Liberal Arts and Social Sciences International Journal (LASSIJ)
eISSN: 2664-8148 (Online)
DOI: https://doi.org/10.47264/lassij.4.1.11
Vol. 4, No. 1, (January-June 2020): 114-129
Research Article URL: https://www.ideapublishers.org/index.php/lassij

Sustainable Consumption and Production: An Analysis of Implementation of Pakistan's Policy Framework of SDG-12

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Received: April 09, 2019 *Published Online: October 13, 2020*

Abstract

The sustainable consumption and production is crucially relevant for Pakistan, given the massive degradation and depletion of natural resources due to the population explosion – and agricultural and industrial development pursued without regard for environmental sustainability. Freshwater availability has declined and quality of drinking water has deteriorated, leading to increase in water-borne diseases. The decaying water infrastructure results in a 40pc water loss in conveyance from dams to farms, for agricultural development. Industrial, agricultural, and household chemicals are freely imported and used without any regulatory system. Massive depletion of natural resources has meant the cutting of trees, resulting in increased timber imports. Pakistan National Action Plan (PNAP) was developed in May 2017 to achieve the sustainable goal particularly goal 12, which is about Sustainable Consumption and Production (SCP). This paper focuses on the ingenious activity and strategy devised in the PNAP for the preparedness, implementation and monitoring of the SDG-12, as National Developmental Agenda of Pakistan. Utilizing library research methods, the major material used for this research is qualitatively collected by analyzing the contents of documents. For primary data, government documents have been consulted. Whereas the secondary data has been collected from books and articles available on the theme.

Keywords: Environmental Protection, SDGs, Sustainable Development, Sustainable Consumption, Sustainable Production, National Action Plan.

1. Introduction

The "Sustainable Development Goals (SDGs)", have given a new model of development as a right of the individual in this world. Pakistan's efficient resource utilization for sustainable development is among the lowest in Asia. Pakistan has developed its environmental protection, to pursue a sustainable development agenda, which remained unimplemented. As a result, consumption and production could not promote resource and energy efficiency by connecting the public and private sectors to transform the quality of life.

H-1 Sustainable Consumption and Production (SCP) promote resource and energy efficiency, and quality life. SDG-12 is connected with both the public and private sectors. There is a need for policy to be aligned with SDG-12, which can identify ambition towards systematic implementation.

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H-2 If all other goals have a positive progress and the SDG-12 does not go at the same pace of achievement, there will be a negative correlation between the indicators of all other goals of SDG vis-à-vis national development.

SDGs are global goals suggesting a universal call to action in-order to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity. These 17 goals build on the successes of the Millennium Development while including new areas such as climate change, economic inequality, innovation, sustainable consumption, peace, and justice, among other priorities. The goals are interconnected; often the key to success on one will involve tackling issues more commonly associated with another (UNDP, 2019). Pakistan's economic development planning has been prioritized in the context of the SDGs demands. A developmental road map has been envisaged by Pakistan Planning Ministry i.e. Vision 2030. It has become a part of the high political Agenda of Pakistan and its Parliament has unanimously approved Vision 2030, by adopting the SDGs agenda for implementation and making policies accordingly. Efforts were made for the SDGs to be aligned with the Vision 2030 with a provision of a long-term plan for attaining sustainable development and growth. Therefore, Pakistan has started translating the global SDGs framework into national action.

Pakistan National Action Plan (PNAP) was developed after extensive input and deliberations of all stakeholders. It marks the culmination of national and provincial level multi-stakeholders' consultation process, launched by the Government of Pakistan, Ministry of Climate Change in collaboration with the EU Switch-Asia Policy Support Program as well as UN Environment Agency and Devilment Program" (Gasper *et al.*, 2019). Moreover, a unanimous resolution was passed by Pakistan National Assembly on 19th February 2016 and "history is made by Pakistan to become the first country in the world that adopted Agenda 2030 for sustainable development as its national development agenda. This epochal decision, attaches special significance to the NAP-SCP, as it lays the foundation of the roadmap for achieving its sustainable development goals. In August, the government facilitated and actively contributed to an UN-sponsored round-table on SCP, as a means of ensuring "efficient, appropriate and affordable use of our natural resources" (Gasper *et al.*, 2019). NAP focuses on the legislative and regulatory steps including in mainstream SCP in national sectoral policies, strategies and planning, and capacity for sustainable governance of the key strategic actions towards attaining the SDG-12, as an indigenous approach of implementation. This paper discusses the strategies like the establishment of climate-resilient infrastructure; optimal exploitation of indigenous renewable energy resources, cut waste full losses through investment in transmission and distribution infrastructure; introduction of farm and crop management techniques, increasing storage facilities and on-farm residue management, eco-labelling of agricultural products" (Fatima, 2018).

Pakistan has placed SDGs at high priority and made them part of Pakistan National Developmental Agenda. This paper is limited to analysis of the SDG-12 i.e., Responsible Consumption and Production.. Pakistan also launched National Framework for SDGs to reflect the strategy, plan and national vision for SDGs, contrary to the past MDGs where Pakistan could not meet the target (Khalida *et al.*, 2016) by giving reasons of failure in the past has mentioned that political commitment, bad governance, and lack of funds were among the main cause. Financial constraints, natural and man-made disasters were also the main factors of the failure of the MDGs in Pakistan. The SDGs, as compared to MDGs have more chances of success of the Government of Pakistan have aligned the SDGs with its National Development Agenda, the Vision-2025 which has consensus of all political parties and being

carried forward by the successive political government.

