# Navigating the Selected SDGs: Unraveling Past Shortcomings for a Future of Prosperity

Ayesha Waheed [iD][1], Muhammad Mohsin Latif Kiani [iD][2]

[1] M.Phil. Scholar, Pakistan Institute of Development Economics, Islamabad, Pakistan.
 Email: ayesha.w1197@gmail.com
[2] Research Fellow, National Institute of Population Studies, Islamabad, Pakistan.  Email: mohsinkiani87@gmail.com

| ARTICLE INFO | ABSTRACT |
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| | This study examines the United Nations' development framework, encompassing the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs), in the context of Pakistan's engagement and advancement. While MDGs faced challenges in Pakistan due to diverse factors, SDGs were embraced as the nation's blueprint for development with a well-coordinated institutional setup. The study's main objective is to assess the institutional coordination and implementation of SDGs at national and provincial tiers. Through comprehensive stakeholder interviews and an analysis of specific SDG indicators, the study identifies regions with varying degrees of susceptibility to falling short of set targets. The research assessed annual progress levels and compared them to the 2030 targets, using data from PSLM and PDHS surveys. Districts were categorized based on their estimated annual change requirements, offering a concise overview of indicator status in Pakistan. The findings underscore the potential challenges faced by Sindh, Baluchistan, and specific districts in KP, shedding light on Pakistan's trajectory towards sustainable development.<br> |

Corresponding Author's Email: ayesha.w1197@gmail.com

## 1.    Introduction

Development is one of the core components for the growth of a country. With time, trends of development have evolved. This era is of technological advancement which is being emerged as a vibrant influencer for development and growth. With the beginning of the 21st century, the concept of sustainable development was coined in social, environmental, and economic aspects. The concern behind this initiative was to improve the living conditions and surrounding which was extremely compromised in the race of development and growth. The notion of sustainable development promotes development by improving the current living conditions of the world without compromising resources for future generations. The United Nations introduced the Millennium Development Goals (MDGs) in 2000 to elevate conditions in developing nations over a 15-year period, supported by developed countries. These goals aimed to reduce global poverty and hunger by half, enhance literacy rates, healthcare, and social stability. Of the 189 participating nations, 72 met their targets. The global progress report highlights progress in the poorest countries through targeted interventions, effective strategies, adequate resources, and political commitment(*The Millennium Development Goals Report*, 2015). Mozambique, Nepal, Solomon Islands, Suriname, and Uzbekistan were the developing countries that were awarded by the UN for their achievement of MDGs(*Seventy-two Countries Achieve The MDG Target to Halve Proportion of Hungry People*, 2015)[1].

For Pakistan, there were numerous reasons and circumstances that were responsible for poor enactment of MDGs. The disproportion between sustainable development of economic and social

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[1] Food and Agriculture Organization of the United Nations
http://www.fao.org/news/story/en/item/292551/icode/#:~:text=At%20today's%20ceremony%20Bolivia%20(Plurinational,the%20target%20in%20previous%20years.

indicators were mostly derived from flawed policies, mismanagement of resources, worst performance of economic indicators, lack of coordination among institutions, political disturbance, and ineffective data availability and most importantly lack of interest on part of provincial governments as a stakeholder(Mehmood, 2016)[2]. Along with that, weak commitments on hardcore structural economic reforms, fading commitments of development partners due to 2007 global economic crisis and belated localization and ownership of Agenda at sub-national levels. Natural disasters during the time added further fuel to the fire(*Pakistan MDGs Report*, 2013).

In 2015, the United Nations introduced the Sustainable Development Goals (SDGs), consisting of 17 goals, 169 targets, and 241 indicators across social, economic, and environmental domains.  Agenda 2030, plays a vital role in domestic and international development. It provides member states with a roadmap for a better future. Pakistan notably became the first nation to embrace the SDGs as its national agenda in February 2016, receiving support from the National Economic Council (NEC) in aligning them with the country's development programs(Bari, 2019). The stance of SDGs in Pakistan was taken quite seriously in comparison to MDGs. This leads the government to conducted discussion sessions on post-MDGs with all the relevant stakeholders to avoid previous mistakes and to adapt new modifications in the system for the sound implementation of goals and precise achievement of targets. The process highlighted the need for national categorization and localization of SDGs, improved data collection, and enhanced monitoring mechanisms.(Iqbal, 2018). The GOP introduced major institutional reforms to meet SDG targets, establishing seven SDGs Support Units at federal and provincial levels to ensure effective localization and implementation through various committees. These committees will play their role in facilitating horizontal and vertical coordination among different stakeholder institutions for effective implementation of the targets. South Asia although had attempted MDGs in past, but they haven't achieved much from it. Multi-dimensional poverty, school enrollment, gender inequality, etc. are the challenges still prevailing in the region. SDG is a more ambitious and comprehensive project that is organized with a greater set of targets. It requires greater financial resources, innovative policy formulation, and efficient implementation methods to achieve their baselines as implementation is one of the core reasons that make it difficult to achieve these targets(Nirupam Bajpai, 2004). South Asia still has a long way to go, it is difficult to manage and imply all these goals and targets taking into consideration the socio-economic condition of the region.

Eight years have passed since the global adoption of the SDGs, and there has been notable progress in specific domains like maternal and child health, energy access, and women's participation in governance, as indicated by the 2020 Report. However, these achievements are tempered by challenges like growing food shortages, environmental deterioration, and persistent inequalities, which hinder progress in various other areas(Guterres, 2020). Globally, the SDG indicators have been significantly impacted by the multi-layered pandemic. The socioeconomic performance, since the outbreak, has not met expectations and, in many cases, has regressed. This situation is exacerbated by conflicts in various regions, leading to resurgence in poverty levels, and casting doubt on the world's ability to achieve its 2030 targets. This report provides a comprehensive overview of the SDG indicators, covering 211 out of the total 230, highlighting the challenges posed by the pandemic and ongoing conflicts around the globe(*Secretary-General's SDG Progress Report Recaps Pandemic Impacts on 17 Global Goals*, 2021). Closures of schools have kept 90% of students out of school (1.57 billion) over the world, causing approximately 370 million children to miss out on essential school meals. Many people were unable to learn remotely because they did not have access to computers or the internet at home(*Futures of 370 million children in jeopardy as school closures deprive them of school meals – UNICEF and WFP*, 2020). During March and April of 2020, around 70 nations reported moderate to severe disruptions or a complete cessation of kid vaccination services. Children in impoverished and disadvantaged communities are at a considerably higher risk of child labor, child marriage, and child trafficking as more families fall into extreme poverty(*Sustainable Development Goals Report 2020*, 2020). Indeed, for the first time in 22 years, worldwide gains in lowering child labor are likely to be reversed. Thus, Pandemic caused a huge setback to the Goals of the world (*Secretary-General's SDG Progress Report Recaps Pandemic Impacts on 17 Global Goals*, 2021) . 71 million people are expected to be pushed back into extreme poverty.

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[2] Why Pakistan lags behind in achieving MDGs.>> Express Tribune
https://tribune.com.pk/story/1171495/failing-pakistan-lags-far-behind-achieving-mdgs

Around 1.6 billion people were unemployed due to outburst of pandemic. COVID-19 poses a serious threat to the world's more than one billion slum inhabitants, who lack proper housing, running water at home, shared toilets, little or no waste management systems, congested public transportation, and limited access to professional health care facilities(*COVID-19 to Add as Many as 150 Million Extreme Poor by 2021*, 2020). Women and children are among those who have been hit hardest by the pandemic's impacts. Health and vaccination services disruptions, as well as limited access to food and nutrition services, have the potential to result in hundreds of thousands more under-5 fatalities and tens of thousands more maternal deaths by 2020.Many countries have seen a surge in reports of domestic violence against women and children(*The Shadow Pandemic: Violence against women during COVID-19*, 2021).

## 2.     Diagnostic analysis of SDG units in Pakistan

In February 2016, Pakistan embraced the Sustainable Development Goals (SDGs) as a national development framework, aligning provincial and sectorial development programs with this agenda to bolster the country's progress. In March 2018, the National Economic Council (NEC) approved a national SDG framework, focusing on their relative importance. This inclusive process engaged federal, provincial, and local authorities, with negotiations at the divisional level across Pakistan, involving active participation from district divisions. In 2017, a local government summit in Islamabad featured elected heads of district councils, providing valuable insights into localizing Agenda 2030. Following these discussions, SDGs' 17 goals, 169 targets, and 238 indicators were prepared and prioritized to address urgent needs, with efforts streamlined to achieve better outcomes more efficiently. This process recognized the interconnectedness of various socio-economic policies(MoPDR, 2018).  The 17 goals of SDGs were divided into three categories based on a model that includes seven basic comparing criteria. These were chosen based on data gap analysis, the current state of the target/indicator, its significance in the context of national development, and adherence to the sustainability question. The seven prioritization criteria are width, depth, multiplier, urgency level, required resources, structural changes and provincial relevance. Based on the weighted averages of these criterions, SDGs were distributed in to three categories i.e., short term (that includes goal 2, 3, 4, 6, 7, 8, and 16) medium term (goal 1, 5, 9, 10, 11 and 17) and long term goals (12, 13, 14, and 15)(*Summary for the NEC SDGs National Framework*, 2018). Category I goals can be achieved in a relatively shorter period for which a sound policymaking will play a vital role in achieving those goals in the short run(*Annual Report*, 2017 (a)).

To execute these goals in their allocated time frames, GOP has made major institutional reforms they've established seven SDGs Support Units at federal and provincial levels to ensure institutionalization and localization of SDGs through the establishment of different bodies and committees under Support Units. These committees will play their role in facilitating horizontal and vertical coordination among different stakeholder institutions. Whereas, at provincial and local level, provincial governments along with UNDP structured the framework of SDGs for further processing(*Annual Report*, 2017 (a)). The execution of these guidelines started back in 2018 to adjust this global agenda into a provincial context. The baseline value and 2030 targets for provincially relevant indicators that are applicable were selected in order to develop an overview of their status prior to the implementation of plans and after the completion of the specified time limit. It will help in the assessment of the progress that has been made. The SDG Support Units in Pakistan were established with the help of the United Nations Development Program (UNDP). As the formulation of the support unit is under a hybrid model in which the Government of Pakistan (GOP) and UNDP have been working as a partner. The staff of the support units is hired by the UNDP whereas the operational work is carried in the planning and development departments of the provincial governments(*Annual Report*, 2017 (a)). A government officer is linked with each unit as a 'Project Manager' who acts as a bridge between UNDP and the government. The whole processes of SDGs are performed by the governments whereas UNDP provides technical support to the SDG's implementation processes and aligns policies with the SDG targets. For instance, the education plan of Sindh 2019-2023 was aligned with the targets of SDGs with the help of the Sindh SDG Support Unit and the implementation of the project has started at different levels although it's a long-term process. Provincial SDGs Framework exists to provide clarity and direction on the execution of targets in the province.

