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THE INTERCONNECTION BETWEEN SUSTAINABLE DEVELOPMENT GOALS AND THE CLIMATE CHANGE NEGOTIATIONS: THE PARIS AGREEMENT CASE

SÜRDÜRÜLEBİLİR KALKINMA HEDEFLERİ İLE İKLİM DEĞİŞİKLİĞİ MÜZAKERELERİ ARASINDAKİ BAĞ: PARİS ANLAŞMASI ÖRNEĞİ

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ABSTRACT

The year of 2015 was an important milestone in terms of new progresses in development and climate change areas. Adopted Sustainable Development Goals (SDGs) and the Paris Agreement for climate change were two successful issues because of country-driven and comprehensive processes. SDGs which replaced to Millennium Development Goals (MDGs), includes 17 goals and 169 targets. The Paris Agreement aims to reduce greenhouse gas emissions. There are significant direct and indirect interconnections between SDGs and the Paris Agreement. Due to negotiations of the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC) and SDGs continued in different platforms, both the Agreement and SDGs could not sufficiently provide input for each other. There is still room to ensure alignment between these two processes and outcomes while implementation, monitoring and reporting of the Paris Agreement and SDGs. In this paper, the key elements of the Paris Agreement, namely,

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adaptation, mitigation, finance, capacity building, technology transfer, cooperation and partnerships are determined, then these elements are tracked under the SDGs in order to analyze the connections and missing parts between SDGs and Paris Agreement. The findings present that the direct linkages between SDGs and Paris Agreement were not strong but, there are substantial and implicit interconnections among the Agreement and SDGs. Countries should nationalize their own SDGs targets and respective indicators in order to integrate climate change issue in their national development agenda.

Keywords: SDGs, Climate Change, Paris Agreement.

ÖZ

2015 yılı kalkınma ve iklim değişikliği alanında yeni gelişmeler bakımından önemli bir dönüm noktasıdır. Kabul edilen Sürdürülebilir Kalkınma Hedefleri (SKH) ve iklim değişikliği için Paris Anlaşması ülke temelli ve kapsayıcı süreçleri esas alması nedeniyle iki başarılı vakadır. SKH, Binyıl Kalkınma Hedeflerinin (BKH) yerini alan 17 amaç ve 169 hedefi içermektedir. Paris Anlaşması, sera gazı emisyonlarını azaltmasını amaçlamaktadır. SKH ve Paris Anlaşması arasında doğrudan ve dolaylı olarak bağlantılar mevcuttur. SKH'lerin ve Birleşmiş Milletler İklim Değişikliği Çerçeve Sözleşmesi (BMİDÇS) altındaki Paris Anlaşmasının müzakerelerinin farklı platformlarda olması nedeniyle iki süreç birbirine yeterince girdi sağlayamamıştır. Paris Anlaşması ve SKH'lerin uygulanması, izlenmesi ve raporlanması sırasında bu iki süreç ve sonuçların uyumlaştırılmasını sağlamak için hala imkân bulunmaktadır. Bu çalışmada Paris Anlaşmasının ana unsurlarından olan azaltım, uyum, teknoloji transferi, finans, kapasite geliştirme ve işbirliği ile ortaklıklar üzerinden SKH'ler izlenerek SKH ile Paris Anlaşması arasındaki bağlantı ve kopukluklar analiz edilmiştir. Bulgular SKH ile Paris Anlaşması arasında doğrudan güçlü bir bağın olmadığını ancak kısmi ve zımni olarak SKH ile Anlaşma arasında bağlantının olduğunu göstermektedir. Ülkeler, iklim değişikliği meselesini ulusal kalkınma gündemine entegre etmek için kendi SKH hedeflerini ve ilgili göstergelerini ulusallaştırmalıdırlar.

Anahtar Kelimeler: SKH, İklim Değişikliği, Paris Anlaşması.