The Vision 2025 is based on different pillars such as Pillar-1 to deal with people first, Pillar-2 with growth, and Pillar-3 with governance, Pillar-4 is Water and food security, Pillar-5 is about entrepreneurship, Pillar-6 is about creating knowledge-economy, Pillar-7 connectivity of modern transport and infrastructure. All these pillars are further subdivided into SDGs. Every pillar is addressing certain SDGs to bring the development in Pakistan in line with SDGs (Khalida *et al.*, 2016). The other important element that can translate this particular vision into plans and programs is through " participation of the relevant people" and political will of the government.". The SDG-12 is the Pillar-2, which deals with the planning of growth: Sustained Indigenous and Inclusive Growth, which deals with many other interlinked goals with this goal.

NAP for SDG-12, has envisaged details of activities, time frame, legal framework, and establishment of relevant organizations along with short term priority of the activity, medium-term, and long-term plans. The institutional set along with the monitoring mechanism is also given in the NAP, as discussed above. However, the performance indicator for the monitoring of this particular goal is not available in Pakistan, so far. The study of the performance measurement indicators on Pakistan's performance on SDG, show some of the value numbers to the activities against the SDG-12 which shows priority in national agenda and SDG-12 is interlinked with some other goals, so indirectly these are being monitored but particular to assess responsible consumption and production (Gul *et al.*, 2018). Another study conducted by UNESCAP for the qualitative analysis of the performance indicators of the Sustainable Development Goals and its interlink with the Pillars of Vision 2025.

In the proposed activities priority has been given with the value numbers and colours of the degree of implementation. The indicators for almost all the SDGs also developed and explained in the study show that the indicators were developed to measure the activities and plan given in the Vision 2025 and a template has been framed to monitor the SDGs. However, the indicator, particularly for the SDG-12 is not available so far the data for developing the indicator for responsible consumption and production as such is not available as district-level data is essential to develop an indicator to monitor. The data collection at a district level is costlier which needs more financing than allocation. However, the activities like green Pakistan is already upscaled which will help the SDG-12 in attaining green Pakistan, reduction in emission and to mitigate the climate change. Clean and green Pakistan will provide a safeguard to biodiversity and livelihood activities. The lead Ministry to Climate Change will coordinate with the Ministry of Finance and Provincial Coordination is responsible for overall monitoring of the performance measurement of the SDG-12.

2. Theoretical and Methodological Approach

The study remains mostly the diagnostic study vis-à-vis the goal of responsible consumption and responsible production. Since the material footprint per capita has been realized as an issue worldwide, as it has become the real impediment of the development achievement of the nations, therefore, the conceptualization of Goal-12 is still evolving in many countries including Pakistan. As UN has now urged the nations of the world to prioritize the implementation of the goal and bring a check on over-extraction of the material as it has an effect on other sectors of growth and more importantly on the environment while producing the economic growth. Therefore it is just a recent phenomenon that this issue has become part of the academic debate and discourses, such as Gasper et al., (2019) in their paper have

examines the core behind the formulation, its goals amid the target of SDG-12. They have argued that business interest stays at the core of the origination of the SDGs with the focus on consumption and production. In their view, in the way, the business can be regulated from the uncontrolled development and compromising the development. Nevertheless, in their view, specifically, SDG-12 can build pressure on developing countries from developed countries to contain and be responsible for production and consumption.

Lewis and Magnus (2014) have argued that the main cause of the environmental issues in the world is due to overconsumption and production. As per their view, SCP will be an instrument to bring change in the pattern. They have more focused on the coordinating points between SCP with overall SDG implementation because as SCP as a standalone goal cannot be viewed as inclusive in the SDG framework. They have examined the literature on the sustainable development and consumption patterns by global south and it transpires that there is a greater co-relation between consumption and technology, which leads them, and consumers, to make rational decisions. Their analysis of literature also highlights that there is still a dire need for understanding of the different experience of consumption in interregional context and how they impede the sustainable development. However, overall the concept of responsible consumption and pattern has been welcomed in the discourses. It has created an awareness and attention of the national governments for observing a balance between consumption and production. SDG-12 is reiterating the fact that the consumption should be regulated by the government whereas it should be left to the choice of the individual and the behaviour pattern could be changed through the consumer education. The SDG-12 is also considered in support of developing countries in a way that it will sensitize the countries expanding middle-class consumption, which impedes sustainability eventually. The technological capacity is the only saviour of the developing world to promote sustainability amid consumer awareness programs by the government for their citizen, instead of the market intervention of the government through the regulation policy of consumption and production South and North (Hughes, 2019).

Pakistan's "determination towards the implementation of the framework of the SDGs has been recognized at the regional and international level and Minister for Planning has been made Champion Minister for SDGs and Chairman of Asia-Pacific region on SDGs" (The Daily Dawn, 2016). Pakistan tried to localize the international and national target of SDGs through its vision 2030 with collaboration of UNDP. An all-inclusive approach was taken by the government a partnership is built with the private sector, academia, and civil society to implement the goals. Other government ministries such as Health, Climate Change, and Ministry of Information Technology were taken on board for the effective implementation as their cooperation and alignment are required for the effective evaluation of the SDGs. The local government's role was identified as critical in the implementation of SDGs. Without cooperation and partnership, these goals cannot be achieved. Therefore, the local governments were concentrated as major stakeholders. A summit was called by the government on 9th March 2017, which was attended by 79 heads of district councils (Ministry of Planning Development & Special Initiatives, 2017).

