ORIGINAL RESEARCH

Global Standardization for a Sustainable Future

Sürdürülebilir Bir Gelecek için Küresel Standardizasyon

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Abstract

Climate change is one of the crucial problems facing our world. Countries, international organizations and non-governmental organizations are making efforts to find solutions to climate change and problems related to climate change. Governance theories and the economic, social and environmental problems our world is facing have also increased the responsibilities of states. In this context, the states are expected to exhibit sensitive and responsible governance to global problems. Responsible governance is becoming more complex with environmental justice, responsible and sustainable production and consumption elements. Standardization plays an important role in finding solutions to climate change problems, reaching UN SDGs, and ensuring sustainable production and consumption. This article examines the green standardization and sustainable product standardization studies carried out to develop solutions to climate change problems and to provide a better future. This article also introduces the sharing economy to the reader for a sustainable future. This article demonstrates the importance of standards for ensuring responsible governance and achieving the UN SDG.

Keywords: Standardization, Governance, Sustainability, Sharing Economy, Climate Change.

Öz

İklim değişikliği dünyamızın karşı karşıya olduğu önemli sorunlardan biridir. Ülkeler, uluslararası kuruluşlar ve sivil toplum kuruluşları iklim değişikliği ve iklim değişikliğine bağlı sorunlara çözüm bulmak için çaba sarf etmektedir. Yönetişim teorileri devletlerin görevlerini çeşitlendirmiştir. Dünyamızın karşı karşıya olduğu ekonomik, toplumsal ve çevresel sorunlar da devletlerin sorumluluklarını arttırmıştır. Bu kapsamda devletlerin küresel sorunlara duyarlı ve sorumlu yönetişim sergilemesi beklenmektedir. Devletlerden beklenen sorumlu davranış biçimi çevresel adalet, sorumlu ve sürdürülebilir üretim ve tüketim unsurları ile daha karmaşık hale gelmiştir. Standardizasyon, iklim değişikliği sorunlarına çözüm bulunmasında, BM Sürdürülebilir Kalkınma Hedefleri'ne ulaşılmasında ve sürdürülebilir üretim ve tüketimin sağlanmasında önemli bir rol oynamaktadır. Bu makale dünyamızın karşı karşıya olduğu iklim değişikliği sorunlarına çözüm geliştirilmesi ve daha iyi bir gelecek sağlanması için yürütülen yeşil standardizasyon ve sürdürülebilir ürün standardizasyonu çalışmalarını incelemektedir. Makale ayrıca sürdürülebilir bir gelecek için paylaşım ekonomisini okuyucuya tanıtmaktadır. Makale, sorumlu yönetişimin sağlanması ve BM Sürdürülebilir Kalkınma Hedeflerine ulaşılması için standartların önemine değinmektedir.

Anahtar Kelimeler: Standardizasyon, Yönetişim, Sürdürülebilirlik, Paylaşım Ekonomisi, İklim Değişikliği.

Global Standardization for a Sustainable Future

One of the challenges of our time is climate change. Climate change has significant risks and severe impacts like increase in temperatures, droughts, floods, hurricanes. These effects have serious risks to environment. In order to reduce these effects of climate change, the increase in average temperatures should be limited to a 2°C (maximum).

Panel on Climate Change (IPCC) noted in their report that the human influence on the climate system is obvious and is extremely likely the main cause of the warming since 20th century. It is said that there will be catastrophic consequences for people and the planet if global warming cannot be kept below 2°C. There will be human-induced climate change affecting weather in 2021, too. These climatic events are causing hunger and displacement (United Nations Development Programme [UNDP], 2022a, p. 9).

While the whole world is affected, it is clear that the already weak and disadvantaged groups will be more affected by these results. According to the report of The World Meteorological Organization (WMO), global warming of 1.5°C is expected in coming 5 years. This will jeopardize the achievements of the Paris Agreement. Reaching the level of 1.5°C of global warming will increase many climate-related risks such as health, food safety, living spaces, water resources, security and economic growth and will have devastating effects (UNDP, 2022a, p. 9).