INTRODUCTION

"*The Paris Agreement is a monumental triumph for people and our planet, and it sets the stage for progress in ending poverty, strengthening peace and ensuring a life of dignity and opportunity for all*" said United Nations Former General Secretary Ban Ki Moon during adoption of the Paris Agreement in COP-21 in Paris (UN, 2015a). The President of the UN Economic and Social Council (ECOSOC) also emphasizes that the Agreement is a key milestone in collective action for sustainable development (UN, 2015e). Similarly the President of Conference of Parties (COP-21) (Minister Laurent Fabius) said that the Agreement contributes to achieve basic needs such as public health, safe and secure food, well-being and eradicated poverty (UN, 2015e). Stern (2015) stresses that the Agreement, together with the Sustainable Development Goals (SDGs) provide to combat both climate change and poverty in the context of low-carbon development (Stern, 2015). These high-level voices show that the expected outcome of COP-21 resulted in a comprehensive and transformative agreement in line with sustainable development. This paper aims to analyze both SDGs and the Paris Agreement in terms of global development policy coherence, alignments among goals and targets, and missing parts of reciprocal key elements. This analysis is based on tracking of the main elements of climate policy such as adaptation, mitigation, technology transfer, capacity building, finance, cooperation and partnerships in the SDGs including all 17 goals. SDGs and international climate change negotiations under the United Nations Framework Convention on Climate Change (UNFCCC) are briefly presented in the next section, then 17 SDGs and the articles of the Paris Agreement are compared and analyzed in the second section. Finally, conclusion and recommendation are listed at the end of this study.

1. SDGS AND THE PARIS AGREEMENT AS TWO TRANSFORMATIVE MILESTONES

In the beginning of 1990s, the issue of sustainable development contributed to implementation of multilateral environmental agreements in World Environment and Development Summit (Rio Summit in 1992) (UNCED, 1992). Sustainable development has widen its scope covering social environmental and economic pillars of development since early 2000s. In 2000, the Millennium Summit adopted the Millennium Development Goals (MDGs) including global eight goals with social and environmental targets (UN, 2015b). Because, many economic and environmental dimensions in the MDGs were not exist, a new set of goals were tried to be established. In 2012, the United Nations Conference on Sustainable Development (UNCSD, Rio+20) discussed progresses since World Environment and Development Summit in 1992 (UNCSD, 2012). The main outcome document of the Conference was a comprehensive report namely "*The*

Future We Want". The report declared that the MDGs would be completed, SDGs would come to replace them (UNCSD, 2012). International community came to a point that SDGs needed to be more comprehensive and cover what we need from future (Drexhage and Murphy, 2012). Under the guidance of the UN, bottom-up, multilayered consultation and dialogue process for setting SDGs were initiated in 2013. Economic and Social Council of the UN guided all stakeholders including countries, non-governmental organizations and major groups during the preparation of SDGs. As a result of UN negotiations for post-2015 Agenda were concluded with a document namely "*Transforming Our World: The 2030 Agenda for Sustainable Development*", was adopted in the 2015 Sustainable Development Summit in 2015. Among 17 SDGs and their 169 targets, 13th SDG is directly related to climate change issue. Besides, there is some implicit references to main elements of climate policy within other 16 SDGs and their targets.

A transformative process was also followed in the international climate change polices negotiations. In order to construct a new climate agreement, innovative platform for better negotiation was established in 2011 under the guidance of the UNFCCC (Ari and Sari, 2017a). This new negotiation style provided some opportunities to involve all countries' contributions for emission reduction (Ari and Sari, 2017b). Besides, there were no references to diverging elements of the UNFCCC namely 'Annex-I', 'non-Annex I' (UNFCCC, 2012). Besides, escaping from Annex-I and non-Annex classification of the UNFCCC during preparation of the Paris Agreement, the Agreement has started to a paradigm shift from a closed to an open architecture (Iddri, 2015). During this negotiation, comprehensive, inclusive and applicable legal document namely the Paris Agreement was adopted in 2015. It was expected that developing provided substantial mitigation of GHG in the new agreement (Aldy and Stavins, 2012). According to the principles of the Vienna Convention, the Agreement provides on the degree of political ownership (Day et al., 2015) with historic and important success in climate negotiations (Bodansky, 2015). In regards of changing categorical binary approach (annex-1 and non-annexes), the Agreement widely accepted as an evolution in the negotiation of climate policy (C2ES, 2015).

The Agreement recognizes the main principle of the UNFCCC namely common but differentiated responsibilities (CBDR) and respective capabilities (RC) to cover all parties' contribution for reduction of GHG emissions (Ari and Sari, 2017a). However, the idea of involving all countries' contributions causes some missing parts of the Agreement. The most critical missing part is definitions and classifications of developed and developing countries highlighted in operational articles of the Agreement (Iddri, 2015). Equity based responsibility sharing for mitigation of climate change is differentiated with depending on

countries' development level as the Agreement lists either developed or developing countries. Also, impacts of climate change depend on social, economic and technical capabilities and sustainable development level of countries (Ari, 2015; Kolstad et al., 2014). It is expected that the Agreement will be successfully implemented with high capability and strong policy coherence (Ari and Sari, 2017a; Iddri, 2015).

