# Government Sponsored Education Sector Schemes aligned with Sustainable Development Goal 4: 'Relevant' Quality Education An analysis - Hill State of Uttarakhand

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**Abstract**: The desirable Sustainable Development surfaced as long pending need of hour at global level. This drew attention and a universal consensus on agenda 2030, consisting of 17 Sustainable Development Goals (SDGs) for all member nations 'leaving no one behind'. Sustainable Development Goal 4 (onwards SDG) emphasized on Universalization of Education at global level by facilitating basic literacy and numeracy accessible to all.  The state government of Uttarakhand spends more and voluminous resources on various central and state sponsored schemes for noticeable development in education sector. Yet, the existing pattern of development across varied sectors of the hill regions is divergent to the developmental pattern in similar sectors at the country level.  It has been time-tested that 'education' remains one of the stronger tools that augments and creates new avenues for human development. Interventions through education relevant to current time have proven to strengthen and speed up sustained and accelerated development in all socio-economic sectors.  On the basis of secondary data, this paper analyses the localization of the SDG 4 targets through Central and State government sponsored schemes of Education Sector in hill state of Uttarakhand. In this purview, the study examines the alignment of government schemes' objectives with the globally defined targets of SDG 4. Further, it analyses the outcome of schemes in terms of 'relevant quality education' to intended beneficiaries. The findings of study will give an insight to policy makers, researchers and stakeholders to mobilize the funds towards optimum utilization by way of rationalization and prioritization of those education sector schemes which create more strategic quality-focused approach to education leading to technology enabled learning environment for all.

**Keywords**: Sustainable Development Goal 4, Relevant Quality Education, Government sponsored Schemes, Budgetary Management, Rationalization and Prioritization.

## INTRODUCTION

In 2015, the UN assembly tabled an agenda 2030, consisting of 17 Sustainable Development Goals (SDGs) for all member nations towards developing social, economic and environmental sectors characterizing sustainably peaceful and equitable societies. In this course of global action across nations, the government(s) decided the expenditure budget on plans and policies aligning with SDGs. In the changing perspective on the global platform, the democratic welfare governments took cognizance and readied themselves to reformat policies and plans adopting advance digital technologies which might create flexible pathways in attaining sustainable developmental targets across varied sectors. In the pursuit of establishing a technology driven welfare state, the central and state governments formulated many schemes/programmes for development of socially and economically disadvantaged section of society. These government sponsored schemes and programmes aimed at inclusive and equitable economic growth, alleviation of poverty, quality education, safe environment and well-being of society.

The hill state of Uttarakhand (onwards UT) is one of the youngest states formed in 2000. The state is landlocked and shares international borders with Tibet (China) in the North and Nepal in the East. Himanchal Pradesh in the northwest and Uttar Pradesh in the South lie on its domestic borders. Ten district out of 13 are hilly and cover approximately 45,125 sq. km (RDMC 2018). Out of 13 districts Dehradun, Haridwar and Udham Singh Nagar are terrain plain districts. 69.4% population resides in rural areas cover larger area of land, but this percentage dropped to 57.6% due to migrating population from rural to urban area.

The centrally sponsored schemes implemented in hill states are allocated funds with a share in the ratio of 90:10 by central and state government respectively. Despite that, the visible impact of developmental activities in many hill states is much below the expectations in almost all sectors including education sector. Owing to natural calamity and unstable & complex topographical structural upheaval, the inhabitants of hill states face routine problems, and therefore, migrate towards plains in search of better opportunities.

This study attempts to encompass the qualitative prospects

of education sector schemes aligned with SDG-4 in the hill state of UT. The 'Education and Literacy Department' of the central government as well state government launched the financially sponsored schemes. These schemes/Programmes specifically underpin gender parity, provision of school infrastructure and equipment, educational materials and resources, scholarships and professionally trained teaching force for students from primary to senior secondary level. Many state sponsored schemes and programmes have been launched to provide financial support (in cash) to economically and educationally disadvantaged children by 'Direct Benefit Transfer' and disbursement of study material in kind. The analysis focuses on the quantitative and qualitative nature of central as well state government schemes w.r.t. strategic resource management of catering quality education. This encompasses planning and implementing initiatives to improve the overall quality and effectiveness of technology enabled educational systems and practices. Such that, the entire ecosystem of educational environment could visualise the teaching-learning goals in broader perspective of promoting a culture of continuous improvement as a whole.