As seen during the COVID-19 pandemic process, disadvantaged groups are more affected by disasters occurring in the world or negative consequences such as pandemics. Millions of people have been pushed into poverty due to the COVID-19 pandemic (UNDP, 2022a, p. 9). Therefore, the measures to be taken both for the post-pandemic process and regarding climate change should primarily focus on the disadvantaged groups, be implemented without harming human rights, and highlight the principle of equality.

The main solutions are solutions such as increasing energy efficiency, using renewable energy sources and preventing deforestation. The quickest and least costly way to reduce carbon emissions is to take measures for energy efficiency. For this, it is necessary to manage the demand. According to the Energy Report of the World Wildlife Fund (WWF), global energy demand in 2050 is likely to decrease by 15% compared to 2005 without any reduction in global production projections. According to this report, it is possible to meet the energy demand from renewable energy sources in 2050 (WWF, 2022).

Laws can promote the fair and sustainable management of the environment by securing respect and protection. This will include water, land, biodiversity and forests (UNDP, 2022a, s. 18). Environmental rights and ensuring "environmental justice" should be seen as human rights. To protect these rights, all institutions should do their part, prepare the necessary legal regulations and plan the necessary actions. Only in this way will it be possible for us to live in a clean, sustainable and safe environment and to leave such an environment for future generations. Environmental rights and environmental justice are the rights of future generations and our duty to them.

Management theories are shaped in line with the needs of people and our world. The governance model, which started to be implemented more effectively in the 1990s, started to include the parties affected by the decisions in the policy processes. Thus, public policies began to take shape with the participation of all parties. In later years, the governance model has been moved to a different dimension with the international organizations determining the terms and conditions related to the public policies of the countries. In this governance model, which is presented to the literature under the name of cooperative governance, global actors like World Trade Organization (WTO), United Nations (UN) and European Union (EU) advocate national and global policies together with different partnerships (Algan, 2021). This governance model, which can be criticized as an intervention in public power, takes a different

turn, especially when it comes to environmental policies. The fact that global actors advocate the policy-making processes of states limits national decision-making. However, when it comes to the implementation of global decisions or global policies to develop solutions to environmental problems, especially the climate change problem that concerns our entire world, global actors must determine global policies. It is possible to see a similar situation in societies suffering from poverty before and after the COVID-19 pandemic, and in social problems such as the protection of human rights based on children's and women's rights.

The efforts of global organizations to implement their policies against global problems at the national and global levels are important steps to solving the problems facing the world. The concept of sustainable development developed by the UN and the Sustainable Development Goals (SDGs) determined accordingly are important examples of this. These goals are the development proposals for the future of our world and humanity. The efforts of countries and organizations to achieve these goals will make our world a more livable place. It is possible to see that the cooperative governance model has become different with these global contributions. Changing conditions and management models have also changed the duties expected from the state. Today, states are expected to exhibit responsible governance (Algan, 2022). Responsible governance is not only concerned with the services that the state will provide, but also with how these services will be provided.

Standards are important tools to contribute to the solution of climate change and environmental problems and to demonstrate responsible governance. Standards stand out not only with their contribution to the global economy but also with their contribution to the UN SDGs and their contribution to greener production. Standards, which make important contributions to sustainable products as well as green standardization, also provide technical information support to companies in new product development processes.

The sharing economy is a different model in which resources are shared in today's world with unlimited consumption. This model, which will reduce production and consumption, will not only contribute to the solution of environmental problems but also contribute to the increase of social welfare by sharing products.

This article examines the principles of responsible governance, including the concept of UN environmental justice. The article also reveals how standards contribute to the solution of environmental problems within the scope of responsible governance. In this context; standardization for the future, standardization for sustainable products and studies in the field of sharing economy are examined in the article.