The structural formation of SDG units at federal and provincial level is simple who perform functions of different domains the technical team in SDG units comprises of a project manager

(a government officer), a policy analyst (for social, economic, and environmental aspects), Monitoring & Evaluation specialist and a Finance manager. They are not responsible for the implementation processes rather they provide technical assistance to the government departments in aligning their policies and resources for the implementation. Mainstreaming Accelerating Policy Support (MAPS) is followed by the SDG units at the federal as well as provincial-level on which the whole development scenario of Pakistan is based. Under this approach, SDG units perform these tasks such as aligning the plans, policies and resources with SDGs, Strengthening reporting and monitoring mechanisms, Aligning finances with SDGs, Promoting innovative approaches to facilitate rapid progress on the SDGs, Building partnerships and providing an effective platform for coordination and coherence within the province and also providing technical and financial support. After the 18th constitutional amendment, provinces are autonomous in this regard. There is no legal binding on the provincial governments. They are free in their decision-making to streamline their development processes as per the requirement of the province. It is their voluntary will to carry out the SDG agenda as their development framework and thus despite all, provincial governments followed the footsteps of the federal government and they design their procedural frameworks as per the federal government. In the respective manner of categorization of SDGs at the national level, provinces have also prioritized their goals into 3 categories based on the urgency and improvement need of the indicators. Policy for each target is meant to be framed and implemented by federal as well as provincial governments according to their subject domain after proper legislation. Provincial governments along with their district administrations and municipalities are eagerly mapping their baselines and targets at the district level for different indicators(*Voluntary National Review (VNR)*, 2019). A project board at the federal level is chaired by the Ministry of Planning and Development Reforms (MoPDR) and UNDP. Members of this board are the senior officials of provincial governments and provincial SDG units. The board conducts an annual meeting to review the progress of last year and the agenda plan for the coming year is discussed. A similar framework is carried out in provinces where the project technical committee of the respective province is chaired by the secretary of the planning and development board while the members are from all the key departments of the province where progress and plans are reviewed at provincial levels(*Annual Report*, 2017 (a)).

For SDGs management in Pakistan, thoughtful steps have been taken this time to avoid previous kickbacks and to achieve given targets. Federal and provincial support units, cluster groups, technical committees. are established to strengthen the coordination among institutions and to facilitate the execution process(*Voluntary National Review (VNR)*, 2019). Pakistan's stance on SDG was ambitious and currently score of Pakistan based on its achievement of SDGs is 57.5 out of 100 and is ranked at 129 out of 193 UN member countries(*Rankings The overall performance of all 193 UN Member States*, 2021). Although SDGs are progressing at a slower pace in Pakistan, there is a significant role of the China Pakistan Economic Corridor (CPEC) in agenda 2030. CPEC is the key project of the Belt Road Initiative (BRI) that provides convergence of various SDG indicators. It contributes to the development of the agriculture sector, road railways, energy sector and also enhances cooperation with the world which are some key indicators of agenda 2030 (Ali, 2018). CPEC showed significant progress over the past years and thus enables Pakistan to achieve its SDG targets. Being a development project, it provides huge leverage and margin for the SDG targets in terms of resources as well as implementation. China promises to make a 62 bn $ investment in Pakistan under CPEC which will be a huge financial help for us to streamline our SDG goals with this development. Pakistan is half down to the given timeline of SDGs. The primary emphasis was on establishing an institutional framework to facilitate coordination among diverse stakeholders. To enhance the achievement of SDG targets, several mechanisms have been put in place, including support units, technical and thematic committees, advisory councils, and cluster groups, all operating at the provincial level.(*Annual Report*, 2017 (a)).

Despite provincial autonomy following the 18th constitutional amendment, significant societal challenges persist. These include high school dropout rates, gender inequality, and limited access to public healthcare, clean water, and energy, with remote areas like southern Punjab, interior Sindh, and Baluchistan being particularly affected. In response, the Punjab government has initiated a pilot project to localize SDGs within the province, selecting two vulnerable districts, Bakhar and Rajanpur, for focused efforts to address these issues at the

grassroots level.(*Workshop on SDGs, MPI to help govt in development plans*, 2016)[3]. Localization plans were made but unfortunately couldn't be operationalized to their core. Due to resource constraints and it is difficult for the government to fully finance the project. The research had several key objectives. First, it aimed to conduct a critical analysis of Pakistan's performance in implementing the Sustainable Development Goals (SDGs) at the district level. Additionally, the study sought to provide a diagnostic examination of the roles, responsibilities, and challenges faced by the SDG Support Units in the country. The research also aimed to determine the number of districts that might face challenges in achieving their prescribed targets for specific indicators, shedding light on the potential obstacles in reaching SDG goals. Another crucial aspect of the study was to assess how well the available resources are aligned with the SDG framework. Finally, it investigated how federal and provincial authorities were coordinating with each other to implement SDGs and identified the key challenges they encountered in this process.

## 2.1. Resource configuration of SDG Framework

Allocation of resources for the implementation of SDG targets is made by the provincial governments out of their budget. UNDP also assists in this regard by mobilizing funds. Whereas, the federal government finances the projects that are carried out in the federal territory and federating units along with the contributions of UNDP. Resource allocation for the projects under SDGs is mainly financed by respective governments. However, some projects are funded by foreign resources up to a significant percentage of the project. For instance, UNDP is sharing finances of some particular projects with respective governments in a contracted percentage manner. Donor assistance is a minimal portion of the funding of projects. provincial prioritization of SDG goals was based on shreds of evidences collected from districts which are then aligned on an average basis as per the needs of the province, which would be integrated to the grass-root level. As district-level prioritization and planning was not operational. There are various districts and areas in each province which are at the verge of vulnerability and are lacking in most of the indicators such as food availability, excess to quality education, health facilities, clean drinking water, etc. these conditions add to the vulnerability of the area. SDG Support Units have taken some pilot districts that would be provided with a master plan along with extra resources and efforts to improve the socio-economic condition of those areas. For instance, in Punjab government has taken Bhakkar and Rajanpur as pilot districts whereas, in Sindh, Islamkot has been selected as the pilot project for their extreme vulnerability as compared to other regions. Experts are of the view that the initiative was remarkable, but it would not be achievable if governments or the UN solely undergo all the process as the development indicators are moderately worse. Therefore, a helping hand or collaboration of citizens, civil society, international donors, UN, NGOs, etc. needs to be on board with the governments to transform the current circumstances of the districts into ideal conditions. Along with that, resources remained a serious challenge in this process to execute the plan for the government. Therefore, collective efforts are required at all forums for the improvements in the development.

## 2.2. Ongoing challenges in the implementation of SDGs in Pakistan

Apparently, there are multiple challenges that are may cause a hindrance in the development of the agenda. To be clear on this concern, we dig deeper in the discussion with stakeholders in the SDG units, and it has been found that there are some serious issues (Resource constraint, Data gaps, Diverse status of districts, Vulnerability triggered by pandemic, Political instability) that need to be addressed in the meantime otherwise; they will impact the progress of the agenda. The availability of data for SDG indicators is a significant challenge in Pakistan, particularly at the provincial and district levels. In Sindh, only 54% of SDG indicator data is available at the provincial level, with just 18 to 20 percent available for district-level analysis. In the federating units of Gilgit-Baltistan (GB) and Azad Jammu and Kashmir (AJK), data availability is even more uncertain, with many indicators lacking data altogether. This data gap hinders the evaluation mechanism for tracking progress on SDGs. Support Units are collaborating with government bodies and statistical cells to improve the data ecosystem for reporting and monitoring. District profiling reveals stark disparities in the status of various SDG indicators across Pakistan. Some regions like Rawalpindi, Lahore, and Karachi exhibit positive trends, while districts in interior Sindh, southern Punjab, and Baluchistan face severe underdevelopment, even in basic areas like education, health, and access to food and clean water. Unequal resource distribution exacerbates vulnerabilities in these regions.

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[3] https://www.dawn.com/news/1287260

Resource constraints pose another formidable challenge for Pakistan's SDG implementation. The ambitious resource requirements exceed the country's available funds, especially amid an economic crisis marked by sluggish business performance, inadequate revenue generation, and increased economic burdens. The development budget has significantly dwindled over the past five years, further strained by the pandemic's economic impact. Increasing and effectively allocating investments for SDGs is imperative to achieve targets by 2030. The transition to SDGs in Pakistan faced initial readiness and sensitization challenges, leading to delays in practical implementation. The establishment of committees, units, task forces, and institutional frameworks aimed to address these issues and facilitate SDG implementation. While nearly six years have passed since the start of Agenda 2030, significant achievements of targets are yet to be reported. Pakistan's priority-based timeline suggests that considerable work is needed to achieve SDGs fully, considering that many indicators remain moderately underdeveloped. While complete achievement by 2030 may be challenging, substantial progress is feasible. Moreover, the current pandemic has introduced additional hurdles, potentially slowing down SDG progress and triggering reversals in key indicators. Its negative impact on social and economic aspects is substantial, while short-term environmental gains may be offset as economic activity resumes. Addressing these challenges and regaining momentum on SDGs will require significant efforts, particularly in post-pandemic recovery and environmental sustainability.

## 3.    Data and Methodology
### 3.1.   Data description
The empirical analysis of this research is for Pakistan. The analysis is based on the mixed method approach in which both qualitative and quantitative means of information are incorporated. Information and data sources for qualitative analysis are the interviews of relevant stakeholders, evaluation of reports etc. Whereas, for the quantitative segment, various rounds (2012-13, 2014-15 and 2019-20) of Pakistan social and living standard measurement (PSLM) survey and (2012-13 and 2017-18) Pakistan Demographic and Health Survey (PDHS) are taken under observation to build an analytical viewpoint. For qualitative aspect of the research, Stakeholder interviews were conducted to gather insights into the setbacks of MDGs in Pakistan and to understand how these challenges are being addressed in the implementation of SDGs. The relevant stakeholders included provincial and federal SDG support units across Pakistan, which play a crucial role in coordinating, providing policy support, implementing frameworks, and monitoring progress. These interviews focused on gathering information about the current progress, challenges, and possibilities related to SDGs in various regions and support units.