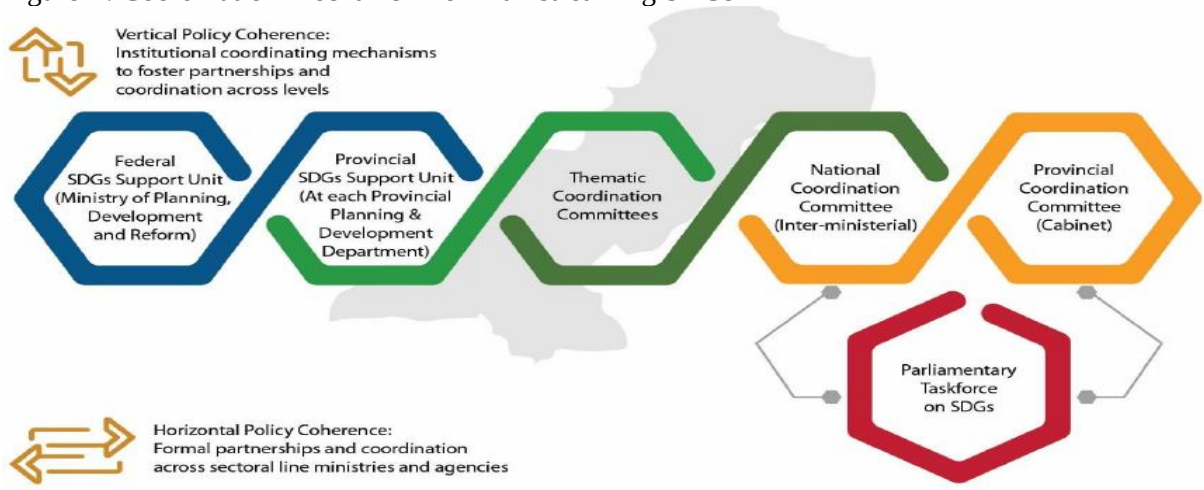
According to the Minister for Planning and Development, Professor Ahsan Iqbal, "the Local Government Summit on Sustainable Development Goals is an exemplary initiative taken by the Ministry of Planning, Development & Reform to localize the SDGs at the grass-roots level. Implementation of the SDGs aims to overcome problems related to poverty, hunger, food security, health, education, safe drinking water & sanitation, gender equality, promoting innovation, provision of decent jobs, environmental sustainability, strong institutions, and

creating safe and resilient cities" (Ministry of Planning Development & Special Initiatives, 2017). Therefore, with this shifted paradigm the government changed its approach from the centralized planning process to a participatory approach in which the private sector was considered as a major player with an instrumental role. In this connection, a study was conducted for the private sector engagement in SDGs which will subsequently form the basis for developmental strategy. Pakistan has prioritized its agenda and translated it into goals as following (Zafar-ul-Hassan, 2018):

i. Review global SDGs, formulate own goals and targets in the national context.
ii. Establish closer alignment between the global SDGs and national and provincial annual and long term plans.
iii. Broad-based stakeholder engagement for greater ownership and synergies among government, academia, civil society, and the private sector.
iv. Establish an efficient system to monitor/track and review progress.
v. An effective reporting and coordination mechanism at the federal level.

The Human Development Index ranking of Pakistan (150 out of 189 countries) shows the bleak picture of Pakistan's economic and social development. Therefore, the SDGs commitment of the government came at a very critical time and attention was sought towards the deliberations of the goal by adopting it as a development road map of Pakistan. The present government is carrying forward the commitment made by the previous government to develop an institution line with the developmental vision 2030 to materialise the goals into reality. To oversee the progress on the vision and SDGs a parliamentary taskforce is also established in federal and provincial assemblies. In this way, it will be monitored by different stakeholders, which will improve the vertical and horizontal coordination. The activities will be steered by the Ministry of Planning, Development, and Reform at the federal level, and at the provincial level, it will be guided by the Planning and Development Department. The main aim is the commitment of Pakistan to bring development plan in line with SDGs indicators and goals so that implementation could be actualized. All the provincial governments have instituted technical committees and thematic clusters; they are engaged with local communities for the implementation of the SDGs. The mainstreaming of SDGs through the coordination at the federal and provisional level is manifested in the figure-1 (Pakistan Implementation on Sustainable Development Goals, 2019). Civil society and academia are supporting the SDGs reforms of the government in achieving the goals.