2. KEY ELEMENTS OF CLIMATE POLICY IN THE SDGS

In the17 SDGs with 169 targets, there are certain references for combating climate change including mitigation of greenhouse gases (GHG), adaptation to adverse impacts of climate change, finance and technology transfer for developing countries, capacity building for all stakeholders and encouraging cooperation and partnerships among all. Likewise, the Paris Agreement covers some issues which have been highlighted in the SDGs. Table.1 presents matrix including main topics of climate change namely adaptation, mitigation, finance, technology transfer, cooperation-partnership and capacity building under the UNFCCC and related SDGs. As seen from the table, the main elements of climate policy appear in various SDGs.

Table.1: Climate Change Issues in the Sustainable Development Goals (Prepared by the Author)

	Mitigation	Adaptation	Technology Transfer	Finance	Cooperation & Partnership	Capacity Building
SDG-1: No Poverty		✓			✓	
SDG-2: Zero Hunger		✓				
SDG-3: Good health and well-being)	✓	✓				✓
SDG-4: Quality Education						✓
SDG-5: Gender Equality						
SDG-6: Clean Water and Sanitation		✓				
SDG-7: Affordable and Clean Energy	✓		✓	✓	✓	
SDG-8: Decent Work and Economic Growth						
SDG-9:	✓		✓			

Industry, Innovation and Infrastructure						
SDG-10: Reduced Inequalities						
SDG-11: Sustainable Cities and Communities	✓	✓			✓	✓
SDG-12 Responsible Consumption and Production	✓	✓				✓
SDG-13: Climate Action	✓	✓	✓	✓	✓	✓
SDG-14: Life Below Water		✓				
SDG-15: Life on Land	✓	✓		✓		
SDG-16: Peace, Justice and Strong Institutions						
SDG-17: Partnerships for the Goals			✓	✓	✓	✓

First SDG focuses on poverty eradication. The goal mainly aims to eradicate extreme poverty for all people everywhere, and reduce at least by half the proportion of population living in poverty (UN, 2015d). In terms of climate change, SDG-1 aims to increase the resilience of vulnerable population for climate-related extreme events. SDG 1.5[1] is linked to both adaptation and cooperation & partnerships elements. In preamble of the Paris Agreement, there is a reference to poverty eradication which is emphasizing the intrinsic relationship that climate change actions, responses and impacts have with equitable access to sustainable development and eradication of poverty (UNFCCC, 2015). In article 2 of the Agreement, poverty eradication is considered in the context of global responses of threat of climate change particularly on fostering climate resilience. It is known that poverty, as a kind of insufficient income, leads to losses of basic capabilities (Sen, 1999). Poverty might create problems such as insisting on carbon intense development pathway without changing development and climate policies (Ari, 2015; Fleurbaey et al., 2014). For this reason, poverty eradication and climate change should be hand in hand during the implementation period of both SDGs and the Paris Agreement.

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[1] "By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters (UN, 2015c)"

Second SDG is dealing with hunger, food security and sustainable agriculture, and targets under this goal focuses on people in highly vulnerable including infants, adolescent girls, pregnant and lactating women and older persons (UN, 2015d). Among the targets of this goal, SDG 2.4[2] is directly linked to climate change adaptation. In the preamble of Paris Agreement, food production systems, food security and ending hunger have fundamental priority while combatting adverse effects of climate change. Besides, article 2 of the Agreement tries to operationalize to ability to adapt low carbon development pathway without threatening sustainable food production (UNFCCC, 2015). However, food security and production, sustainable agriculture and mal adaptation issues are missing in the adaptation section (Article 7) of the Agreement.

SDG-3 is related to health and promoting of well-being at all ages. This goal aims to reduce the global maternal mortality ratio, end preventable deaths of newborns and children under 5 years of age, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases and ensure access to basic health services (UN, 2015d). SDG 3.9[3] is relevant to mitigation and adaptation, and SDG 3.d[4] is implicitly referencing to adaption and capacity building elements of climate change. Accessing basic health services can show countries' social capabilities in terms of existence and sufficiency of social infrastructures and ability to benefits these infrastructure facilities (Sen, 1999). In the context of mitigation and adaptation to climate change, conditions of the basic health services imply level of resilience of societies and ability to recover after the impacts of climate change related disaster.