Methodology

In the study, the responsible governance approach and principles were defined by scanning primary and secondary sources. In addition to these definitions, the concept of UN Environmental Justice has been examined through UN documents. After the UN SDGs were introduced with relevant UN resources, the work of global standards organizations was examined. This review is carried out by international, regional and national standards organizations; policy documents, regulations, procedures and it has been done by examining the recent studies.

All global standards prepared in these areas were reviewed while the sections on solutions developed for climate problems, sustainable standardization and sharing economy were prepared. In this context;

- International Standard Organizations (ISO, IEC),

- Regional Standard Organizations (CEN, CENELEC),

- National Standard Organizations (TSE, DIN, etc.)

and their standardization studies were examined. According to this analyse all the standards in these fields were listed and examined. As a result of this review, the classification of standards has been provided in the light of global organizations such as UN and other publications in the literature. Within the scope of this classification, it was ensured that the findings related to standardization for the future, sustainable standardization and sharing economy were discussed.

Responsible Governance with UN Environmental Justice

Governance models and changing economic and global conditions have increased the duties of the state. As a result of these developments, the duties of the state have not only increased but also the expectations from the state have changed. Responsible governance has emerged as the management model in recent years. In the responsible governance model, it is one of the most important features to ensure that all stakeholders of the society take part in policy-making processes and that public policies are created with social consensus. The social consensus principle requires that policy-making processes be open, transparent and accessible. Thus, openness, transparency and accessibility of documents and processes appear as other principles of the responsible governance model. While determining public policies, analyzing the social and economic effects of these policies, preparing policies by promoting social justice and social value are the other principles of the responsible governance model (Algan, 2022).

Public policies should be determined equally and fairly and should be implemented in the same way. This will enable the administrations to consider the minorities in the society and to display a more democratic administration. At this stage, public policies must support social justice. The policies to be determined should exhibit a fair approach to all segments of society, be applied equally and increase social trust (Algan, 2022). Another principle of the responsible governance model is the creation of global value. It is no longer possible to think only nationally or regionally. While determining public policies, governments are responsible for taking into account the interests of the world and creating global value.

The UN's concept of sustainable development, which was introduced to the global literature in 1987, refers to meeting the needs of society and considering future generations (Algan, 2022). The purpose of the UN SDGs is to set development goals for governments and organizations. These goals are a universal call to action to eradicate poverty, protect our world, and increase the peace and well-being of humanity. UN SDGs are; No Poverty, Zero Hunger, Good Health and Well-being, Quality Education, Gender Equality, Clean Water and Sanitation, Affordable and Clean Energy, Decent Work and Economic Growth, Industry, Innovation and Infrastructure, Reduced Inequality, Sustainable Cities and Communities, Responsible Consumption and Production, Climate Action, Life Below Water, Life On Land, Peace, Justice, and Strong Institutions and Partnerships for the Goals (UN, 2015). Administrations should work to achieve these goals within the scope of responsible governance and should take these goals into account when determining their policies.

While our world is experiencing multiple climate change problems such as biodiversity, ecosystem loss and air pollution, it has also been struggling with problems such as increased inequalities and violation of human rights due to wars and economic crises in recent years. The COVID 19 pandemic has exacerbated these problems, and environmental injustice has increased as well as economic inequality and social injustice around the world. In addition to the injustices experienced in basic rights like accessing food and health services, there are also problems with women's and children's rights. At this point, the United Nations Development Program aims to develop the concept of environmental justice and to promote the rule of law with respect for human rights. This covers effective governance and an

integrated approach related to nature, climate and energy (UNDP, 2022a, p. 5). UNDP's environmental justice strategy covers climate and environmental justice, focusing on the respect and protection environmental rights (UNDP, 2022b, p. 6).