Figure-1: Coordination Mechanism for Mainstreaming SDGs

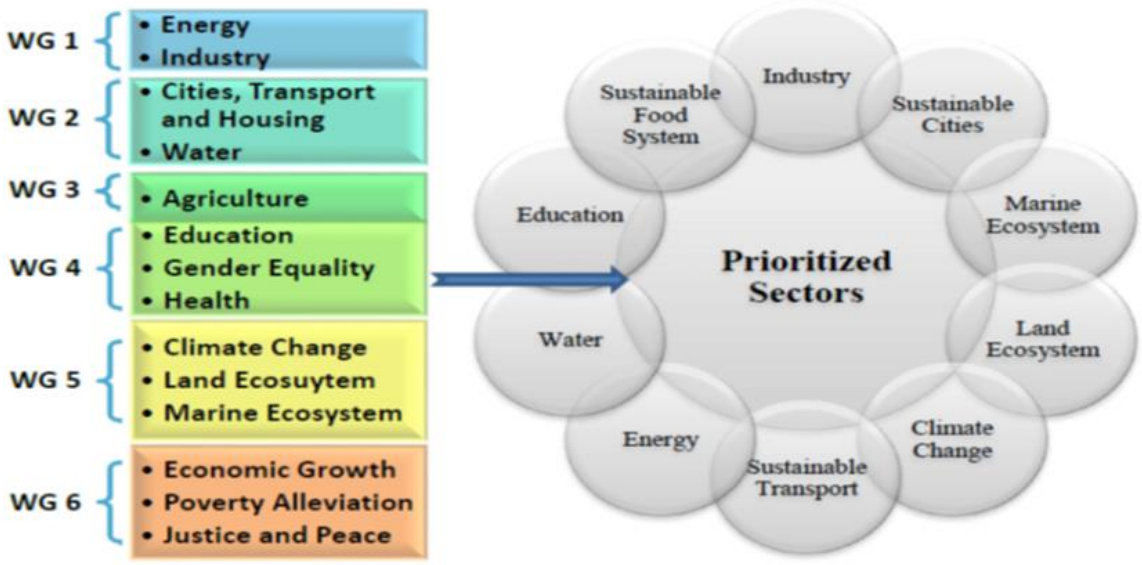


3. PNAP and SDG-12: Analyzing the Responsible Consumption and Production

3.1. Institutional Setup

Pakistan has adopted SDG-12 more vigorously and framed PNAP. This plan specifically deals with SDG-12 i.e. sustainable consumption and production. The government of Pakistan has taken many organizations and policy institutes on board. Ministry of Planning and Development has given the broader national framework, and accordingly the action plan for the SDG-12. The leading role has been played by Ministry of Climate Change in close collaboration with EU Switch-Asia Support Program. UN environmental protection agencies are also supporting with UNDP. Pakistan is working with all these agencies, to promote resource efficiency, green energy and to provide basic infrastructure in production and consumption sectors to bring the structure in line with the goal 12 and to create and provide decent jobs. Sustainable development will provide new openings for prosperity and poverty alleviation. For the consultation and stakeholder input, the government of Pakistan has formed six working groups in the framework of MDGs to prioritize the goals as the government priority. Different working groups shown in figure-2 were formed in 2016 for coordination and implementation of SDGs such as (i) Energy Industry (ii) Cities, Housing, Transport, and Water, (iii) Agriculture, Food Security and Poverty (iv) Education, Health and Gender Equality (v) Climate Change, Forestry and Marine Ecosystem and (vi) Economic Growth, Poverty Alleviation, Peace and Justice (Pakistan National Action Plan, 2019).

Figure-2: Structure for Consultation Process



In 2018, the new political government took over the commitment of SDGs and was carried forward in National Economic Council (NEC), which is chaired by the Prime Minister of Pakistan, and is the highest forum economic decision making. The SDG framework was further approved by the NEC, and also prioritized the national development program in line with the SDGs and divided into three broader categories to implement the goals, in which the SDG-12 falls in the priority given in the Category-3 (Pakistan's Implementation of the 2030 Agenda for Sustainable Development, 2017). Through the PNAP, the government has provided a mechanism of decision making in the field of consumption and production, which does not affect only our food but also the production of food, water, and power security, and how does

it affect the ecology of Pakistan and to the international communities. Through the PNAP all the activities have been divided under this goal and envisaged a way forward to achieve the goals in its Vision 2030. The core of the goal and the implementation remain with the ideas that how to produce more with less endangering the natural resources and how to save them for our coming generations.

Pakistan has tried to align its national development agenda with SDGs to attain economic and sustainable development. Despite these stakeholders, federal ministry is in leading position, the provincial government, local governments, civil society, and academia is coordinating and cooperating with the government to achieve its goals. However, their efforts can bring fruits only if Pakistan can control the ecological footprint by shifting the pattern of the production and consumption. It is also important to train and boost factories, productive units, mills, and industries to reduce and recycle waste for the implementation of this goal of sustainable consumption. This leads the policy towards reducing the ecological footprint, which is critically required for sustainable development, as "ecological footprint calculations are made to link the sustainable development of the humans (Holden, 2004). Ecological footprint calculation is based and builds on two main facts: one is that we can track and keep a record of resources consumed and waste generated and other is the conversion of these resources consumed and to the biologically productive area (Khan & Hussain, 2017). Keeping this in view Pakistan can be considered in those who are generating less and consuming more. This depends on the lifestyle and ultimately affects the resource and its wastage and waste management sustainably. "The rational of ecological footprint is explained that the challenge faced for sustainable development and living productively within limits of the plants and protecting it from degradation by taking care for the future generation" (Oloruntegbe *et al.,* 2013).

Pakistan is facing an acute shortage of water whereas trying to make an efficient framework for sustainable use through water policy and SDG implementation guiding framework. The impact of factors influencing the ecological footprint in Pakistan has been analyzed and the main purpose was to assess the ecological footprint in the city of Islamabad, keeping in view the component of consumer goods, housing, food, and transportation. Khan and Hussain found the direct link with the food consumption in their study and concluded, "In Islamabad have a high ecological footprint as compared to the rural household…. The main component is the consumption of food and more traveling directly impacts the ecological footprint while the family size and energy efficiency products are indirectly related to the ecological footprint. The household ecological footprint of Islamabad needs to be reduced to lessen the pressure on the consumption of resource s and also to reduce the emission level for sustainable development of the city. The findings discovered that the ecological footprint of Islamabad is 4.5 GHA and households of an average of 9.2 tons of CO2 emissions" (Khan & Hussain, 2017). The study recommended that citizens should be educated through government drive of awareness of ecological footprint concept and that how the overuse of resources could badly affect the resources for the future generation.

Since the government of Pakistan is committed to striking a balance of economic development and ecological footprint. The issue of footprint and sustainable development still needs to be propagated in Pakistan. Another organization, which is working as a think tank, The Lead Pakistan has also initiated the studies on the ecological footprint in Pakistan. To make an indigenous strategy for implementation of the SDG-12, Leads Pakistan is also playing its role in sensitization program to educate the private sector, the corporate sector as

well as the government officials through their evidence-based scientific tools to address the issue. The conventional awareness raising is not much effective in this initiative. Therefore, Lead Pakistan has collaborated with Asia-Pacific Forum for Environment and Development, for the reduction of ecological footprint. According to Lead Pakistan, it was to promote eco-friendly work practices in the private and corporate organization of how the managers can produce work through the most effective deployment of the technology. In this connection, The Lead Pakistan has taken up the development of customized Ecological Footprint Calculator for local organizations using weights and actors that are specific to the Pakistani society context (Lead Pakistan, 2019).