Fourth SDG is based on education and lifelong learning. SDG 4.7[5] and SDG 4.b[6] may provide capacity building in combating climate change. In the

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[2] "By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality (UN, 2015c)"

[3] "By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination (UN, 2015c)"

[4] "Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks (UN, 2015c)"

[5] "By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development (UN, 2015c)"

[6] "By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and

Paris Agreement, importance of capacity based on knowledge, skills are slightly affirmed in the article 12, and preambles in order to better implement the Agreement. Even, neither SDGs nor Paris Agreement explicitly set targets on education for climate change, it is know that education level, consumer behavior and basic knowledge are highly essential parameters to follow countries' climate policies (Ari, 2015). Education level can determine to capability level of country for combating climate change.

SDG-5 focuses on gender equality and empowering women and girls. Elimination of all forms of sexual discrimination, violence against women, harmful practices including forced early age marriage, and inclusion of women and girls in social and economic activities within societies are some of the concrete targets of SDG-5 (UN, 2015d). The Paris Agreement highlights gender equality issue in the preambles, and acknowledge gender-responsive adaptation actions in article 7 (adaptation part) in the context of better integration of adaptation into relevant socioeconomic and environmental policies. Similar concern is given in capacity building part of the Agreement (article 11) for effective, participatory, cross-cutting and gender-responsive activities.

Sustainable water and sanitation management issues are listed in SDG-6. Improving water quality by reducing pollution; achieving universal and equitable access to safe and affordable drinking water, sanitation and hygiene; ensuring sustainable withdrawals and supply of freshwater to address water scarcity; increasing water-use efficiency and substantially reducing the number of people suffering from water scarcity are main targets of this goal (UN, 2015d). For this reason, SDG 6.3[7] is relevant to adaptation of climate change.

Access to affordable, reliable, sustainable and modern energy for all is under the goal of SDG-7. Energy access for all, increasing renewable energy ratio in global energy mix, double the global rate of energy efficiency are three main targets of SDG-7 (UN, 2015d). This goal also provides to reduce GHG emissions through facilitation of access to clean energy, research and technology and promotion of investment of low carbon technologies. Thus, SDG 7.2[8] and 7.3[9] is directly linked to mitigation of climate change. Moreover, SDG 7.a[10] is

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communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries (UN, 2015c)"

[7] "By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally (UN, 2015c)"

[8] "By 2030, increase substantially the share of renewable energy in the global energy mix (UN, 2015c)"

[9] "By 2030, double the global rate of improvement in energy efficiency (UN, 2015c)"

[10] "By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel

interested to transfer of technology, cooperation & partnerships and finance elements of climate policy, and SDG 7.b[11] provides capacity building for combatting climate change. Thus, SDG-7 is important as much as climate related goals in SDGs.

SDG-8 is related to sustainable economic growth, full and productive employment and decent work for all. Sustaining per capita economic growth, technological upgrading and innovation, including through a focus on high-value added and labor-intensive sectors, improving global resource efficiency in production and consumption to decouple economic growth from environmental pollution, and decent work for all and achieving full and productive employment are some of targets of this goal (UN, 2015d). This issue is only highlighted in article 10 of Paris Agreement in the context of accelerating, encouraging and enabling innovation to promote economic growth and sustainable development. In terms of employment, decent jobs can be kept in climate change agenda, because while reducing unemployment, misalignments between employment policies and climate polices particularly in developing countries should be avoided.

Infrastructure, sustainable industrialization and innovation issues are covered in SDG-9. In this goal, developing quality, reliable, sustainable and resilient infrastructure; promotion of inclusive and sustainable industrialization; upgrading infrastructure and retrofitting industries with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes and enhancing scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries are detail targets (UN, 2015d). For this reason, SDG 9.4[12] is relevant to both mitigation and technology transfer elements of climate policy. There is also a specific section in the Agreement under article 10 on accelerating, encouraging and enabling innovation for an effective, long-term global response to climate change. Besides, collaborative approaches to R&D, and facilitating access to technology, in particular for early stages of the technology cycle particularly in developing countries are emphasized in the Agreement. During

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technology, and promote investment in energy infrastructure and clean energy technology (UN, 2015c)"

[11] "By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support (UN, 2015c)"

[12] "By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities (UN, 2015c)"

the implementation of the Paris Agreement, the development and diffusion of climate friendly technologies in a global level should be encouraged.