In the Anthropocene era, a new geological epoch in which a man competes with the forces of nature, the UN's strategy of "leaving no one behind" should be seen as the "right of future generations" to ensure climate justice, as the UN Secretary-General said. UN's environmental justice focuses on basic elements such as creating a legal framework, strengthening a human-based approach, increasing the effectiveness and accessibility of institutions that will protect the environmental rights of future generations, and increasing legal regulations on environment and climate issues. UN states that environmental rights should be seen as human rights. Therefore, all legal regulations and practices related to human rights should also be made regarding the environment (UNDP, 2022a, p. 10).

UN SDGs and environmental justice need to be taken into account when determining national and global policies. In this context, keeping environmental management at the forefront, developing policies that will solve climate change and environmental problems and establishing policies to ensure environmental justice and sustainable transition should be the principles of responsible governance. Administrations that want to demonstrate responsible governance within the framework of UN environmental justice should also protect climate justice, human rights and gender rights.

In this direction, responsible governance is a governance model in which environmental justice, social justice and global social benefit are prioritized in policy-making processes and the possible effects of the policies to be implemented are evaluated by all relevant parties and decisions are taken together. While applying the responsible governance approach, determining policies for the realization of the UN SDGs and prioritizing environmental justice and human rights will not only ensure the development of countries but also support global sustainable development.

Standardization for a Sustainable Future

Standardization plays a crucial role in economic life. Standards improve productivity, reduce information asymmetry, increase trust and boost international trade (Castka, 2020, pp. 1-2). In addition to this significance for the economy and the business world, standards are documents that determine environmental, safety and quality requirements for producers and consumers. These core features of the standards have become even more important over the years. Standards have become important tools for producing solutions to environmental problems, protecting nature and energy resources, and reaching UN SDGs. Standards are important tools to leave a more beautiful and resource-efficient world to future generations. Green standardization activities such as social responsibility standards, environmental standards and circular economy standards, and sharing economy studies contribute to UN SDGs (Algan, 2022).

The European Commission (EC) has announced how they will contribute to a greener world by determining a new strategy. With this strategy, the Commission declares that the standard needs are determined as a priority, legal arrangements are made for priorities and standardization activities are carried out within the scope of the European Green Deal. In the strategy, it is stated that studies will be carried out on ecodesign and sustainable products within the scope of sustainability (EC, 2022). International standards organizations and European Standards Organizations (ESOs) also express that they will do the necessary work for the realization of the UN SDGs in their strategies and activities. These organizations work to achieve sustainable development goals with all the standardization activities they carry out, from environmental standards to sharing economy standards.

Standardization for the Future

Green standardization sets roadmaps for the effective and correct use of resources and the realization of UN SDGs with environmental standards and circular economy standards. For example, within the scope of UN SDG 6 Clean Water and Sanitation, the European Committee for Standardization (CEN) has published the EN 15975 Security of drinking water supply series. These standards aim to ensure the safety of water resources.

Within the scope of UN SDG 7 Affordable and Clean Energy goal, European Standard Organizations (ESOs) prepare Eco-design and Energy Labeling standards. These European standards can be used as tools to manage energy use or carbon emissions and gradually improve the energy efficiency of products. For organizations committed to addressing their impact, conserving resources and improving the bottom line through efficient energy management, International Organization for Standardization (ISO) developed ISO 50001 Energy Management standard. ISO 50001 standard for energy management systems can help safeguard our future by making a positive difference.

While the ISO 19030 Ships and Marine technology series contributes to the UN SDG 9 Industry, Innovation and Infrastructure goal, the standard organizations prepare;

> - ISO 37120 Sustainable cities and communities-Indicators for city services and quality of life (ISO, 2021),

> - ISO 37101 Sustainable development in communities-Management system for sustainable development- Requirements with guidance for use (ISO, 2021),

> - ISO 15392 Sustainability in buildings and civil engineering Works-General principles (ISO, 2021),

> - ISO 16745 Sustainability in buildings and civil engineering Works-Carbon metric of an existing building during use stage series standards to achieve the UN SDG 11 Sustainable Cities and Communities goal (ISO, 2021).