The discussions covered the scenarios within their provinces and support units, highlighting both progress and challenges Quantitative aspect is undertaking by two major surveys (PSLM and PDHS). Pakistan Social and Living Standard Measurement (PSLM) survey is a valuable micro dataset that provides crucial information on various socio-economic indicators at the provincial and district levels. This data is indispensable for the government of Pakistan as it forms the foundation for designing and crafting policies aimed at improving social indicators. In the past, the PSLM survey was employed to monitor six targets and fifteen indicators for the Millennium Development Goals (MDGs) at provincial and district levels (PBS). With the advent of the more comprehensive and individual-focused Sustainable Development Goals (SDGs), the Pakistan Bureau of Statistics (PBS) initiated regular PSLM survey activities in July 2015, collecting data at provincial and district levels every alternate year to monitor progress in SDG indicators at the grassroots level. Following advice from the Technical Committee, the survey forms for both district and provincial levels have been updated to align with Agenda 2030. The PSLM survey questionnaire now includes selected socio-economic indicators of the Sustainable Development Goals (SDGs), with 31 indicators from the 2030 agenda integrated into the survey conducted by the Pakistan Bureau of Statistics (PBS). This research encompasses three rounds of PSLM surveys at the district level, conducted in 2012-13 (sample size: 75,516 households), 2014-15 (sample size: 78,635 households), and 2019-20 (sample size: 176,790 households). Data from these rounds, gathered for selected indicators, will be used to generate district and provincial rankings, reflecting each region's capacity to achieve its targets by 2030.

The Pakistan Demographic and Health Survey (PDHS) is a nationally representative household survey covering individuals aged 14 to 49. It provides a comprehensive dataset to monitor and evaluate various indicators related to nutrition, health, and population at the provincial level. Typically conducted every five years, the PDHS offers insights into health

indicators aligning with Sustainable Development Goal 3. While it furnishes provincial estimates of these indicators, this study utilizes data from two PDHS rounds, conducted in 2012-13 (sample size: 14,000) and 2017-18 (sample size: 12,364 households), to analyze selected health indicators. Additionally, the Maternal Mortality Ratio (MMR) is estimated through the Maternal Mortality Survey conducted as part of the PDHS in 2020.

**Table 1: Selected indicators from PSLM surveys**

| Goals | Selected Indicators | Definition of indicator | Targets |
|---|---|---|---|
| Education: To ensure inclusive and equitable (equal and free access) quality education and promote lifelong learning opportunities for all | Net primary enrollment ratio | Primary school age population who is enrolled in primary school out of total population of that age. | Target to achieve is 100% |
| | Gender parity index for primary education | ratio of females enrolled in primary school by males of primary age enrolled in school | Target to achieve is 100% enrollment of both genders |
| | Literacy rate | people who can read write and solve basic arithmetic | target is to achieve 100% literacy |

**Table 2: Selected indicators from PDHS surveys**

| Goals | Selected Indicators | Targets |
|---|---|---|
| Health (3): To ensure healthy lives and promote well-being for all of all ages | Neo-natal mortality ratio | reduce neonatal mortality to at least as low as 12 per 1,000 live births |
| | Under-5 mortality ratio | Under-5 mortality to at least as low as 25 per 1,000 live births. |
| | Maternal mortality ratio | reduce the global maternal mortality ratio to less than 70 per 100,000 live births |

This research assesses the capacity of Pakistani districts to enhance socio-economic conditions, primarily using district-level data from the PSLM survey. Data from GB and AJK isn't analyzed due to security concerns. For Goal 4 indicators, provincial-level data from the PDHS survey is used . Health indicators are analyzed provincially, while education is assessed at the district level excluding AJK and GB.

### 3.2. Methodology

Selected indicators from SDG goal 3 and 4 were analyzed from these surveys. In this analysis, we have calculated annual growth rate of each indicators from 2012-13 to 2014-15, then from 2014-15 to 2019-20 what was the progress of each indicator and then finally their required growth rate is forecasted for each year.  This gives us that what level of annual growth rate is required to each indicator in order to fulfill the given target of SDG. Annual change = Current value – Previous value / Number of Years

$$P(t) = \left(\frac{V_C - V_P}{\Delta y}\right) 100$$

P(t) represents annual change in the growth rate of an indicator, Vc is the current value of the indicator based on its performance taken from the survey data and Vp is the previous value of the indicators. $\Delta y$ Shows the number of years between the values taken. Annual growth of all selected indicators is traced from the collected data sets. And on the basis of previous annual growth, required growth in upcoming years is forecasted till the end of 2030. Hence, the necessary annual growth level required to achieve the target of each indicator is formed across all the districts and provinces of Pakistan. The comparison of improvement of indicators over the period of time provides us an insight into their growth trends in Pakistan. On the basis of estimated annual growth required to different areas, districts and regions are categorized into four groups based on their forecasted progress. The four designed categories for the progress of selected indicators is already achieved goal, on-track performance, off-track performance and poor performance. The threshold levels defined for each indicator is based on the intensity and urgency of achieving SDGs. Hence for the selected indicators, if the difference between required

annual growth and current annual growth is from 0.0 to 0.5 points then the district is placed in safe zone which reflects that it will achieve its target by the end of 2030 or had already achieved it and they are represented by green shade in geographical maps. Similarly, if the difference of current and required annual growth ranges from 0.5 to 2.0 then it the district is placed in the category of on track districts which signifies that by the end of 2030, they will achieve their targets and is represented by blue shade. The third category defines the threshold level from 2.0 to 4.0. All the districts whose difference of estimated and current growth lies in this range will be in the list of off-track districts. As they need more improvement in their annual performance in order to achieve their goals by the end of 2030 so they are represented by yellow shade in the maps. And finally, the last category involves all the districts that have the difference greater than 4.0, they are showing either poor or negative performance and thus, they will be at a higher risk for not achieving their given SDG targets by the end of 2030 and is represented by red shade in the maps. They need a timely and a serious policy implementation along with more resource alignment in order to improve their living condition otherwise, it would be impossible for them to get along with other regions and districts.

## 4. Results and Discussion

This study has analyzed the performance of selected indicators at provincial and district level with the detailed analysis of their policy frameworks budget allocations and the progress that has been made.

### 4.1. Goal 3: Health

Health is a crucial indicator of both social and economic development in a country. In Pakistan, the last approved national health policy was in 2001, serving more as a program description than a comprehensive policy document. It was later revised in 2009 with substantial input from the World Health Organization (WHO). However, following the 18th constitutional amendment, the health ministry was devolved to the provinces, making health a provincial responsibility. Consequently, the 2009 policy revision could not be effectively implemented due to significant financial resource constraints(*Health policy, governance and leadership*)(*Health policy, governance and leadership*)(*Health policy, governance and leadership*). Economic Survey of Pakistan provides that over the last decade, health expenditures have been increased gradually from 13.4 billion rupees in 2011-12 to 42.8 billion rupees in 2019-20 *Economic Survey of Pakistan* (2020) as shown in Figure 1. This rise in expenditure was made over time to meet the rising needs of health services across Pakistan as the population exploded over the time from 183.3 million in 2011 against 216.6 million in 2019(*World Developemnt Indicators*, 2019). But if seen on the share of health expenditures in GDP then it shows an almost static picture of the situation. Over the time the health expenditures increase by a minimal amount as a percentage of GDP as compared to need of rising population. In 2011-12, share of health expenditures in GDP was just about 0.7 % that rises up to 1.2 % till 2019-20(*Economic Survey of Pakistan* 2020).

**Figure 1: Health Expenditures as a % of GDP**
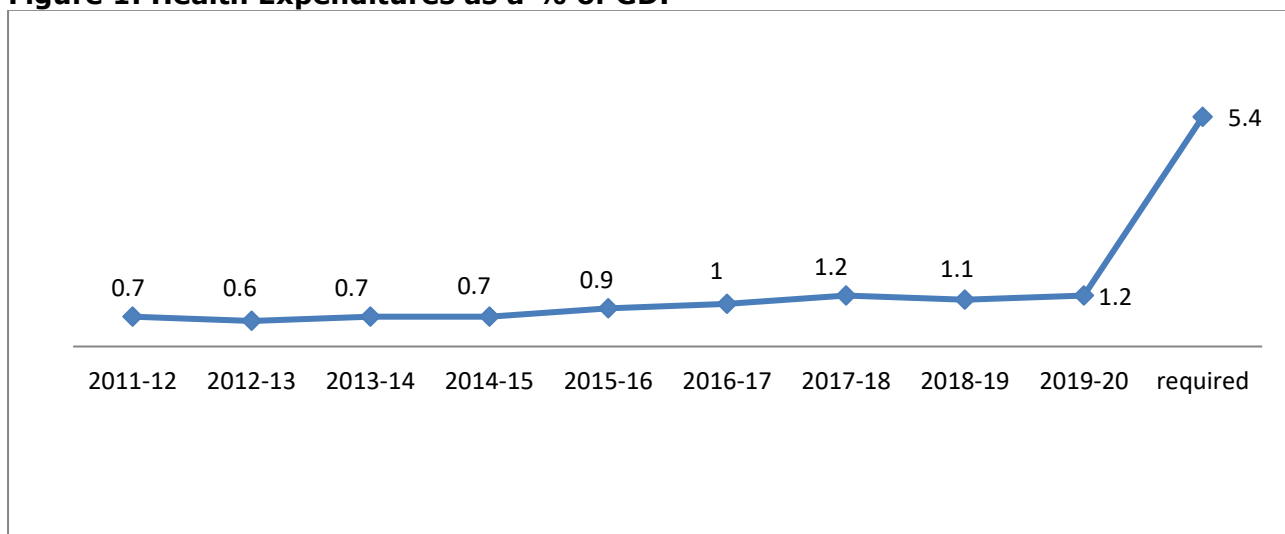


*Source:* Pakistan Economic Surveys

Ensuring health and well-being of all is one of the goals of SDGs that provide certain targets to be achieved by the end of 2030. In order to fulfill the given targets and to improve its

health sector service delivery, Pakistan has formulated a National Health Vision 2025. With the help of WHO, 6 core pillars were designed for the National Health Vision 2025 to strengthen it and also to ensure the delivery of its objectives. Health service delivery, health financing, health information system, human resource for health, sound governance and provision of essential medicines and technical help. These are the six pillars that would help the vision in serving its objective. WHO would also provide technical assistance, advocacy etc. in this matter. (*Health policy, governance and leadership*) (*Health policy, governance and leadership*) (*Health policy, governance and leadership*) . To track what progress has been made in these years across Pakistan. This study has selected some of the indicators from SDG goal 3. The data estimates taken from PDHS surveys give us following description.