Reducing inequality within and among countries is set under SDG-10. Decreasing income inequality, ensuring equal opportunity for all and empowering and promoting the economic, social and political inclusion of all, ethnicity, religion, sex, disability, race, irrespective of age, are some targets in this goal (UN, 2015d). However, there is no commitment or reference to reduce inequality originated from adverse impacts of climate change.

SDG-11 is related to cities and human settlements. It is targeted that adequate, clean, inclusive, safe and affordable housing, basic services and transport systems will be ensured. Besides, the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resilience to disasters, adaptation and mitigation of climate change, resource efficiency, and develop and implement will be increased (UN, 2015d). In this regards, SDG 11.b[13] is directly aligned to adaptation, mitigation, capacity building and cooperation & partnerships policies.

Sustainable consumption and production patterns are addressed in SDG-12. Due to this goal covers cross-cutting issues including achieving sustainable management and efficient use of natural resources, reducing food losses, achieving the environmentally sound management of chemicals, reducing waste generation through prevention, reduction, recycling and reuse, promote sustainable public procurement practices, developing countries to strengthen their scientific and technological capacity, rationalizing inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions (UN, 2015d). Therefore all SDG 12.4[14], SDG 12.5[15] and SDG 12.c[16] serve to

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

[14] "By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment (UN, 2015c)"

[15] "By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse (UN, 2015c)"

[16] "Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities (UN, 2015c)"

mitigation policies. Besides, SDG 12.a[17] and SDG 12.8[18] are related to capacity building for climate change policies.

SDG-13, namely climate action, is taking urgent action to combat climate change and its impacts. The first target (SDG 13.1) of this goal is about strengthening resilience and adaptive capacity to climate-related hazards and natural disasters in all countries, and adaptation part of Paris Agreement (article 7) set detail adaptation measures covering all countries. Second target (SDG 13.2) aims to integrate climate change measures into national policies, strategies and planning. Both mitigation (article 4) and adaptation (article 7) parts of the Agreement ensure these targets in their paragraphs. According to article 4 paragraph 19 of the Agreement, all parties should strive for formulating and communicating long-term low greenhouse gas emission development strategies. Similarly article 7 paragraph 9 requires from each country to engage in adaptation planning processes and the implementation of actions, including the development or enhancement of relevant plans, policies and/or contributions. SDG 13.3 aims to improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning. Article 11 (capacity building) and article 12 (education and awareness raising) correspond this target. SDG 13.a is focusing on climate finance particularly Green Climate Fund. In the Paris Agreement developed countries provide USD 100 billion per year to developing countries for climate change. SDG 13.b is about promotion of mechanisms for raising capacity for effective climate change-related planning and management in small-island developing States and least developed countries (LDCs). In article 4 paragraph 6 of the Agreement explicitly requires from the LDCs and small-island developing states to prepare and communicate strategies, plans and actions for low carbon development. Under the capacity building section of the Agreement (article 11), needs of least developed countries and small islands developing states in terms of technology development, dissemination and deployment, access to climate finance, adaptation and mitigation actions, training, education, and public awareness are recognized.

Oceans, seas and marine resources are considered in SDG-14. Reducing marine pollution, sustainable protection of marine ecosystems, ending illegal overfishing and minimizing ocean acidifications are main targets of this goal (UN, 2015d). SDG 14.3[19] in terms of focusing on oceans acidification issues is

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[17] "Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production (UN, 2015c)"

[18] "By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature (UN, 2015c)"

[19] "Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels (UN, 2015c)"

related to adaptation. However, the Paris Agreement does not give specific article or section to conserve oceans, seas and marine ecosystems and ocean acidification either. In preambles of the Agreement, only importance of ecosystem including oceans and biodiversity is highlighted. Although it is known that one of the drivers of ocean acidification is excess amount of CO_2 emissions in the atmosphere, a measure or an operational article paragraph would have highlighted actions to minimize ocean acidification.

SDG-15 focuses on protection and sustainable usage of terrestrial ecosystems, forests, biodiversity and combating desertification and land degradation. SDG 15.2[20] is relevant to mitigation; SDG 15.a[21] is indirectly linked to both adaptation and finance, and SDG 15.b[22] is referring to finance as well. In the Paris Agreement, there is a specific section for forests as sinks. Countries should conserve sinks and reservoirs of GHG (Article 5 paragraphs 1 and 2), and create positive incentives for activities relating to reducing emissions from deforestation and forest degradation.