For the UN SDG 12 target, ESOs prepare standards in the field of textiles and sets requirements for efficient and sustainable production. ISO/TS 17033 Ethical claims and supporting information- Principles and requirements technic specification sets out common ways to make a credible ethical claim.

To achieve UN SDG 13 Climate Action goal, standard organisations prepare;

> - Greenhouse gases (ISO 14064 Greenhouse gases series),

> - Carbon footprint (ISO/TS ISO/TS 14067 Greenhouse gases-Carbon footprint of products- Requirements and guidelines for quantification and communication),

> - Smart transportation (ISO 37161 Smart community infrastructures-Guidance on smart transportation for energy saving in transportation services)

> - Green finance (ISO 14030 Environmental performance evaluation- Green debt instruments series),

> - Green logistics,

> - Green buildings standards.

While ISO 22948, Carbon footprint for seafood- Product category rules (CFP-PCR) for finfish standard contributes to the UN SDG 14 Life Below Water goals; standards such as smart transportation and railways contribute to the UN SDG 15 Life On Land goal. Besides these efforts; standardization

activities such as ISO 14000 Environmental Management Systems standards, standardization activities in the field of Circular Economy (ISO 59004), and sustainable development standards both contribute to the UN SDGs and ensure the protection of our world.

These standardization activities listed under certain SDGs to follow a certain methodology above do not only serve those SDGs but also contribute to the realization of other SDGs. For example, the ISO 50001 Energy Management standard contributes to the realization of UN SDG 7 Affordable and Clean Energy, as well as the UN SDG 11 Sustainable Cities and Communities, UN SDG 12 Responsible Consumption and Production, and UN SDG 13 Climate Action.

The ISO 37120 Sustainable cities and communities- Indicators for city services and quality of life standard not only ensures the achievement of the UN SDG 11 Sustainable Cities and Communities goal; it also contributes to the goals of UN SDG 3, UN SDG 4, UN SDG 5, UN SDG 6, UN SDG 8, UN SDG 10, UN SDG 13 and UN SDG 16.

ISO 22948, Carbon footprint for seafood- Product category rules (CFP-PCR) for finfish standard also contributes not only to UN SDG 2 Zero Hunger; but also to UN SDG 11, UN SDG 12 and UN SDG 14.

With all these contributions, standardization activities and standards, within the scope of responsible governance, ensure sustainable development, efficient use of natural resources, increasing energy efficiency and creating solutions to environmental problems, leaving a better future for future generations.

Standardization for Sustainable Products

New product development is an important phase. New product development covers; discovery, prototyping, testing and introduction of new products. It is important to evaluate the demands of the market correctly and to present the product at the right time. The performance of companies in this process depends on many factors. These factors are brand reputation, budget possibilities and know-how asset. Standards form the basis of success in the product development processes of companies. Companies that work with standards and integrate them into their production processes gain a more competitive advantage in time-to-market performance, product/process interfaces and market acceptability. Standards play a very important role in the compliance of technological products with the legislation (Castka, 2020, p. 8). In this way, products produced following the standards create trust in private and public institutions. Also, companies use standards to engage with technologies (Castka, 2020, 8). Standards affect entire supply chains and innovation ecosystems. Standards affect national economies as they create reference points, create an environment of cooperation and determine trade relations. Companies should determine a strategic approach for standardization management. This approach covers every stage of production (Castka, 2020, pp. 1-3).

Sustainable products are products that provide environmental, social and economic benefits. They are very important not only for companies but also for consumers. Sustainable manufacturing aims to produce products which are compatible with environment. A sustainable product is made out of renewable resources and it uses a small amount of energy.

Standards provide numerous contributions to companies in the development of new green technology products. Products aiming to protect nature generally require innovation and advanced technology. The involvement of manufacturers of such products in the standardization processes will provide them with technical information and know-how. The contributions of these manufacturers to the standards will also benefit other manufacturers and increase the quality of the standards.