### 4.1.1. Provincial analysis of current conditions of Neo-natal mortality rate (per 1000)

It gives the number of deaths (per 1000) of children within 1 month of their birth. PDHS survey 2012-13 and 2017-18 gives a comparative analysis of different regions of Pakistan. Figure given below shows that in 2012-13, Punjab had recorded highest number of neonatal deaths per 1000 with a minimal gap between all other regions. After the 5-year interval of the next DHS survey a progress of 1.5 % was recorded per year and Punjab reached from the highest number of 63 per 1000 in 2012-13 to 51 per 1000 in 2017-18.  All other regions show a positive growth trend as well over the period of five years except KP and GB. Ratio of neonatal deaths has increased in these regions with 0.2% in KP and 1.3% in GB. While, Baluchistan gives the best performance by reducing the rate annually by 4.8%. Target to be achieved for neonatal mortality defined in SDG was to reduce the ratio to 12 per 1000 by the end of 2030. To achieve the target level of neonatal mortality all the regions of Pakistan need to show progress with the per year growth of 3.5% for Punjab, 2.2% for Sindh, 2.5% for KP, 1.8% for Baluchistan, 1.5% for AJK and 2.9 for GB.

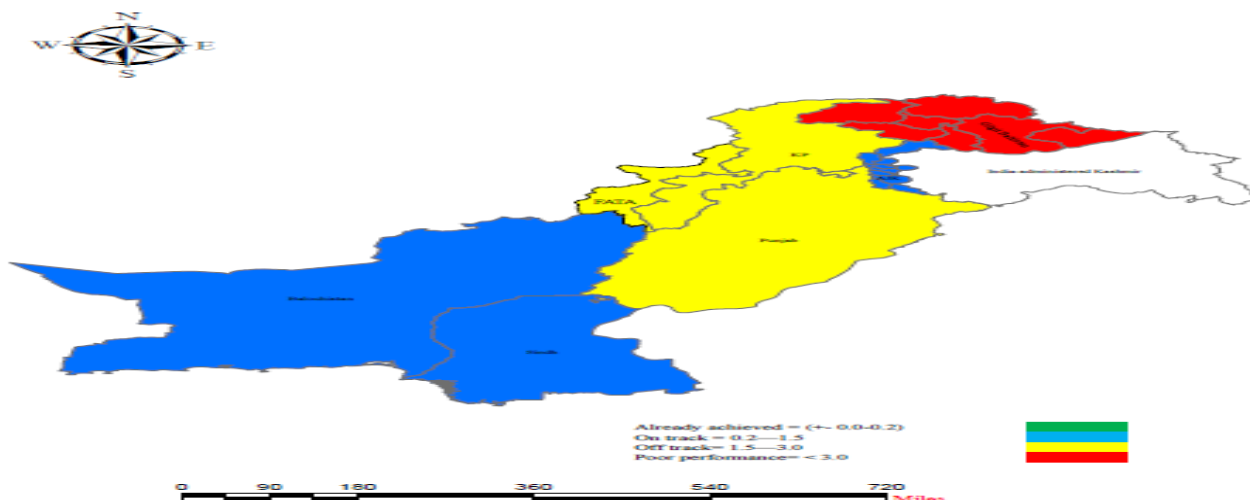**Figure 2: Neo-Natal Mortality rate (per 1000)**
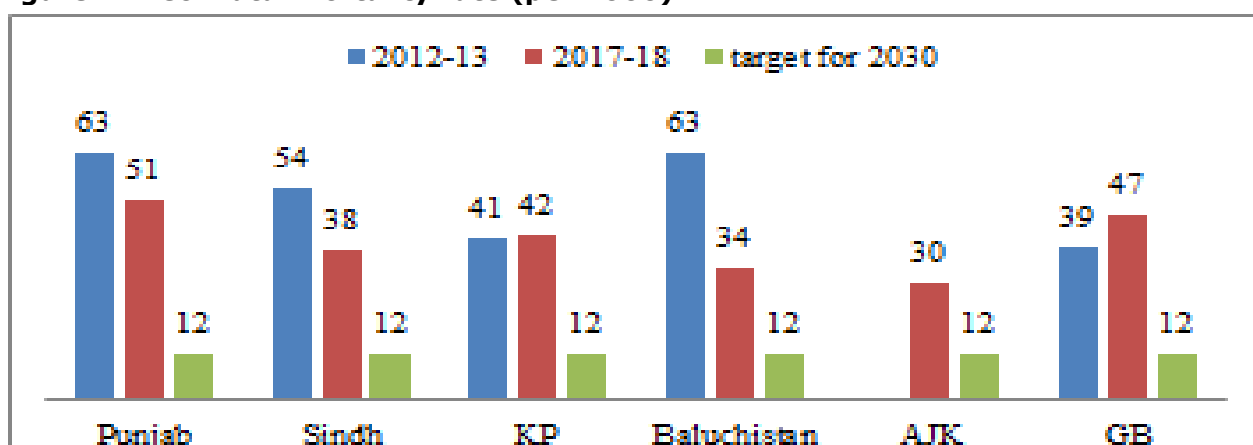


*Source*: Author(s) calculation by using PDHS micro datasets

Taking a look into the population census that is on stake of these improvements and developments. According to the latest population census of 2017, in Punjab and KP there are 2.6 million and 1 million antenatal would be at risk respectively as the performance of both the provinces seems off-track based on the forecasted analysis. They need to enhance their annual growth towards achieving the target. On the contrary, Sindh Baluchistan, and AJK are progressing in a smoother manner and so 1.1 million antenatal lives in Sindh and three hundred thousand in Baluchistan would be saved if the progress goes in the forecasted manner(*Population census*, 2017). The expected provincial status of neo natal mortality rate of Pakistan by the end of 2030 is shown in figure 3.

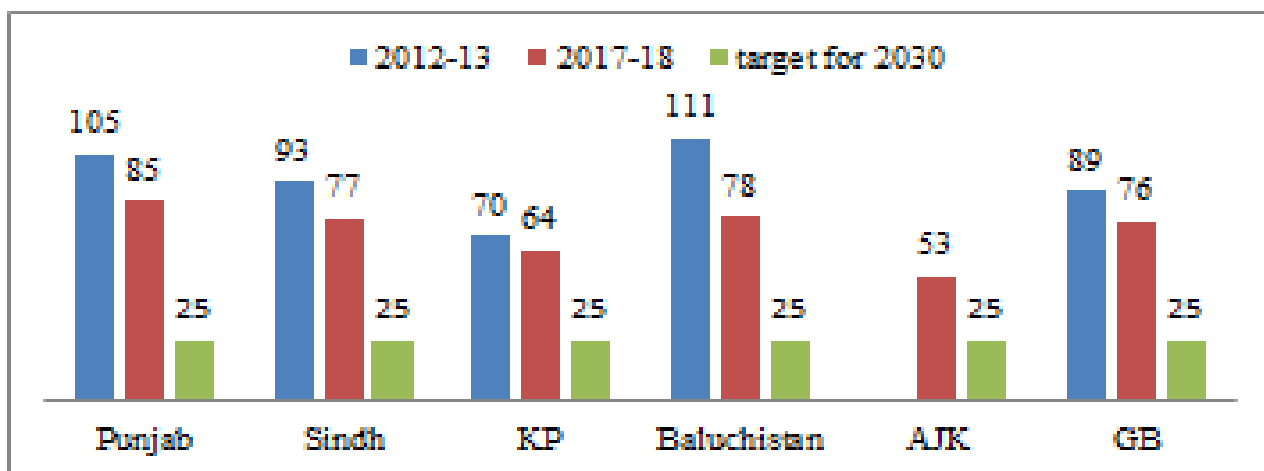**Figure 3: Forecasted Neo-natal mortality rate (per 1000) by 2030**



*Source*: Author(s) calculation by using PDHS micro datasets

### 4.1.2. Provincial analysis of Under-5 Mortality rate (per 1000)

Two rounds of PDHS gives an overview of the conditions prevailing across Pakistan in context of mortality rate under age 5 as shown in figure 4. A remarkable annual growth has been recorded of all the regions of Pakistan towards achieving its 2030 target. for the upcoming years Baluchistan and AJK are showing on-track performance as estimated from their previous growth whereas, all other regions needs to pace up their annual progress to achieve their SDG goal that is to reduce under 5 mortality to 25/1000 by the end of 2030. Taking a look into the population census that is on stake of these improvements and developments. According to the latest population census of 2017, in Punjab and KP there are 17.4 million and 6.4 million under age 5 children respectively would be at risk as the performance of both the provinces seems off-track based on the forecasted analysis. They need to enhance their annual growth towards achieving the target. On the contrary, Sindh Baluchistan, and AJK are progressing in a smoother manner and so 8.3 million children of age under 5 years in Sindh and 2.2 million in Baluchistan would be saved if the progress goes in the forecasted manner(*Population census*, 2017). The expected provincial status of under-5 mortality rate of Pakistan by the end of 2030 shown in figure 5.
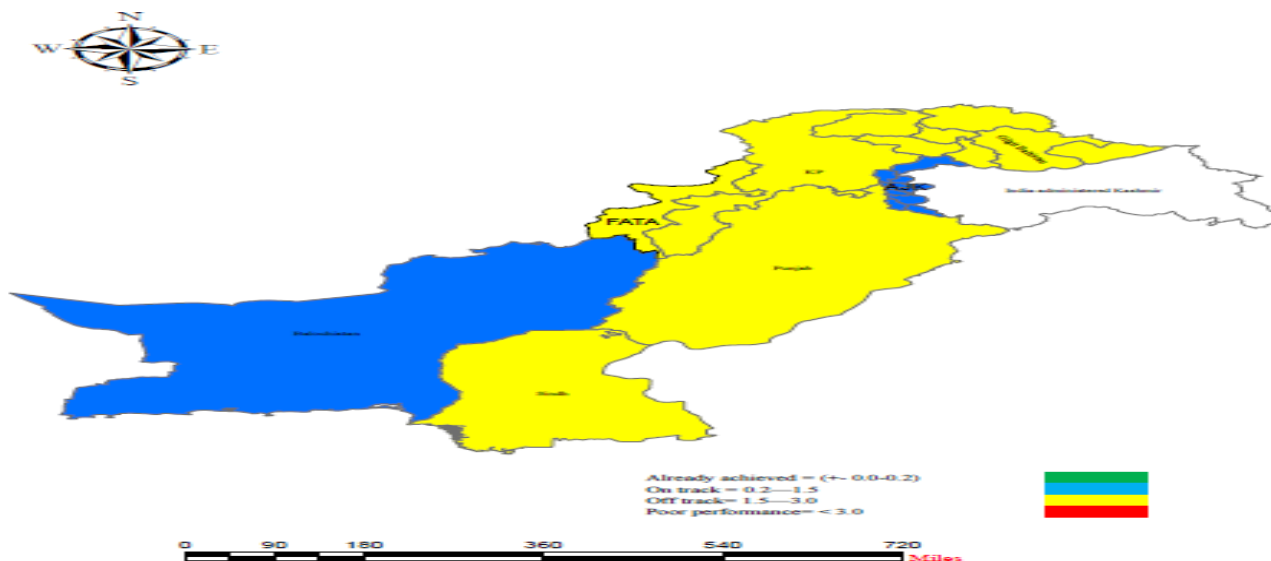
**Figure 4: Under-5 Mortality rate (per 1000)**