## REVIEW OF LITERATURE

The review of several research papers envisages the significance of quality education which is addressed in SDG-4. SDGs aim at sustainable progress via accelerating economic growth, promoting social wellbeing, educational advancement and environmental regulation. In this context, Munish Saini emphasises on the prerequisites of understanding the impact of related indicators for effective attainments of SDG 4 targets (Saini, M., 2023). There is a need of hour to take innovative initiatives for reconfiguring the educational system with respect to school functioning and academic structure for making accessibility to everyone for lifelong education (Ahmad, 2019, S. Adipat., 2022). The quality of education depends on strategic and efficient teaching-learning process. The efficacy and excellence of education at foundational stage which is determined in the targets of Sustainable Development Goal 4, seem to be compromised due to shortage of well-paid and trained teachers. (Pandey S. 2006). The schemes aligned with SDG-4 are more quantitative than qualitative (Beena Pandey, 2019). It is critical to determine the opportunities for inclusively equitable and quality education to people at several levels of education (Unterhalter, E., 2019). The new shift of technological advancement and sustainable development changed the scenario. The governments are required to take digital technology enabled initiatives aligned with SDGs in the education sector specially to transform the rural areas. While localising SDGs in villages, the support of digital technology can be a catalyst in attaining the goal of sustainable rural development encompassing health and welfare sector, education, employment generation, agricultural advancement etc. to boost living standard of people in rural areas. (V Pathak & S. Deshkar, 2023). The study emphasizes on progressive assessment strategies that could result in developing 21st century skills in students towards the attainment of SDG 4 targets (Al-Kuwari, et al.

2022). Since 2000, the state government has been taking several progressive policy decisions for the socio-economic growth including core sectors including education sector. This study reveals the prioritized approach in the policy framework that emphasizes on job creation in the private sector. In view of this, the state government has implemented over 40 state and central schemes to develop entrepreneurship and self-employment for aspiring population. Thus, the study recommends policy makers to rethink and revamp the existing schemes to incorporate skill-oriented vocational subjects in the mainstream of academic curriculum at state level as per local industries' demands. (Sundaram M., 2023). The Effectiveness of National Education policy 2020 is below target on ground due to lack of resources, monetary restrictions and inadequate manpower. What planned and structured in policy frame work is below benchmark in action (Singh, A. K. et.al., 2024). A comparative analysis of all states and UTs performance on the scale of index score of SDG-4 reveals that very few number of states have been observed in sustaining the category of Front Runner (Gowda I. P. & Madegowda J., 2022). The mobilisation of insufficient funding obstructs in fulfilling the commitment of universalisation of education for all as mentioned in 4th Sustainable development goal (Bantakas I., 2023). The state as well central governments provide financial resources to guarantee a quality education in educational institutions. The 'World Bank Report' states that the efficient use of financial resources for inputs, such as well qualified trained teachers, updated learning materials and advanced school infrastructure, skill-oriented teaching learning process etc. ensure a benefitting quality education for students. The governments remain in pressure to use financial resources to implement education policies but lack of proper guidelines on 'how to invest and manage their school finance system' often hinders to attain expected learning outcome (world Bank Report).

## RESEARCH GAP & RESEARCH STATEMENT:

i. Very few studies examine the alignment of Government schemes/Programmes/mission with SDG 4 indicators/targets.
ii. Very limited studies analyse SDG-4 compliant government schemes w.r.t. the aspect of catering a relevant quality education to all;
iii. Most of the analyses of education sector schemes are available in Government Reports.