Companies have to consider UN SDGs while producing their products. The most practical way to contribute to the SDGs while producing is again the standards. In addition to the standardization activities mentioned above;

- ISO/TS 34700 Technical specification for animal welfare management (ISO, 2021),

- ISO 34101 series on sustainable and traceable cocoa (ISO, 2021),

- ISO 14034 Environmental management-Environmental technology verification (ISO, 2021),

- ISO 23828 Fuel cell road vehicles- Energy consumption measurement- Vehicles fuelled with compressed hydrogen standards also support SDGs (ISO, 2021).

These standards help firms to verify their environmental gains, provide green and sustainable finance and comply with new environmental technologies. The fact that companies manage their processes by complying with the requirements of standards such as ISO 14007 Cost-benefits analysis and ISO 14008 Climate finance in their production processes will contribute to both companies and SDGs (ISO, 2021).

It is necessary to ensure the sustainability of products, achieve the UN SDGs and prevent climate change (Filho, 2018). Standards play a major role in the development and sustainability of products. Standards ensure compliance of products with legislation and green and sustainable production. Standardization activities provide benefits such as sharing technological information and spreading innovation studies, as well as making companies aware of each other's work through networking.

The sustainability of consumption is as important as the sustainability of production for the future of our world. Consumers' knowledge about green and sustainable products, their preference to use these products, and their shopping from companies that make green production will increase sustainable consumption. Using sustainable products, protecting nature in all consumption processes and acting with energy efficiency in mind will make a big difference globally. Sustainable production and consumption appear as ways to contribute to the UN SDG and prevent climate change, as well as the requirements of responsible governance.

Sharing Economy

The sharing economy can be defined as an activity of sharing access to goods and services via online platforms. It is important for sustainable production and consumption. As Yunus Emre said; "What you share is yours, not what you accumulate" (Yakın, 2018, p. 19). According to Botsman, the sharing economy is an economic model based on the sharing of underutilized assets from space, skills and belongings for monetary or non-monetary benefits (Frenken, 2017a, p. 1).

The sharing economy model is a business model based on converting people's assets that they do not constantly use into money and bringing the same assets together with those who need them. Airbnb and Uber are its most well-known features. The concept of the sharing economy has emerged for reasons such as the widespread use of the internet, mobilization, the longing of new generations for nature, their sensitivity to environmentalism, and the revolt against unnecessary consumption. The sharing economy is an innovative and effective tool for the circular economy, which allows for more efficient use of all kinds of resources such as goods, services and information through reuse and joint use.

The activities carried out within this scope are grouped under four categories (İzmir Kalkınma Ajansı, 2022):

- Recirculation of goods: It is the activities of selling, sharing, bartering or donating used goods to others through a platform over the internet. Ebay, Letgo are the most known applications in this field.

- More efficient use of durable goods: The activities of using durable consumer goods like houses, vehicles, offices and bicycles through a firm without changing ownership. Airbnb, where living spaces are shared, and Uber, where car sharing is carried out, can be considered in this context.
- Exchange of services: These are the applications that bring the service provider and those who need the service together. The most well-known examples are time banks where people share their time, non-profit service swap applications and platforms such as Armut and Task Rabbit where services are exchanged.
- Sharing of productive assets: Activities based on the shared use and rental of productive spaces, knowledge, skills and tools. Cooperatives shared offices and workspaces, tools and equipment libraries are examples of this area.

The sharing economy, which has been in practice for more than ten years, has a great contribution to sustainability. By allocating limited resources to unlimited consumption demands, it provides a more efficient distribution to humanity. It increases the savings rate by making the resources in the world more efficient. This ecosystem, where consumers share their products without giving their ownership with the help of peer-to-peer or common networks, also contributes to the reduction of production. A decrease in production will reduce greenhouse gas emissions, pollution and energy expenditures (Boar et al., 2020, pp. 1-3). For example, Airbnb is extremely green in energy use, water use and greenhouse gas emissions and waste generation compared to hotels. The numbers suggest that, compared to hotels, home sharing may generate substantial benefits as Airbnb guests consumed less energy (by 63-78%) and less water (by 12-48%). The system generated less greenhouse gas emissions by 61-89%. Similarly, the ridesharing platform BlaBlaCar, stated that the company saved 1.000.000 tons of CO_2 over the past two years roughly equivalent to what 250.000 cars emit every year assuming 4 tons per car per year (Frenken, 2017b, p. 6).