*Source: Author(s) calculation by using PDHS micro datasets*

**Figure 5: Forecasted Under-5 Mortality rate (per 1000) by 2030**



Forecasted Under-5 Mortality (per 1000)by the end of 2030

*Source*: Author(s) calculation by using PDHS micro datasets

### 4.1.3. Provincial analysis of Maternal Mortality Rate (per 100000)

Pakistan Maternal Mortality Survey 2019-20 gives an overview of the current ratio across different regions of Pakistan as presented in figure 6. Baluchistan recorded highest number of maternal deaths during live births i.e.; 298 out of 100,000. SDG gives a target to reduce MMR to 70/100,000 by the end of 2030. To meet the given target, all the regions across Pakistan need to enhance their control over MMR.

**Figure 6: Maternal mortality rate (per 100000)**
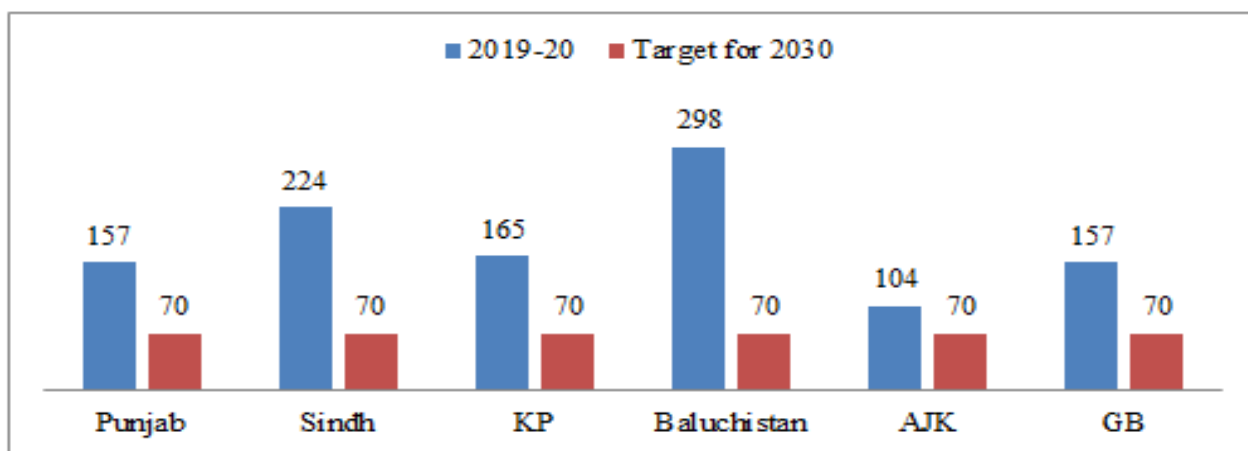


*Source:* Pakistan Maternal Mortality Survey, 2019

**Maternal Mortality Rate (per 100000)**

The data is collected from the recent Pakistan Maternal Mortality Survey 2019 which reflects that the mortality rate is currently quite higher across all regions of Pakistan as compared to their given target. Baluchistan records the highest mortality rate followed by Sindh. While in other regions it is more than 100 as well. A serious policy framework needs to be implemented to get a control over the situation and to improve the mortality rate across Pakistan. Summary of the current status of selected health indicators from SDG goal 3 at provincial level is shown in figure 7. All the regions need to achieve a higher annual growth for the improvement of this indicator in order to achieve their target by the end of 2030.

**Figure 7: Summarized current progress of health indicators at provincial level as per surveys**
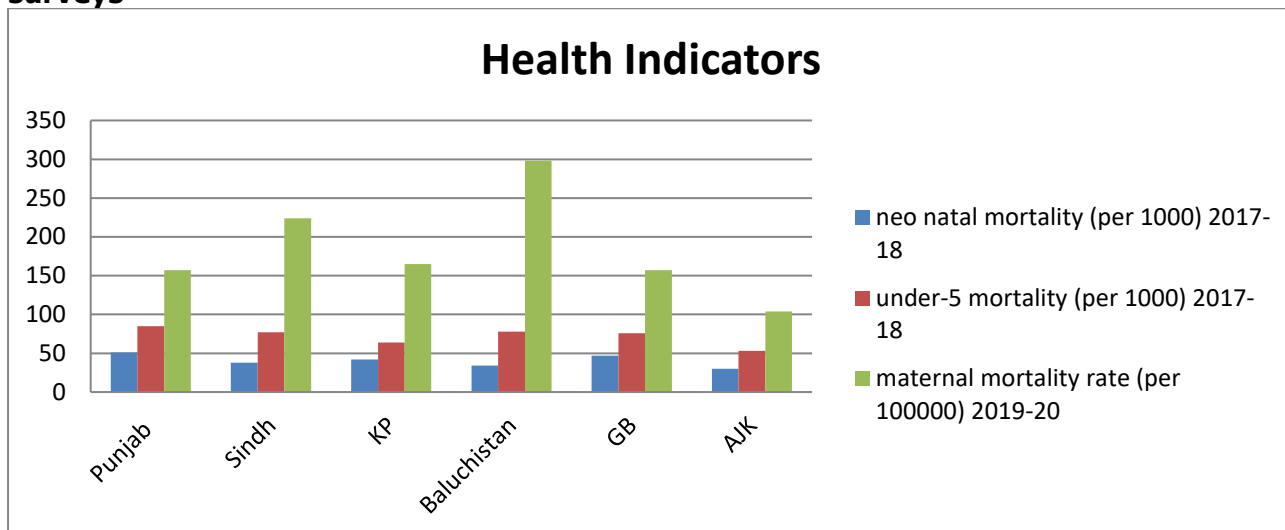


*Source*: Author(s) calculation by using PDHS and PMMS micro datasets

### 4.2. Goal 4: Education

Education is a fundamental right of the people declared in article 25-A of the Constitution of Pakistan as well as core priority of the government to ensure its availability to all. It is the responsibility of the state to provide compulsory and free education to children up to 16 years of age("The Constitution of the Islamic Republic of Pakistan," 1973). Education being a universal subject carries a prevailing value and therefore, formulation of educational policies remained a core objective of political agendas. Policies regarding education (curriculum, rules and regulations etc.) have a direct impact on the public(Malik, 2015). Equitable access to educational institutes and quality delivery of educational services is always promoted by the state, and for that government provides financial assistance to the vulnerable groups of society, free education is provided to enhance enrollment rate, and teacher's training workshops etc. were organized. And now besides education, technical training is also initialized to give our youth some talent so that they can positively contribute in the economy(*National Education Policy*, 2009).

**Figure 8: Education expenditures as a % of GDP**
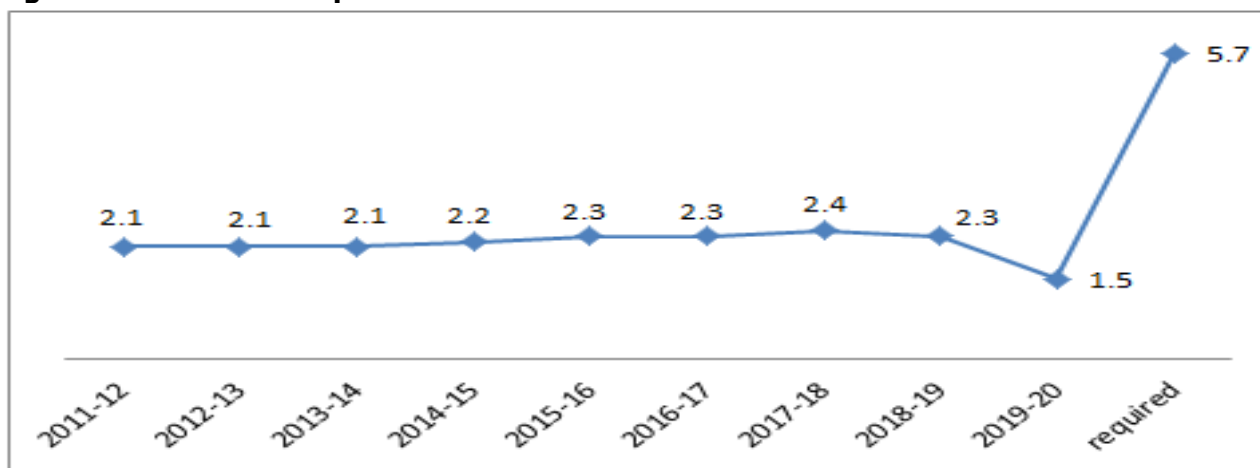


*Source:* Economic Surveys of Pakistan.