The roadmap envisaged in PNAP has provided the mechanism to deal with the objective of SDG-12 and developed six thematic groups which are: Sustainable Lifestyles and Education; Sustainable Tourism; Consumer Information; Sustainable Buildings; Sustainable Food Systems; Sustainable Public Procurement.

3.2. Climate Change Action Plan

The government has Pakistan has devised an implementation and reporting mechanism. Climate change is not the only problem of Pakistan but it has turned out to be a global issue. Equally, Pakistan is also facing an extreme situation in the weather in recent years. Pakistan has faced major natural catastrophes such as severity in floods, particularly in 2010, cyclones, heatwaves, and earthquakes. Pakistan has already suffered a lot of destruction of infrastructure due to the menace of militancy and terrorism since 9/11. While climate change severity has made the restoration of the destruction, the death toll is also increasing due to climate changes. This also concerns the developmental agenda and policies. How to guard against the severity of the weather has also become a greater challenge for Pakistan policymakers and development frameworks. The climate change is negatively affecting the coastal area, its agriculture, breeding area of fishes, and rise of sea level. Agriculture productivity is badly affected including water scarcity. Consequently, the government of Pakistan has seriously adopted the indigenous approach for its developmental planning. Through the PNAP, the government is trying to make efforts to adopt the initiative for mitigating the impact of natural disasters and greenhouse gas emissions. Pakistan has revisited its national priorities and international response to deal with climate change.

The action plan for climate change was required to take necessary adaptation and mitigation measures to combat climate change. There is a need to mainstream climate change into national decision-making and its integration with other planning and policy initiatives. Pakistan has always shown its interest in adaptations of strategies and measures, its capacity building and climate financing. Pakistan is having high sea levels which increases its vulnerability and reduces its international economic support. Particularly, water security can lead to compromise on other developmental goals such as food, energy, and education. Since every nation has to report on emission reduction by 2020 therefore implementation and transparency will become a core issue. Therefore, meeting this commitment will be pivot at the Pakistan indigenous development plan and political will. In 2015, in the Paris Agreement, “Pakistan has submitted its Nationally Determined Contributions (DNCs), with the aim of reduction of GHG emission by 2030 up to 20 percent” (Ovais, 2016).

Pakistan has seen a rise in temperature of 0.5 degrees already over the last 50 years. Therefore, the Parliament passed a policy leading to the creation of the Climate Change Authority in 2017

to take the initiatives (Pakistan Climate Change Act, 2017). "The main function of the Authority is to monitor the implementation of international agreements relating to climate change, which in the case of SDG-12 is directly helpful. The Authority has been authorized to approve and monitor implementation of comprehensive adaptation and mitigation policies, under the obligation of international conversions" (Pakistan Climate Change Act, 2017). However, the funding from the Global Climate Change remained greater impediments in the execution of the major functions of the Authority. Secondly, the country like Pakistan has a problem of relevant knowledge while "Pakistan is ranked on 7th position, with a death toll of 523.1 lives per year i.e. 10,462 lives lost in 20 years and economic losses worth US $ 3.8 billion; equivalent to 0.605 percent of the GDP in the 20 years. During this time, Pakistan had suffered from 141 extreme weather events; let it be cyclones, storms, floods, Glacial Lake Outburst Floods (GLOFs), heatwaves, etc.," (Shehzab, 2017). This is manifested through a super flood, in 2010, which killed 1600 people, and due to destruction, Pakistan faced US $ 10 billion losses. Similarly, the Sea City Karachi saw 1200 deaths in 2015 only due to the heat wave. The government of Pakistan was cognizant of the fact that there was a need of institutions, like disaster management institution to undertake climate triggered destruction. Therefore, the National Climate Change Policy was brought into the parliament to bring a shift towards renewable energy and reduce GHG emissions.

3.2.1. Means of Enactment of the Plan

The Government of Pakistan has worked for realization of the program to create an enabling environment for effective implementation of Goal-12 (Sustainable Consumption and Production). First among the means, was to give to the legal and regulatory coverage for the Goal-12, to adopt by the different sectors in their policies and planning. Legislative and regulatory steps were taken to bring it to the timeline of the SDG as a whole. How to enable environmentally safe management, green building, green Pakistan, and waste disposal of the municipality and biomedical waste was also a purpose to legislative and regulatory steps along with a timeline.

Second, is Governance for Sustainable Development, another means of implementation of SDG-12. How to phase out plastics as like many other societies Pakistan also uses plastic commodities, which is a greater challenge of governance. Pakistan is energy deficient country and since alternate energy with the less emission has less share of the energy mix, as the recent figure 80 percent of the energy need of Pakistan is based on fossil fuel, i.e. oil, natural gas, and coal, 20 percent comes from alternate sources, i.e. solar, wind, nuclear, hydro and biogas (Sarim, 2019). Therefore, governance is highly challenged by the fact that green energy programs are initiated to replace fossil fuel production and also to meet the requirement of energy in the country.