The sharing economy also creates positive results in terms of creating new job opportunities, providing financial benefits to users, gaining social experience and increasing the quality of life. For example, sharing economy, like clothes and car sharing, both provide financial benefits to the parties and increase the quality of life of people through this social experience. In addition to these benefits, when factors such as transportation costs and loss of time and labour are considered, the sharing economy also contributes to sustainability with an overview (Boar et al., 2020, p. 9).

Considering all these benefits, the sharing economy should be seen as an important opportunity for sustainability. Within the scope of the positive effects of the sharing economy on the environment, urban effects and the sharing economy, companies contribute to the UN SDGs with their responsible activities. For example, urban gardens have the potential to achieve UN SDG 2, UN SDG 3, UN SDG 11. Urban gardens can also contribute to UN SDG 13 and UN SDG 15.

As can be seen, the contribution of the sharing economy to the UN SDGs is not only within the scope of one SDG, the sharing economy contributes to many SDGs diagonally. The sharing economy has the potential to contribute to many of the SDGs, it can especially help to achieve SDGs such as UN SDG 2, UN SDG 3, UN SDG 8, UN SDG 9, UN SDG 12 and UN SDG 11 (Boar et al., 2020, pp. 10-11).

British Standards Institution (BSI) has published a publically available specification PAS 202 Sharing economy- operation of an online platform, to accelerate the development of the sharing economy. This PAS specifies the requirements for operators of online platforms. PAS offers guidance on safety, consumer protection and risk management and it encourages improvement of services (BSI, 2022).

In 2017 ISO developed international guidance document IWA 27 Guiding principles and framework for the sharing economy. ISO/TC 324 Sharing economy Committee aims to serve UN SDG 1, UN SDG

3, UN SDG 8, UN SDG 9, UN SDG 10, UN SDG 11 and UN SDG 12. This Committee has a published standard which is ISO 42500 Sharing economy-General principles. This standard provides general principles and aims to boost No poverty, Good Health and Well-being, Industry, Innovation and Infrastructure and Sustainable Cities and Communities goals (ISO 42500, 2021). There are also ISO/DTS 42501 Sharing economy-General trustworthiness and safety requirements for digital platforms and ISO/DTS 42502 Sharing economy- Guidelines for provider verification on digital platforms documents which are under development. Sharing economy is a rising model for sustainable and responsible consumption. Standardization will boost the activities in the field of sharing economy.

Concluding Remarks

Climate change is a problem that our world is facing with serious consequences. A global effort is needed to prevent climate change. Many organizations are working to prevent climate change and minimize its effects with various studies. The most comprehensive of these studies is UN SDGs.

The economic, social and environmental problems experienced over the years have changed the role of the state and improved the administrations to exhibit responsible governance. While the responsible governance model is set forth with principles such as social consensus, social justice and global value creation; the concept of UN environmental justice, sustainable production, sustainable consumption and responsible consumption have made it necessary to add new principles to responsible governance model.

Standards are important tools for a sustainable future. The green standardization used in the field of environment not only contributes to the UN SDGs but also supports a better quality of life for all societal stakeholders. Sustainable product standardization is also very beneficial for companies and creates social benefits. Sustainable products provide both sustainable consumption and sustainable production. Like sustainable product standardization, the sharing economy also highlights the concepts of sustainable consumption. The sharing economy contributes to the well-being of society and the UN SDGs. In addition, the sharing economy creates new job opportunities, provides financial benefits and increases social integration.