**Education Expenditures as a % of GDP**

Similarly, with some amendments, national education policy was formulated back in 2017 to make it a part of Vision 2025. It was further added in the policy that with an internationally appropriate curriculum, trained training tools for teachers, and an appraisal structure, the government also ensures equality and fairness in secondary education for all children. Instructional materials, such as posters, audio-visual aids, maps, and teaching kits, are used to help students learn(*National Education Policy*, 2017). Education being an important indicator of SDG provides various multi-dimensional targets to be achieved. The expenditure made by the

government in educational sector over the last decade is taken from the economic surveys and it can be seen that over the time the expenditures of education increased gradually from 39.5 billion rupees in 2011-12 to 97.4 billion rupees in 2018-19. While in 2019-20, an abrupt decrease in educational expenditures was seen and it declined to 77.7 billion rupees from 97.4 billion in the previous fiscal year (*Economic Survey of Pakistan* 2020) as presented in figure 8. This decline might be because of pandemic outburst that effected the economic growths across the world. Increase in educational budget is a dire need of the time as over the decade population exploded up to 30 million and so it is the responsibility of the government according to constitution of Pakistan to provide free education to people aged up to 16 years("The Constitution of the Islamic Republic of Pakistan," 1973).

Correspondingly, in Pakistan as the educational system is divided into different tiers, budget is distributed among them which illustrates that the budget allocation towards education needs to be increased. Whereas, percentage share of educational expenditures in GDP shows a little variation over the decade except the year 2019-20(*Economic Survey of Pakistan* 2020). Therefore, to increase secondary enrollment rates, improve infrastructure and quality of education, the sector requires an additional 5.7 percent of GDP in spending. The required spending reflects the need to increase teacher pay in order to support higher enrollment and reduce class sizes, as well as to increase capital spending in order to build more schools and improve school infrastructure, such as the availability of bathrooms, electricity, drinking water, and boundary walls etc.(Fernanda Brollo, 2021). From the inception of Pakistan till now 7 educational policies have been formulated. These initiatives attempted to address problems, concerns, and challenges in Pakistan's education sector. These programs focused mostly on access to education, educational quality, the eradication of gender imbalances in education, educational administration, educational system, science and technology, and technical and vocational education. Now, government of Pakistan aimed to standardize single national curriculum in all public and private educational institutes so that all children have a fair and equal chance to acquire a high-quality education, and education equity is ensured irrespective of the local and global concepts of gender disparity, religion, color, caste, creed, and persons with special needs. Values-based, life-skills-based, and inclusive educations are all priorities.

### 4.2.1. Literacy rate analysis at district level

Under goal 4 of SDGs one of the targets is to ensure that all youth, both men and women, achieve numeracy and literacy by the end of 2030. Proportion of men and women belongs to age group of more than 10 years, who can read, write as well as understand basic arithmetic, are considered literate. Different rounds of PSLM district level survey provide the percentage of literate people in each district and province across Pakistan. literacy rate of provinces has improved by a small percentage over the period of 8 years while in Sindh, literacy rate shows a negative response as mentioned in table 4. Instead of increasing it starts declining whereas, the rate remains stagnant in Pakistan overall at 60 percent.

**Table 3: Overview of literacy rate (%)**

| Province | Literacy rate in 2012-13 | Literacy rate in 2014-15 | Literacy rate in 2019-20 |
|---|---|---|---|
| Punjab | 62 | 63 | 64 |
| Sindh | 60 | 60 | 58 |
| KP | 52 | 53 | 55 |
| Baluchistan | 44 | 44 | 46 |
| Pakistan | 60 | 60 | 60 |

*Source*: Author(s) calculation by using PSLM micro datasets

The forecasted results of the PSLM data shows that, about 40 million people in Pakistan would be able to achieve literacy rate by the end of 2030. While 32.3 million would be off track in achieving their goals while 54.9 million would be totally at risk for being illiterate. Provincial

analysis shows that highest segment of population from Punjab would be at highest risk of being illiterate while in Sindh the number is up to 14.5 million in the category of poor performance. On the contrary the number of people that would be on track and will achieve their target by the end of 2030 would be 31.3 million in Punjab while around 1 million in Sindh. Remaining population would lie in the third category where more effort is required to change their status and improve their standing. Taking a dig into detailed analysis and looking on the condition of districts in each province it can be seen that majority of the districts of KP, Sindh and Baluchistan are indulged in poor literacy rate as shown in figure 9 and 10. Whereas, comparatively Punjab shows better status being the most populous province of the country, its districts as most of them are currently off-track but still they have the potential to improve their status from one category to another by the end of 2030. The overview of the expected 2030 status of the indicator at district level is shown in figure 10.
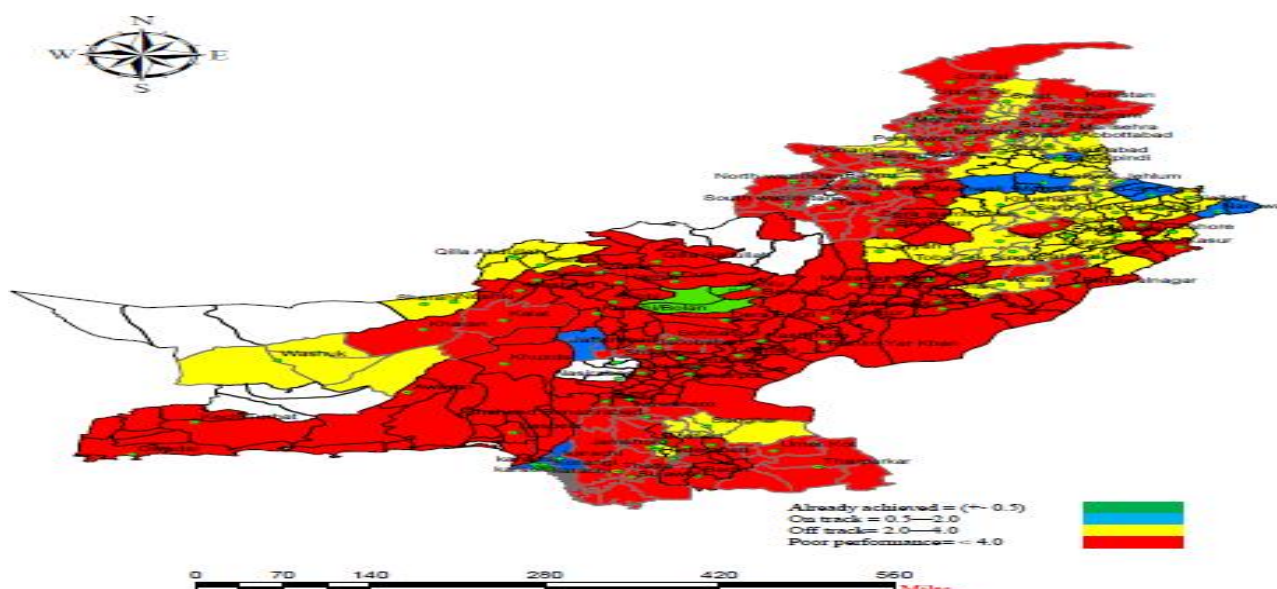
**Figure 9: forecasted literacy rate by 2030 based on district level analysis**
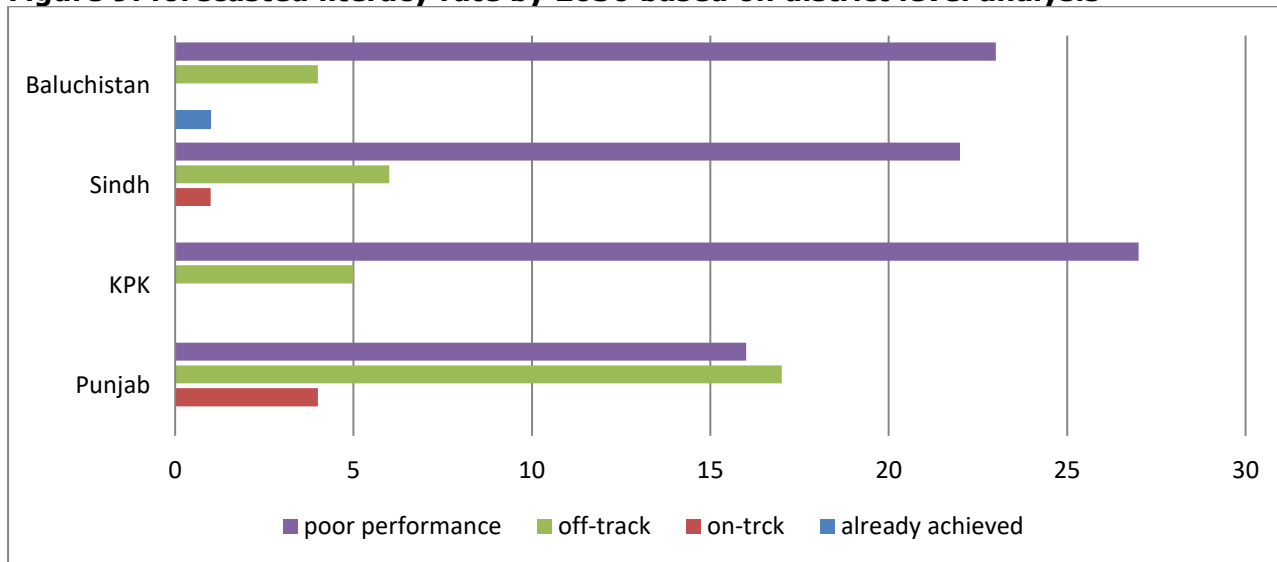