Hence, there is a need to analyse the benefits of government schemes available to targeted beneficiaries. The current analysis envisages the provisions of catering strategic quality education relevant to time demand through the government schemes thereby the beneficiaries might become self-reliant and employable to live a sustainable quality life.

## RESEARCH OBJECTIVES:
The objectives of the present research are:

i. To analyse alignment of Government funded education sector schemes' (Centre and State) objectives with the global targets of SDG 4 (Quality Education);

ii. To study the Performance Grade index of Government schemes/programmes/mission attaining respective targets of SDG 4; and

iii. To suggest the measures to improve the utilization of allocated funds by way of rationalisation of government schemes and prioritization of those which are catering relevant quality education.

The present study has largely included an explorative and descriptive approach. It is based on secondary data of the central and state funded schemes. The data in the tabulation format is analyzed and interpreted on the basis of observations. In the first phase, the study elaborates the concept of 'quality education with relevant learning outcome' as scripted in the principal target of SDG 4 . In the second phase, it captures the alignment of central and state government schemes' objectives with SDG 4. Further, the study proposes the policy makers to prioritizethe budgetary allocations by way of rationalization and prioritization of schemes to enhance their efficiency in attaining core objectives.

## METHODOLOGY

## RESULTS

*Quality Education relevant to 21st century*

The notion of Sustainable Quality Education has been perceived in SDG-4. 'Sustainability' and 'Quality' are relative and inclusive notions as Quality ensures sustainable and secured future. 'The worldwide digital transformation brought a big change in the academia world. The traditional teaching-learning process in classroom model has transfigured into a flexible self-driven and prompt delivery of education via stronger aids of advanced technologies (Haleem A. 2022). It unleashed a strong wave of accomplishing SDGs for nations under agenda 2030. Hence, the online/digitally transformed skill-based education system is considered as strong trigger for transition of teaching-learning processes and qualitative acceleration to academic excellence (Rêgo, B. S., 2024). Virtually, the approach of technology enabled learning is appropriately fit to fulfil the requirement of skill-oriented academic excellence in 21st century. The sustainable economic growth and opportunities of decent work for aspiring population cannot be visualized without relevant learning outcome of 'Quality Education' at its foundational stage i.e., upper primary upto senior secondary level. In a globally challenging phase of transformation, the information and technology (ICT) supported digital tools can equip the education system for more productive to prepare potential work force and prospective torch bearers. The exposure of advanced technology to learners via 360-degree support of government sponsored schemes would eventually transform the whole education system more relevant making a difference in a real sense.

Governments' Initiatives in aligning National Education policy 2020 with SDG 4

Centrally Sponsored Schemes/Programms of Education Sector in Uttarakhand (refer table 1)

**Table-1**. Centrally Sponsored Schemes launched by Department of Education & Literacy in state of Uttarakhand

| | Name of Schemes | Objectives | Align to Target of SDG 4 | Budget Allocation (in Cr) State of Uttarakhand | | |
|---|---|---|---|---|---|---|
| | | | | 2021-22 | 2022-23 | 2023-24 |
| 1. | Samagra Shiksha | *To enhance the quality of education at the school level, To strengthen 'Teacher Education Institutions' (TEIs).To promote Vocational Education .* | Targets 4.1 & 4.5 | 74.3546 | 161.8202 | 51.2909 |
| 2. | New India Literacy Programme (NILP) | *To ascertain Foundational Literacy and Numeracy, Vocational & Critical Life Skills for non-literate individuals aged 15 and above.* | Target 4.6 | - | 0.4063 | - |
| 3. | PM Schools For Rising India (PM SHRI) | *To establish model schools with high-quality education in an equitable, inclusive and joyful environment for children.* | Principal target of SDG 4 | - | - | 9.6154 |
| 4. | PM Poshan (Mid-Day Meal) | *A school meal programme to improve the nutritional status of children* | Target 4.2 | 18.3586 | 27.9433 | 20.0992 |