Third, is how to create awareness among the people and to be more innovative to bring it in line with SDG-12. The Government of Pakistan after the NAP for SDG-12 is entirely set to campaign for the public awareness and the move for plastic-free and environment friendly city in the first stage. Different universities in Islamabad arranged seminars and the workshops on how to adapt the strategies for mitigation of climate change. Minister for Climate Change stated that "Ministry is working on war footing to aware the masses regarding climate…clean environment is our future, the billion tree planation project is being planned under the initiative of the ministry to take every step to make Pakistan a green country" (The Daily Nation, 2019). A five years campaign has been launched to change the mindset of the people towards

cleanliness, creating dumping sites for waste, provision of public toilets, and starting a volunteer scouts program to help support the campaign (The Daily Dawn, 2018). The Prime Minister came up with this drive on basis of his idea of New Pakistan. This is also related with Pakistan's development of the tourism industry, which adds to the revenue and helps Pakistan to keep clean and green. However, since travellers do not find clean and accessible public toilets, therefore this also reduces the number of tourists to the tourist spots particularly the remote areas. Green Pakistan is directly linked to a responsible product production and responsible consumption.

Moreover, efficient fuel-efficient transport and vehicles are encouraged by the government, to decrease the GHG assessment, and Technology Need Assessment was initiated to enable an emission reduction. The planned action will build a shield against the severity of climate change along with green Pakistan initiatives. It will also contribute to report to the international organizations under the obligations of SDGs for shifting the paradigm of economic growth through responsible consumption and production. The implementation plan for climate change described the details of the government proposed action by the NAP for SDG-12, which also responds to the SDG targets for its Goal-13. Another step that government took under this indigenous approach was to direct the education ministry to develop curriculum at the tertiary level, accordingly to teach the SCP as the pilot project of NAP and National Framework on SDGs. It is further ensured by the government to adopt it in the national program of vocational training and it should be included in the distant learning program.

3.3. Sustainable and Clean Energy Action Plan

Pakistan is not only striving for the fulfilment of the energy requirement but also to produce clean energy. Pakistan National Policy of 2013 is considered a very comprehensive policy to attract foreign investment in the energy sector. However, it does not mention much about renewables for energy. The Climate Change Ministry has managed to get funding out of the Public Sector Development Program, and also set national climate goals in November 2015. The Regulatory mechanism devised for the power sector of Pakistan, the National Electric Power Regulatory Authority, gives an upfront tariff for solar and small hydro power producers. In addition to this incentive, tax exemptions are also given on the import of wind and solar energy-producing units. The present government has encouraged solar power and pledges to provide thousands of consumers with solar power and will pay their maximum bill also. The government of Pakistan is also encouraged by some success stories of the solar plants as clean energy which is funded by the Chinese government. Additionally, Pakistan and the US have jointly established a clean energy partnership to help attract investment for renewable energy projects (Krugalman, 2016). Though high risks and start-up cost is a caution for the government for the home-grown projects which should produce clean and sustainable energy. Moreover, inefficient energy use, theft, and use of furnace oil are also making energy use worst in Pakistan. However, the Pakistan energy mix as mentioned above that renewable will not dominate the energy production because it takes a lot of the political intent to make. In the words of the Michael “The time has never been riper for the government to make a deep and sustained commitment to clean and affordable energy” (Krugalman, 2016).

The Pakistan framework, of SDG for SCP, has prioritized certain objectives aiming to get the sector aligned with the SDGs. Institutional reforms to strengthen the regulatory reforms of the power sector is the priority for producing clean and sustainable energy in Pakistan. Pakistan through its investment policy encourages the investor to tap the potential resource and reduce

the carbon footprint. This will bring 15-20 percent saving in energy in Pakistan. The government is encouraging the public-private partnership for producing clean energy. The framework as announced that the energy efficiency equipment, appliance, and gadgets with energy performance labelling in domestic use as well as in public will be disseminated. The government has announced the tax rebate and soft loan for clean energy production and to bring rules and regulations in line with the SCP principles, government has decided to revise the National Energy Conservation Policy of 2017. The government is focusing on demand management and conservation to produce sustainable energy.

3.4. Sustainable Food System Action Plan

Though Pakistan is an agrarian society, food security has become a major challenge. The population increase can be considered a problem of an unsustainable food system. Therefore, now Pakistan is not able to fulfil the domestic need of wheat as a staple food. Per yield, production is also very low due to unsustainable sources of production, low input of fertilizers, water, and farm machinery. Keeping this in view, "Ministry of National Food Security and Research has launched its first National Food Security Policy in Pakistan in 2018, which has addressed the major challenges of the food insecurity. With 37.26 million citizens malnourished, Pakistan's National Food Security Policy 2018 aims at promoting sustainable food production systems by an average growth rate of 4% with goals of improving food availability, accessibility and sustainability" (Raiz-ul-Haq, 2018).

The food security of Pakistan intends to only increase the food access by enhancing the per yield output, it intends to support a kitchen garden, and farmers would encourage for the high-value crops, quality seeds, pesticides along with the reduction of the agriculture loans. The government has kicked off the drive to promote the poultry industry for reviving the economy; 2.5 million units will be distributed among residents of Rawalpindi attached city of Islamabad. Distribution of chicken business will promote the poultry industry besides proving high-quality food to the masses. Likewise taking the indigenous approach it is also to improve the local breeds and investment in daily farming and disease surveillance and control (Asghar, 2018). Another part of the Action Plan is the food accessibility, new laws to be introduced and enacted keeping agro-chemicals in safety limits and compliance of international standards and ensuring food safety standards in imported items is part of the policy (Zia-ul-Haq and Raiz-ul-Haq, 2018).