*Source*: Author(s) calculation by using PSLM micro datasets

**Figure 10: expected 2030 status of the literacy rate at district level**
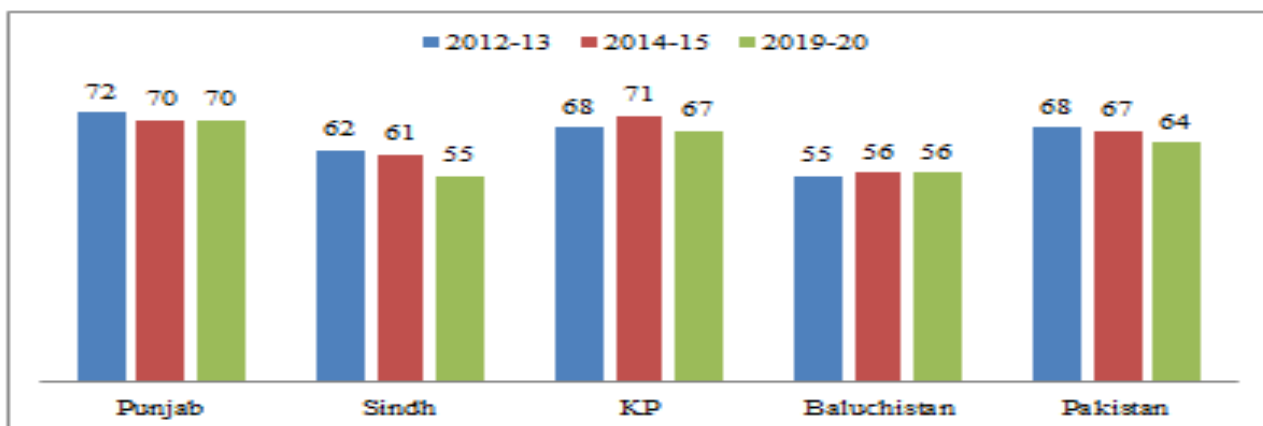


*Source*: Author(s) calculation by using PSLM micro datasets

### 4.2.2. Availability of primary education to all boys and girls

District and provincial level data from surveys of PSLM shows the data of children belongs to age group 6-10 years, provincial data of net primary enrollment shows that in Punjab, Sindh and KP, net primary enrollment level declines as compared to level recorded in former survey. Whereas, Baluchistan is the only province where net primary enrollment increased by a minimal

amount of one percent. While overall in Pakistan, net primary enrollment rate declined by 4 percent over the period of 8 years despite all the efforts. Figure 11 shows the summarized overview of net primary enrollment (%) as per 3 rounds of PSLM surveys

**Figure 11:Summary of current Net primary enrollment (%)**



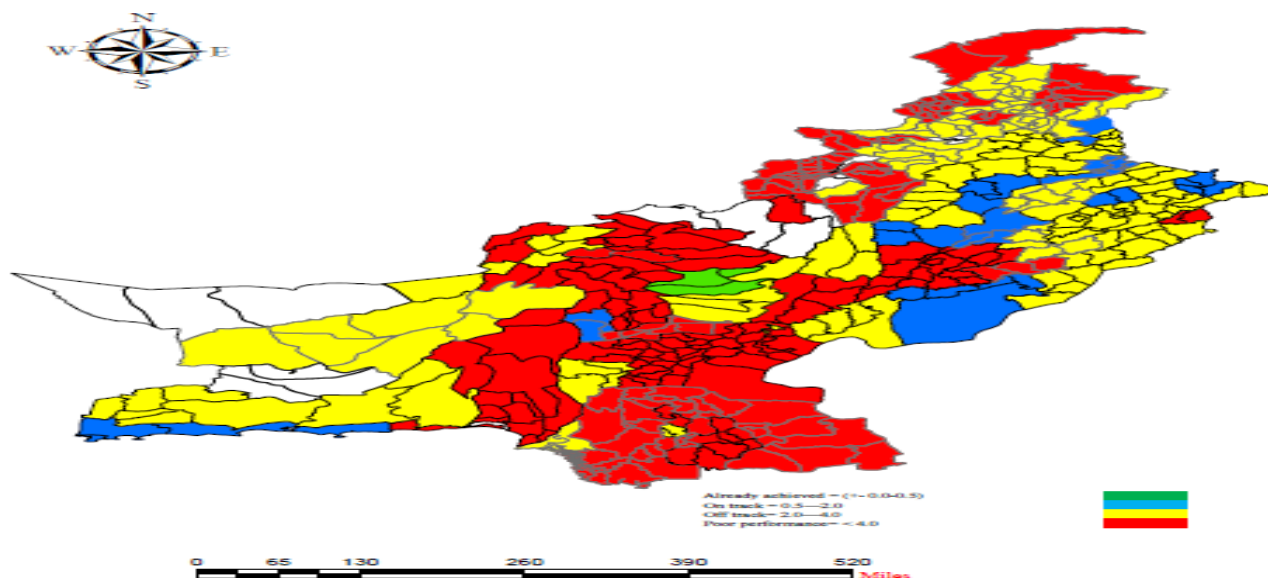*Source*: Author(s) calculation by using PSLM micro datasets

Taking into account the population statistics that is affected by the time in each province; 4.1 million populations in Punjab would be at risk by the end of 2030 due to the poor performance of 7 districts, while 8.5 million would be off-track in 22 districts. Whereas, around 2.6 million will be able to achieve their target of getting enrolled in the primary educational institutes, by the end of 2030. Same is the situation with all other provinces as 2.5 million is KP, 5.2 million in Sindh and 1 million in Baluchistan would be at highest risk of not being able to get admitted in the school by the end of 2030. While on the other hand 166thousand people in KP and 38 thousand in Baluchistan would be able to achieve the target by the end of 2030. While a huge segment of population would still be off-track during the time. On the contrary, if we look deeper into the situation and analyses the district level situation of the indicator across Pakistan then it can be seen that the net primary enrollment rate across the districts of KP, Sindh and Baluchistan is around 60% whereas, Punjab shows a slight progress in this regard but still there is a huge gap that needs to be fulfilled in order to ensure 100% of net primary enrollment across Pakistan. Based on the previous performance and required annual growth in upcoming years, districts are categorized on their ability to achieve given target by 2030. And based on the forecasted scenario in figure 12, it would be a difficult task to stand and achieve by the end of 2030 as majority regions are showing poor performance in current time. Hence, the expected 2030 status of the net primary enrollment at district level is presented in figure 13.

**Figure 12: forecasted net primary enrollment by 2030 based on district level analysis**
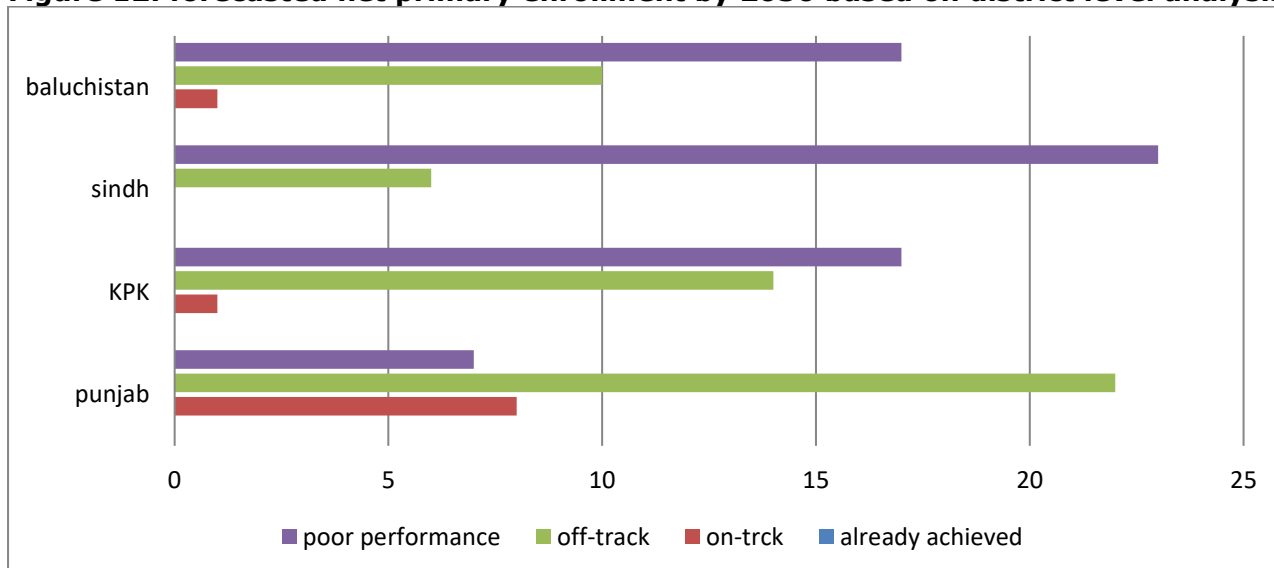


*Source*: Author(s) calculation by using PSLM micro datasets

**Figure 13: Expected 2030 status of the Net primary enrollment at district level**
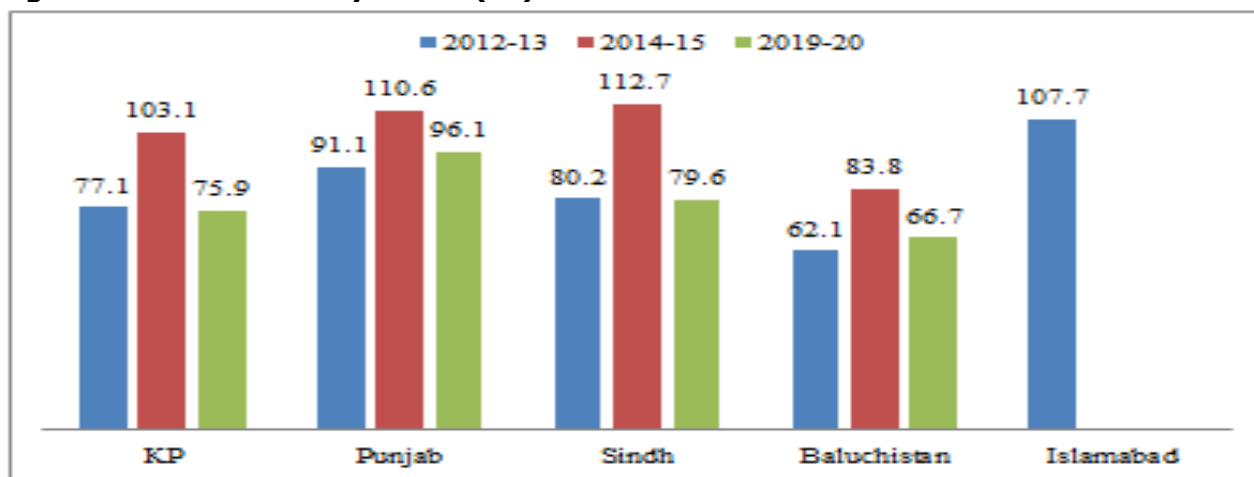