The Central Government formulated and launched varied nature of SDG attuned schemes / programme to visualise sustainable growth in education sector. The allocation of funds for schemes / programmes are shared with 90% and 10% by the central and state governments respectively in Himalayan states of India. In the quest of student centric strategic quality education, NEP 2020 issued new guidelines for schools that the existing traditional pattern of education is required to be thoroughly replaced

with experimental and experiential learning methods. The primary and secondary level of education is the foundational stage which determines the future prospects of the learner. Therefore, this study perceives quality in education on providing the ICT supported skill oriented and digital technology enabled teaching-learning process with relevant learning outcome from upper primary to senior secondary level. In this venture, the 'Education and Literacy Department' of central government launched the centrally sponsored flagship schemes as under;

### Samagra Shiksha Scheme

The centrally sponsored flagship scheme of 'Samagra Shiksha' aimed to transform the school education system in line with RTE act 2009 and National Education Policy- 2020 aligned with targets of 4.1 and 4.5 of SDG 4. The initial stage of scheme's provisions focus on equity by reducing disparities in education outcomes across gender and social categories, especially for girls, Scheduled Castes (SC), Scheduled Tribes (ST) and children from marginalized and disadvantaged backgrounds. For catering strategically relevant Quality Education the scheme aims to integrate teacher and technology. Focusing on the motto 'Education for All, Quality Education', the major targets of the scheme financially support to develop school infrastructure with basic amenities and academic facilities fit to provide relevant education. Further, it aims at mobilizing advanced teachers' training for capacity building and emphasising on introducing innovative teaching-learning techniques with regular assessment of learning outcome of students.

'New India Literacy Programme' focuses on achieving universal/foundational literacy and numeracy as the core target of SDG 4. This voluntary nature of programme is helpful to enhance literacy rate as well to encourage lifelong learning.

### PM Schools For Rising India (PM SHRI)

A comprehensive approach for adding the qualitative strength to school education system, an innovative concept of schools came into existence under the scheme of PM Schools for Rising India to meet the demands of 21st century. The Schools under this scheme showcase nine chapters of NEP 2020 which emphasize to renovate school ecosystem, relevant in the current perspective. The guiding framework of NEP 2020 directs through this scheme to transform the entire school environment across six major areas in PM SHRI schools. Such schools

are envisioned to emerge as mentors for other schools and develop strategically more exemplar schools with a ripple effect to quantify relevant quality standards with effective outcome.

### PM Poshan -Mid-Day Meal Scheme for school children

Along with improving the nutrition status of school children (1 to 8), the Mid-day Meal scheme aligned with 4.2 target, aims to encourage them for enrolment and their regular attendance, retention to continue education and reduction of dropout cases.

### State Sponsored Schemes/Programms of Education Sector in Uttarakhand (refer table 2)

Uttarakhand Government has taken initiatives in various dimensions of educational environment to ensure all possible access quality education envisioned in SDG 4. The efforts of Uttarakhand Government are noteworthy for implementation of NEP 2020 guidelines through the plans 'SARTHAQ' and 'NISHTHA 4.0' and 'PARAKH' for holistic development of teachers and students, 'Navchetna' and 'NIPUN Bharat Mission' for activity-based learning for children upto 3 years, 'ULLAS' for lifelong learning opportunity for adults etc. In addition to that, the state initiatives for providing ICT infrastructural facilities, educational resources via digital platform, and connectivity of government schools with community through 'STARS', 'DIKSHA', and Vidyanjali 2.0 are also very encouraging in achieving SDG 4 targets. Strategy for enriching learning skills, addressing learning gaps, monitoring and identifying underperforming pockets of learners through 'Learning Enhancement Programme (LEP), 'Mission Koshish' and Pragati App is the motivational pace towards boosting quality of education (refer Table 2).