The "key part of accessibility is forming a national zero hunger program by supporting small farmers for sustainable subsistence through a partnership with donors and Benazir Income Support Program" (Pakistan National Action Plan, 2019). This policy has focused on food sustainability as an important element to address the SCP requirement by mitigating the climate change, agriculture and prioritizing the resource conservation through induction latest technologies. "The Action Plan further emphasizes the shift towards a more sustainable food system all along the food value chain. This will improve overall consumption and production patterns and will help ensuring food security in Pakistan" (Pakistan National Action Plan, 2019). The action plan has envisaged the short-term plan such as improvement of water efficiency, mitigation effect of climate change, introduction of relevant training for climate change mechanism, promotion of indigenous and non-hybrid variety. In a medium-term plan, the regulatory and legal frameworks have to be enacted for environment friendly agriculture production. It has to deal with the improvement of biotechnology to have more carbon responsive crops and investment in participatory research.

3.5. Sustainable Cities and Buildings Action Plan

The unplanned urbanization is increasing in Pakistan due to the backlog of the housing. Unplanned and slums are the major source of such buildings. Therefore, Pakistan faces serious environmental, quality, and administrative problems due to unauthorized and unplanned housings. The major cities do have implementation plans but the lack of municipal management and overlapping institution role has promoted such buildings. Overcrowding of the cities and rush of traffic, with lack of emission standards and enforcement, has become a manmade disaster in Pakistan. It is not only a risk for the environment but also a health and life threat to the citizens. This ultimately affects the water security and the human health.

As per NAP, "the main objective of the action plan for sustainable building and cities envisioned to enhance the capacity of relevant institutions for sustainable, smart and green cities planning and management and developing the policy, legal framework and governance of integrated waste management" (Pakistan National Action Plan, 2019). The Action Plan has also developed the activities, timeframe, and budget for the relevant activities and regulatory framework. The Action Plan is specifically working for unregulated housing, buildings, and encroachment. The plan is focused on integrated policies to adopt climate change along with building size regulation.

3.6. Sustainable Transport Action Plan

The transport sector "in Pakistan is contributing 11 percent towards growth and is most CO2 intensive sector and as per Action Plan report, Pakistan produces more than twice of CO2 emission from transport as compared to the region. The Planning Commission has estimated that Pakistan's population travels nearly 400 billion passengers-kilometre each year, which is likely to raise 1000 billion passengers-kilometre by 2030" (Kiani, 2018). Since road transport is also not environment friendly and CO2 emission gets very high, which becomes a greater challenge for the Pakistan Sustainable Transport policy. The UNDP and Pakistan are engaged with the study on the assessment of the transport sector. The truck freight transport sector of Pakistan is operating in a highly competitive environment. Truck transport and CO2 emission have become a major challenge for Pakistan road safety and environment policy.

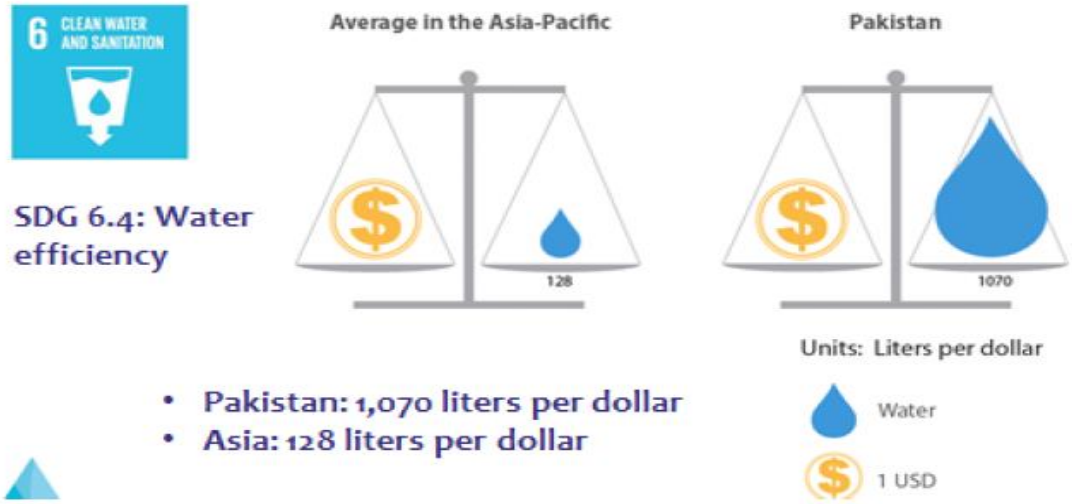
PNAP envisaged the policy of the development of a sustainable mass transit system for reducing carbon footprint and increase efficiency and developing appropriate market tools to promote value chains of transport management (Pakistan National Action Plan, 2019). The measures proposed in the Action Plan are to increase the energy efficiency of the vehicle and intermodal transport system. Transportation systems and corridors are initiated in line with maximum efficiency and safety. The plan has also devised short-term, medium-term, and long-term activities to attain the implementation of the SDG-12.

3.7. Water Reform and Management Action Plan

Ensuring sustainable consumption and production of water is a key challenge for Pakistan. The water security is much critical issue for Pakistan, due to its agrarian economy and agriculture depends on the source of water. If we look at Pakistan resource use of water, the UN Environment Agency study shows that Pakistan groundwater extraction on a per capita basis is twice the rate as compared to regional level water extraction. They further found that in 2015

water efficiency, Pakistan used for 1,070 litres of water to generate 1 US$ as compared to 217 litres of water by Asia Pacific developing countries as illustrated in the following figure-3:

Figure-3: Water Efficiency - Pakistan vs Asia Pacific



The water sector has been warranted to improve the efficiency of water consumption, and the reform agenda must be acceptable to all stakeholders. As the growing population has put pressure on water resources, it can impede the economic development of Pakistan accordingly due to pollution and climate change. The current supply of water in Pakistan is erratic and limited. This brings more vulnerability to the country in terms of lesser socio-economic development as well as insecurity as water has become another cause of disagreement between India and Pakistan and it can be the reason for eruption of tension between the two countries. The clean water provision for drinking consumption is another greater challenge for Pakistan. This has forced consumers to use alternate sources of digging the groundwater, which is again not a sustainable source and creates environmental hazards. Water reservoirs and dams are not built by the government for the decades now on the rivers, which is also spoiling the ecosystem, during drought time no water is available for surviving.