SDG-16 covers peace, access to justice, accountability and inclusive institutions issues. Ensuring responsive, inclusive, participatory and representative decision-making at all levels; developing effective, accountable and transparent institutions at all levels; and strengthening the participation of developing countries in the institutions of global governance are some of the targets (UN, 2015d). In the Paris Agreement, there is a specific section (Article 13) on transparency. In this article all countries' reports, communication and climate change related actions will be open to be reviewed. This is a significant milestone to review progresses of both developed and developing countries actions including mitigation, adaptation, finance, technology transfer and capacity building. In terms of preparation of adaptation policies, article 7 paragraph 5 highlights gender-responsive, country-driven, participatory and fully transparent approach, taking into consideration vulnerable groups, and similarly in capacity building section (article 11 paragraph 2) the importance of participatory and responsive approaches are emphasized. The Agreement rests heavily on transparency as a means of holding countries accountable. The agreement establishes a new transparency system with common binding commitments and flexible to countries national capacities (C2ES, 2015). It is highly challenging that following and reviewing of countries' commitment

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[20] "By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally (UN, 2015c)"

[21] "Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems (UN, 2015c)"

[22] "Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation (UN, 2015c)"

depends on transparency, institutional capacity including legislative and policy basis, public and private bodies, public opinion about climate change and historical tracks in the international agreements (Bassi, 2015). These show that the implementation of the agreement will not be easy, but SDG-16 and its' targets can support the implementation of the agreement. In the Agreement, a reference to SDG-16 would have been useful for reviewing and monitoring countries' commitments.

SDG-17 focuses on means of implementation and revitalizes the global partnership for sustainable development. In this goal, finance, technology, capacity-building, trade and systematic issues are pillars of the means of implementation (UN, 2015d). SDG 17.3[23] is related to finance. SDG 17.6[24] is linked to both technology transfer and cooperation & partnerships. Target 17.7[25] is related to technology transfer. Target 17.9[26] is linked to both capacity building and cooperation & partnerships. Target 17.16[27] is related to cooperation and partnerships. The Paris Agreement also is referring means of implementation tools including finance (article 9), technology (article 10), capacity-building (article 11) and systematic issues (sub headings: data, monitoring and accountability, article 13). Article 9 paragraph 3 of the Agreement focusses on climate finance. In terms of technology, it is targeted that regional and international cooperation and partnerships should be enhanced, and development, transfer, dissemination and diffusion of environmentally sound technologies should be promoted. In the Agreement, article 10 fully covers technology development and transfer issues. It is known that existing technologies economically and physically might not be sufficient to achieve long terms targets determined in the Agreement (Jacobs, 2015). Besides, regional and international cooperation are emphasized in decision parts of the agreement including paragraphs 45 and 74. The importance of international cooperation is

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[23] "Mobilize additional financial resources for developing countries from multiple sources (UN, 2015c)"

[24] "Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism (UN, 2015c)"

[25] "Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed (UN, 2015c)"

[26] "Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation (UN, 2015c)"

[27] "Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries (UN, 2015c)"

recognized in Article 7 paragraph 6 (adaptation) and Article 14 paragraph 3 (global stock take).

Therefore, there are number goals and targets interconnecting SDGs with the Paris Agreement. Figure 1 summarizes the main elements of climate change and their connections with respected SDGs. 14 goals and 29 targets directly or indirectly are relevant to climate change policies.