*Source*: Author(s) calculation by using PSLM micro datasets

### 4.2.3. Eliminate all discrimination in education

SDG aims to eliminate all sorts of discrimination in education. It is commonly seen in our society that the privileged ones in schools get different education as compared to deprived ones. Or normally the education system in Pakistan is divided into two parts based on the curriculum used in schools. Private schools follow different curriculum rather than going on with the same that is practiced in public sector schools. This generates a huge discrimination in the society as shown in figure 14. Also, gender discrimination is another factor that was practiced in rural or deprived regions but with time the gender disparity gets closer. A provincial level analysis would give a clear picture of the current situation of gender disparity across Pakistan.
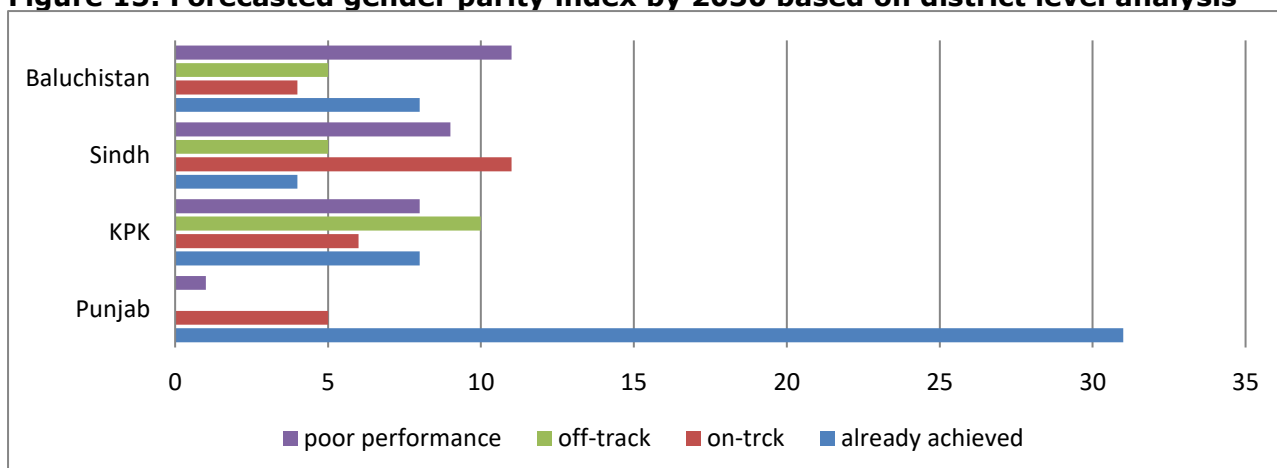
**Figure 14: Gender Parity Index (%)**



*Source*: Author(s) calculation by using PSLM micro datasets

Across various districts of Pakistan, gender discrimination was witnessed previously. But with time the gap tends to get closer meanwhile in some districts girl's enrollment in school is higher than boys. Data from PSLM district level surveys provides an insight of the condition and thus on the basis of previous track, districts are categorized on their eligibility to reduce gender discrimination gaps. As SDG aims to reduce these gaps and eliminate all sort of disparities and discriminations from the education system. Government of Pakistan has taken a step to eliminate the influence of class system from education by trying to introduce single national curriculum that would be followed across all schools of Pakistan either a private sector entity or a public school. Overall, the performance of all the provinces is quite better in this indicator but it needs to be improved further. The forecasted 2030 scenario of districts based on their performance is

shown below in figure 15. Whereas, the expected status of gender parity index by 2030 at district level is presented in figure 16, which shows significant potential for improvement across Pakistan.

**Figure 15: Forecasted gender parity index by 2030 based on district level analysis**



*Source*: Author(s) calculation by using PSLM micro datasets
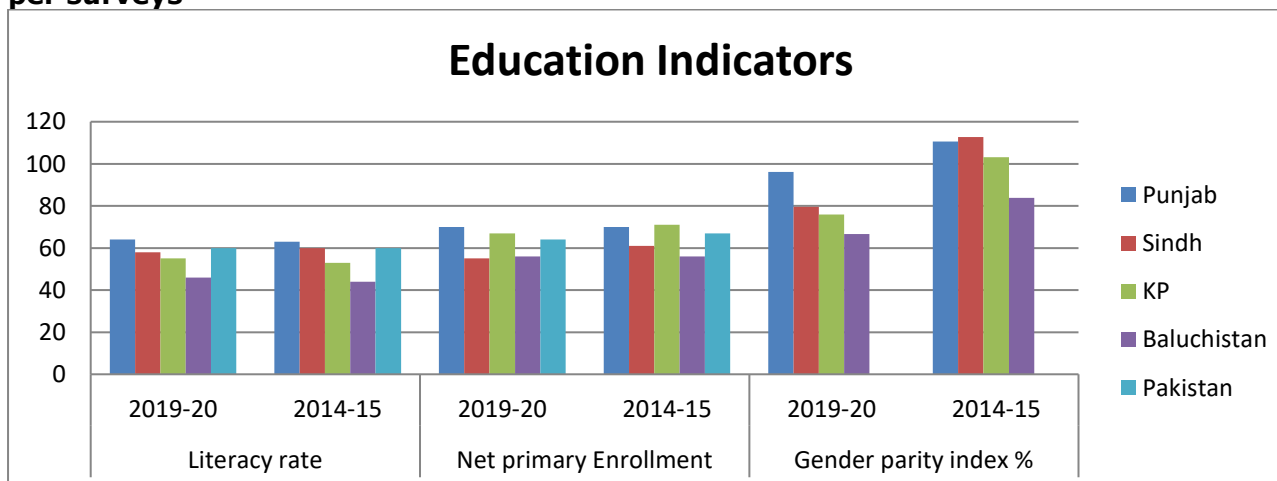
**Figure 16: Expected 2030 status of gender parity index at district level**
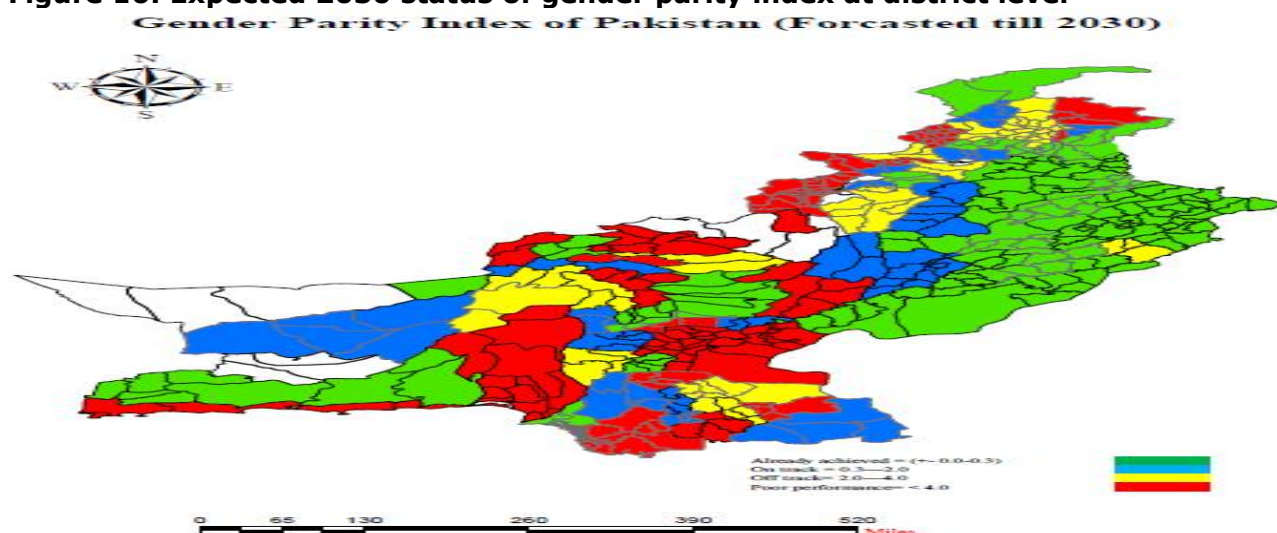


*Source*: Author(s) calculation by using PSLM micro datasets

A summary of the progress rate of selected indicators from goal 4 is shown in figure 17.

**Figure 17: Summarized current progress of education indicators at provincial level as per surveys**



*Source*: Author(s) calculation by using PSLM micro datasets

# 5.    Conclusion

Pakistan, as a developing nation, faces challenges in aligning its resources with the demands of its ongoing development journey to uplift socio-economic conditions. Leveraging the United Nations' development agendas, such as the Sustainable Development Goals (SDGs), presents a valuable opportunity for countries to receive assistance and enhance its well-being. As a proactive participant, Pakistan has embraced the SDGs as a second phase of the development agenda, committing to a wide array of time-bound goals aimed at societal betterment. National and provincial governments have undertaken dedicated efforts to fulfill the core objectives of this agenda, leading to tangible change. The current status of selected indicators has been compared to past records. By analyzing the annual changes within this timeframe, it deduces the potential status of these indicators by the year 2030. By considering the required annual growth rates for districts to attain desired levels, the study categorizes them into four distinct status levels. Districts that have already achieved the 2030 target fall within the "Already Achieved" category, while those on track are proceeding at an appropriate pace to meet the targets. "Off-track" districts are those experiencing lagging progress, but they have the potential to transform their status with improved efforts. Conversely, "Poor Performance" districts are struggling to make significant progress and are at risk of not achieving their targets. The study presents a visual representation of these indicators in GIS maps, offering a comprehensive overview of the situation. In a nutshell, this research underscores the significance of the SDGs as a transformative platform for countries like Pakistan to work towards sustainable development. By analyzing key indicators and categorizing districts, the study offers valuable insights that can guide policy decisions and resource allocation to ensure progress towards the envisioned socio-economic betterment.

## 5.1.   Policy recommendations

In the light of findings in this study, there are few recommendations that could be taken into consideration from policy point of views. In Pakistan, development grants disproportionately favor developed regions, leaving areas like southern Punjab, interior Sindh, Baluchistan, and parts of KPK deprived. To align with SDG targets, it's essential to allocate grants based on merit rather than population density, as per the National Finance Commission formula. Increased funding for education and health is also imperative given rapid population growth. Establishing a robust monitoring and evaluation system is crucial to ensure efficient resource use and goal achievement. It enhances accountability, transparency, and policy implementation, translating efforts into tangible development results. Lastly, collecting data from GB and AJK under PSLM, even if not publicly disclosed, would benefits federating units by enabling progress monitoring, identifying development needs, and improving resource allocation, fostering accountability and planning.

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