To take cognizant of the issue, the Ministry of Water resource has given the first water policy of Pakistan in 2018 in more than 70 years. The National Water Policy 2018 core aim is rest on the sustainable consumption and production patterns through the water sector, from exploitation to utilization along with many others such as improvement in availability, reliability, and quality of freshwater resource to meet a critical need of agriculture, energy and particularly of the environmental (Ministry of Water Resource, 2018). Keeping in view the sustainability of consumption and production, the relative use of water is also distributed in the policy as drinking and sanitation; irrigation; livestock; hydropower; industry and mining; rivers; forestry; recreations and sports; and navigation (Ministry of Water Resource, 2018). The water action plan further envisaged the implementation of the policies, their time frame, the establishment of the line organization, and implementation agencies to meet the objective of the SDG target of SCP. Water meter has been introduced to monitor the water footprint and an investment plan has been made to reduce the water depletion. The plan emphasized to construct artificial wetland to avoid misuse of the underground water and monitoring of the quality of water at all private and public water supply organization to meet the standards of responsible consumption and production.

3.8. Industrial Sector Action Plan

The sustainability of industrial production is a major challenge for Pakistan to address responsible consumption and production. The industry has the obsolete infrastructure, unskilled labour, and a lack of modern technology. This harms the environment, and the ecosystem of Pakistan. The awareness about responsible production and sustainable use is also lacking in Pakistan, which needs a greater campaign of awareness. This has become more crucial, keeping in view of the fast industrial unit plan in the China Pakistan Economic Corridor (CPEC) across the country. This will change the landscape of production and consumption in Pakistan. The economy will grow to a large scale. It will put more pressure on energy use as well as minerals. If we look at the resource use efficiency of energy, the study explains that Pakistan uses 25 MJ per US $ compared to the average of 16 MJ per US $ in the Asia Pacific (Ministry of Climate Change, 2017). Pakistan's Greenhouse Gas Emission profile shows that industry, energy, and agriculture sectors emit about 87% of National GHG emissions (Amanullah & Mufti, 2017). Lack of skilled workers and the latest technology is also one of the greater problems of the emission of industrial production. The informal sector in Pakistan is also one of the greater reasons for unsustainable production.

The action plan envisaged for the industrial sector has three main objectives:

i. Greening the Supply Chain resource efficiency and clean technologies,
ii. Value addition and environmental compliance;
iii. Encouraging the establishment of eco-industrial zones.

This plan has devised all activities short term and long term to achieve responsible consumption and production. Public-private partnership is also emphasizing to help industry sector for reduction of emission and latest technology adoption. PNAP has emphasized on formulation and implementation of National Industrial Policy for adaptation of sustainable consumption and production. This will bring a paradigm shift for moving from low to high-value addition production by adopting modern technology. An integrated approach is being followed by establishing the technology parks, technology exhibition, and industrial parks

3.9. Education Sector Action Plan

Education can play a key role in the adaptation of responsible production and consumption in Pakistan. To attain a resource efficiency and low carbon footprint, the education curriculum has to be integrated; the teachers need to acquire the relevant skills, knowledge, and techniques to teach a student how to produce a low carbon footprint in Pakistan.

The Action Plan has envisaged two broader objectives for adaptation of Responsible production and consumption: First is Achieving Resource Efficiency and Lower carbon lifestyle. Secondly: creating an inclusive and effective learning environment with the timeframe. The revision of education policies is required to bring the education sector in line with SDG-12 and the curriculum from primary to the tertiary level of education. Higher education institutions and industry linkages are necessary to promote awareness of sustainable production and consumption. The initiative for a knowledge-based economy is considered mandatory for all universities and institutional approaches for competing in a competitive and sustainable environment.

4. Conclusion

Pakistan also launched the National Framework for SDGs to reflect the strategy, plan, and national vision for SDGs contrary to the past MDGs where Pakistan could not meet the target. The reasons for failure include lack of political commitment, bad governance, and lack of funds. Currently, the post COVID-19 financial constraints, natural and manmade disasters are also the main factors of the failure in the MDGs of Pakistan. The SDGs as compared to MDGs have more chances of success as the Government of Pakistan has aligned the SDGs with its National Developmental Agenda, and the Vision-2025, which has the consensus of all political parties and being carried forward by the successive political government. However, in Pakistan, the performance indicator, particularly for the SDG-12 is not available so far. Further, the data for developing the indicator for responsible consumption and production as such is not available as district-level data is essential to develop an indicator to monitor. The data collection at a district level is costlier which needs more financing than allocation. However, the activities like green Pakistan is already upscaled which will help the SDG-12 in attaining the green Pakistan, emission reduction, and to mitigate climate change. Clean and green Pakistan will provide a safeguard to biodiversity and livelihood activities. The lead Ministry to Climate Change has to coordinate with the Ministry of Finance and Provincial Coordination which is responsible for overall monitoring of the performance measurement of the SDG-12. The SCP promotes resource and energy efficiency, and quality life. SDG-12 is connected with both the public and private sectors. There is a need for policy to align with SDG-12, which can identify ambitions towards systematic implementation. If all other goals have positive progress and SDG-12 does not go at the same pace of achievement there will be a negative correlation between the indicators of all other SDGs vis-à-vis national development.

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