Figure.1: Climate Policy Elements in SDGs (Prepared by the Author)
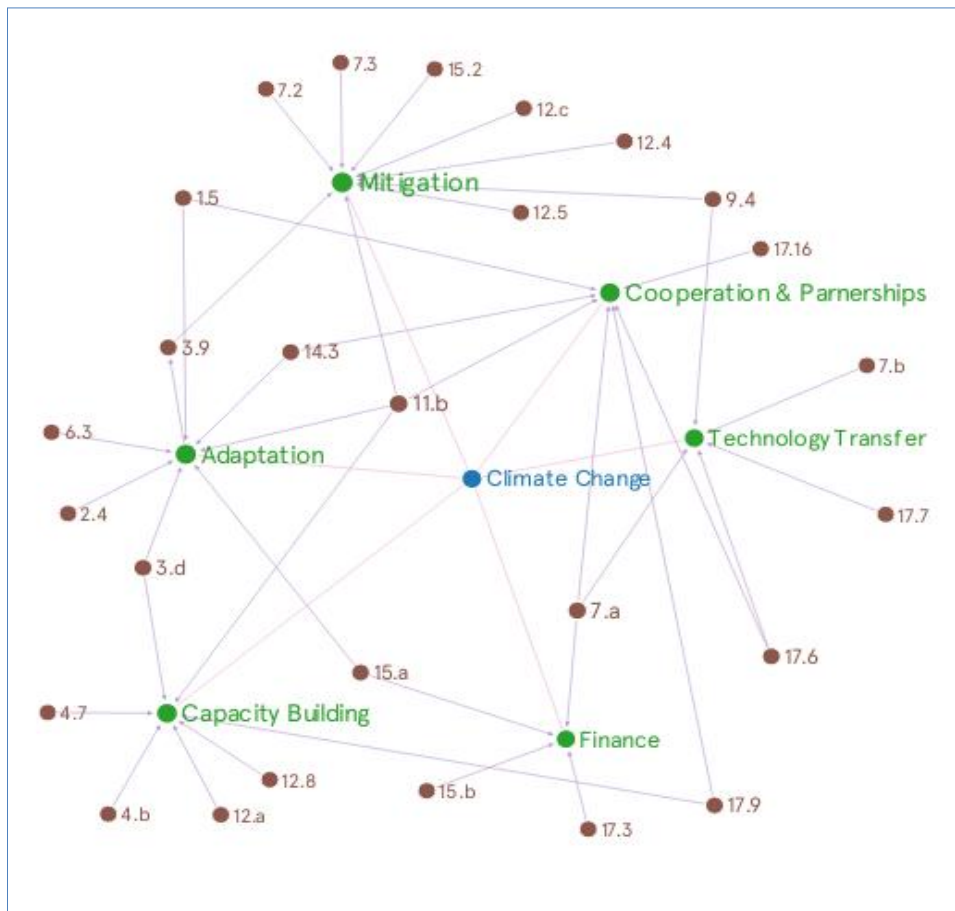
SDGs provide new opportunities for better climate change policies. In the scope of this study, reciprocal connections between SDGs and the climate change policies are narrowed around key elements of climate change and 17 SDGs. Figure 2 presents degree of interconnections between SDGs and the Paris Agreement. There is no direct, substantial or indirect reference to key elements of climate change policies in SDGs 5, 8, 10 and 16. Rating for degree of interconnections between SDGs and the Paris Agreement is based on giving any reference to six key climate change elements (mitigation, adaptation, finance, technology transfer, capacity building and cooperation-partnerships) in SDGs. For example, SDG-1 namely no poverty gives reference to two key climate change elements (adaptation and cooperation-partnerships), so the degree of

interconnection is around 33% (two out of six elements). Similarly, degree of interconnection between other SDGs and climate change policies is obtained and presented in Figure-2. SDG-7 (Affordable and Clean Energy), SDG-11 (Sustainable Cities and Communities) and SDG-17 (Partnerships for the Goals) are substantially interconnected to climate change policies. However, SDG-2 (Zero Hunger), SDG-4 (Quality Education), SDG-6 (Clean Water and Sanitation) and SDG-14 (Life Below Water) have weak and implicit connections to climate change. These four SDGs should have substantially connected to climate change policies. Therefore, during climate policies might not be comprehensively integrated into monitoring and reporting of these four SDGs. Any interlinkage which has low degree of interconnections (less than 33%), might be missing in the national review reports of countries. In order to overcome this challenge, countries who are active in international climate policy making process and vulnerable to impacts of climate change, should nationalize and integrate SDGs into key climate policy elements. This nationalization process might require new or additional set of target and related indicators.