Environmental justice, sustainable and responsible production and consumption are important elements for preventing climate change and contributing to the UN SDGs. Therefore standards will continue to contribute to future generations as effective tools for ensuring responsible governance and realizing UN SDGs with these elements.

References

Algan, F. M. (2021). Ortaklaşa yönetişim-uluslarötesi kuruluşların politika yönlendirmesi, *Mülkiye Dergisi*, *45*(3), 793-832.

Algan, F. M. (2022). Green standardization in the light of responsible governance, *EURAS 2022 Conference Book* (pp. 9-24). Glasgow.

Boar, A., Bastida, R. & Marimon, F. (2020). A systematic literature review. Relationships between the sharing economy, sustainability and sustainable development goals, *Sustainability, 12,* 6744.

British Standards Institution. (2022). *Encouraging trust within the developing sharing economy*. https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2019/april/_encouraging-trust-within-the-developing-sharing-economy/

Castka, P. (2020). The role of standards in the development and delivery of sustainable products: A research framework. *Sustainability, 12*(24), 10461, 11-18.

European Commission. (2022). *An EU strategy on standardisation setting global standards in support of a resilient, green and digital EU single market.* European Commission. Communication From the Commission to The European Parliament, The Council. Brussels.

Filho, W. L. (2018). *Handbook of sustainability science and research*. Springer Science and Business Media LLC.

Frenken, K. (2017a). Editoral: Sustainability perspectives on the sharing economy, *Environmental Innovation and Societal Transitions*, 23, 1-2.

Frenken, K. (2017b). Political economies and environmental futures for the sharing economy, *The Royal Society*, *375*(2095), 1-15.

International Organization for Standardization 42500. (2021). *Sharing economy-General principles*, ISO, Geneva.

International Organization for Standardization. (2021). *ISO search*. https://www.iso.org/home.html

International Organization for Standardization. (2022). *Greenhouse gases standard*. https://www.iso.org/news/2015/07/Ref1988.html

International Organization for Standardization. (2022). *Green buildings.* https://www.iso.org/news/2013/01/Ref1692.html

International Organization for Standardization. (2022). *Clean green fish.* https://www.iso.org/news/ref2611.html

International Organization for Standardization. (2022). *Sharing economy gets boost with new ISO international committee.* https://www.iso.org/news/ref2404.html

İzmir Kalkınma Ajansı. (2022). *Paylaşım ekonomisi (Dayanışma ekonomisi, işbirlikçi ekonomi).* https://kalkinmasozlugu.izka.org.tr/?p=554

Marcus A. A., & Fremeth A. R. (2009). Green management matters regardless, *Academy of Management Perspectives, 23*(3), 17-26.

Rhodes R. A. W., & Wanna J. (2007). The limits to public value, or rescuing responsible government from the platonic guardians, *The Australian Journal of Public Administration*, *66*(4), 406-421.

Siegel, D. S. (2009). Green management matters only if it yields more green: An economic/strategic perspective. *Academy of Management Perspectives, 26*(8), 5-16.

United Nations. (2015). *Sustainable Development Goals*, https://sdgs.un.org/goals

United Nations Development Programme. (2022a). *Environmental Justice-Securing our right to a clean, healthy and sustainable environment.* https://www.undp.org/publications/environmental-justice-securing-our-right-clean-healthy-and-sustainable-environment

United Nations Development Programme. (2022b). *Promoting environmental justice-Securing our right to a clean, healthy and sustainable environment through UNDP programming.* https://www.undp.org/publications/environmental-justice-securing-our-right-clean-healthy-and-sustainable-environment

World Wildlife Fund. (2022). *Climate change*. https://www.wwf.org.tr/ne_yapiyoruz/iklim_degisikligi

Yakın, V. (2018). Paylaşım ekonomisi: Tanımı ve sınıflandırmaları, https://www.researchgate.net/publication/348705454