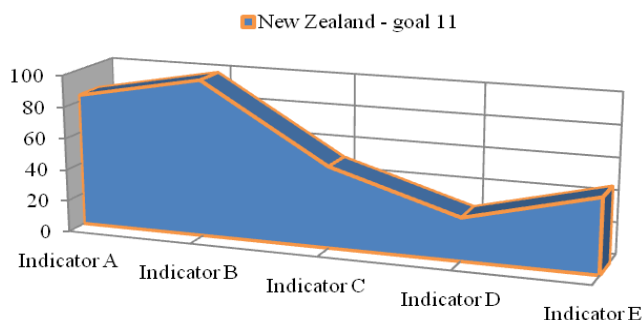
Every year, New Zealand industries and households discard over 3 million tonnes of construction and demolition debris to landfills and clean fills. Averaged across the population, this represents about one tonne per person. In addition, more than 1 million tonnes of plant matter and food scraps are sent to landfills, representing about 320 kilograms of organic matter for each one of us. This is accompanied by 600,000 tonnes of paper and cardboard (about 170 kg/person) and 220,000 tonnes of plastic (about 60 kg/person). These are the main items in our solid waste pile, but we also discard many other things in the course of a year, including, for example, 300 million steel cans (about 80 per person) and 30 million litres of used oil (about 8 litres each). Large though these figures are, they pale beside the approximately 500 billion litres of sewage that flow into our 258 public wastewater treatment plants each year. Additional, unmeasured, quantities of storm water and pasture run-off sweep tonnes of litter and animal waste from land into waterways. Furthermore, our chimneys and vehicle exhausts emit unmeasured tonnes of smoke and particulate matter into the air. In short, each of us discards many times our own bodyweight of waste each year, often with environmental consequences. Small amounts of waste are easily absorbed by the environment, but in larger amounts some wastes can be harmful. In the case of some toxic substances, even very small amounts can harm humans or other species.

Kiwis produce over 3.6kg of waste per person every day, adding up to a shocking 740kg total annual haul of trash (In the area of indicator E). This is a 20 percent increase from three years ago and five times the global daily average of 0.65kg. The number one spot goes to Kuwait, with 5.7kg of waste produced per urban dwelling person every day. The World Bank's current estimates paint a grim picture of our environmental future, saying that the amount of waste being produced is outstripping the rate of urbanisation. By 2025 there will be approximately 1.4 billion people living in cities worldwide producing nearly 1.5kg of waste every day, nearly double the current global average (New Zealand Ministry for Environment 2019).

Figure 1: The final (%) outcome in terms of the absolute reaching of Goal 11 of the 2030 Agenda in the New Zealand



Source: Own Research 2019



4. CONCLUSION

The objective of this contribution was to identify, on the basis of a content analysis, the results of fulfilling Goal 11 “Make cities and human settlements inclusive, safe, resilient and sustainable” of Agenda 2030 in New Zealand in terms of his global responsibility for their fulfilment. From the result, it is clear that the biggest problems with Goal 11 are the quality and affordability of housing and the increasing amount of municipal waste per capita in each city in New Zealand.

The SDGs are interrelated and cannot be achieved by governments alone. It requires a holistic approach and the participation of all sectors of society. The New Zealand's first Voluntary National Review (VNR) highlights some of the important work being undertaken across New Zealand and overseas by New Zealand individuals, businesses and community groups to achieve the SDGs. New Zealand will contribute to achievement of the goals through a combination of domestic action, international leadership on global policy issues, and supporting countries through the Sustainable Development Programme.

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