Figure.2: Degree of Interconnections with Paris Agreement (Prepared by the Author)
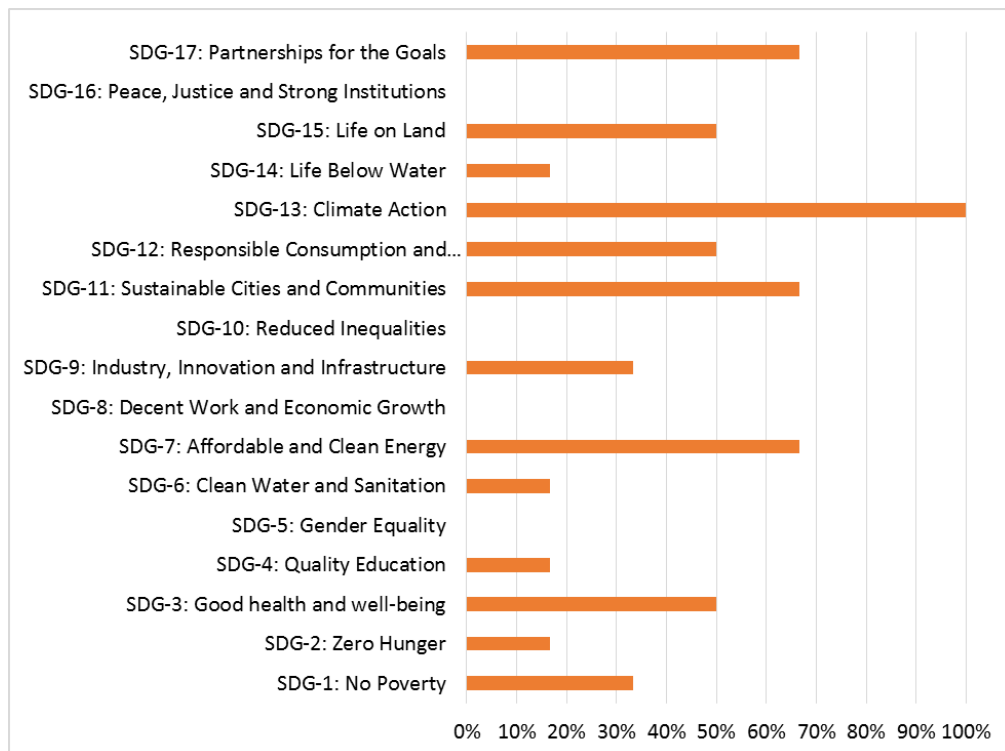
3. CONCLUSION

The Sustainable Development Goals and the Paris Agreement two important milestones in terms of achieving sustainable development. Both processes will continue by 2030. Although, the year of 2015 was highly emphasized during post-2015 development and climate change discussions, both processes did not feed each other while setting SDGs and establishing the Paris Agreement. An important chance for creating a holistic framework was missed in 2015. Although, SDG-13 refers to the UNFCCC as main body for international targets for climate change, SDG-13 is not seen even as a reference in the Paris Agreement. Only the COP decision which is adopting the Paris Agreement welcomes "*Transforming our world: the 2030 Agenda for Sustainable Development*" document in particular SDG-13.

There are also certain alignments in both SDGs and the Paris Agreement in terms of ensuring inclusiveness, political ownership, some dimensional issues such as poverty, sustainable energy, transparency, technology development and transfer, gender, finance, capacity building, cooperation and partnerships. However, these issues in the Paris Agreement are not fully consistent with SDGs and their targets as listed, but their concerns are close to each other. It is known that the Agreement is related to climate change and its' causes and effects. Thus, it might be accepted the narrow scope of the agreement is limited by climate change. However, the efforts which are needed to combat climate change, should be comprehensive and include all related sectoral issues. Thus, climate change and sustainable development should be considered in a holistic manner rather than two different tracks as followed in ADP and post-2015 development processes.

Although the starting year of the SDGs and the Paris Agreement is not the same, it is expected that mitigation effect of the Agreement will likely be seen before 2020, in fact countries' national commitments for emission reduction might start to deviate through investing low carbon technologies (Day et al. 2015). Besides, means of implementation part of the SDGs and its' targets to enhance global and regional cooperation and partnerships, mobilization of finance and dissemination of new technologies depend on national policies and international agreements such as the Paris Agreement. For this reason, the Agreement would have preferred to use the framework for the means of implementation to achieve sustainable development.

This study tries to analyze gap and interconnections between SDGs and climate change policy. According results, four SDGs (5, 8, 10 and 16) have not any reference to climate change policies. There is implicit interconnections between four SDGs (2, 4, 6 and 14) and key elements of climate policy. SDG-3,

SDG-12 and SDG-15 are substantially connected to climate policy through giving references to climate change in these four goals. Finally, three SDGs (7, 11 and 17) have high connections with climate change. This analysis is conducted at global level. Countries should build strong connections between climate change policy and SDGs. In this regard, countries should nationalize their own SDGs targets and respective indicators in order to integrate climate change issue in their national development agenda.

In conclusion, the linkages between SDGs and the Paris Agreement should be established by 2020 within a new mechanism or guide for monitoring and reporting of progresses before both processes lose in their own agenda.

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