**Table-2**. Initiatives of State Government of Uttarakhand for advancement of Educational Environment (2021-2024)

| Sr. No | Initiatives | Objectives | Aligned with SDG 4 | Remarks |
|---|---|---|---|---|
| 1 | 'SARTHAQ' 2021-22 | aims at students' and teachers' holistic development through quality education. | Target 4.1 & 4.2 | An implementation plan of NEP's goals for all states/UTs |
| 2 | NIPUN BharatMission 2021-22 | Ensures foundational literacy and numeracy of every child upto class 3 by 2026-27 | Target 4.2 & 4.5 | In line with NEP 2020 Competency based education |
| 3 | Vidyanjali 2.0 2021-22 | connects government schools with the community to share voluntarily their knowledge and skills and contribute resources. | Target 4.4 | Connects government and government-aided schools with the community. |
| 4 | NISHTHA 4.0 2022-23 | An online program to train teachers for Early Childhood Care and Education. | Target 4c | National Initiative for Teachers' Holistic Advancement |
| 5 | Navchetana 2023-24 | Focuses on holistic development of children upto 3 years | Target 4.2 | Offers 140 age-specific activities. |
| 6 | ULLAS 2023-24 | focuses on providing adult education | Target 4.7 | Promotes lifelong learning opportunities |
| 7 | DIKSHA 2023-24 | Digital platform to provide access to a wide range of educational resources | Target 4.4 | Promotes digital learning for young aspirants. |
| 8 | STARS 2023-24 | aims to strengthen school with infrastructural facilities. | Targets 4.2, 4.3, 4.4, and 4.a. | Equips schools to access ICT facilities |
| 9 | PARAKH 2023-24 | focuses on assessing the learning-teaching outcomes with valuable feedback of students and teachers | Target 4.2 | Improves teaching and learning process of education. |

### Government Schemes' Performance Grade Index (refer Table 3)

The 'Performance Grading Index' report of education Ministry reveals that 27 states and union territories (UT) out of total 37 improved their score in 2020-21 as compared to 2019-20. Whereas, the state of Uttarakhand got 35th rank with no improvement. The Educational Attainment of hill state of Uttarakhand (2017-18 to 2020-21) showcase a declining trend in the domains of 'Access' and 'Governance Process' , constant in 'Learning outcome & Quality' and little improvement in equitable education and infrastructural development till the year 2021. A big downfall of score has been observed in the domains of 'Learning outcome & Quality' of education and 'Infrastructure and Facilities' provisions in the year 2021-22. A new domain namely 'Teacher Education and Training' has been added as 6th domain for assessing teaching impact on learning outcome of students. The progress of 6th domain is also not very encouraging with 68.2% score. The performance in other domains like 'Access' Governance Process' and 'Equity' has been noticed with lower score in 2021-22 than 2020-21.

| Sr No | Domains | 2017-18 Scores in. % | 2018-19 Scores in % | 2019-20 Scores in. % | 2020-21 Scores in. % | 2021-22 Scores in % |
|---|---|---|---|---|---|---|
| 1 | Learning Outcomes & Quality | 82.2 | 82.2 | 82.2 | 82.2 | 23.5 |
| 2 | Access | 90 | 91 | 93 | 86 | 75.9 |
| 3 | Infrastructure & facilities | 68 | 67 | 67 | 79 | 32 |
| 4 | Equity | 84 | 87 | 93 | 93 | 84.3 |
| 5 | Governance Processes | 52 | 53 | 60 | 47 | 40.4 |
| 6 | Teacher Education & Training | - | - | - | - | 68.2 |
| | **Level VI (701-750) 70.1-75 %** | **VI** 70.4 | **VI** 71.2 | **VI** 75.2 | **VI** 71.9 | **51.8 Akanshi-2** 46.1-52 % |

### Budgetary Management for Education Sector Schemes by UT Government

Uttarakhand has allocated 16.6% of its expenditure on education in 2023-24. Rs 3,300 crore has been allocated for government primary schools. This is higher than the average allocation for education by states in 2022-23 (14.8%). In 2021-22 FY, UT

government invested Rs. 3,818.94 crore in several government companies which were taking education related initiatives. Additionally, the state government promoted financial inclusion and sanctioned Rs 3.36 crore and disbursed Rs. 4.61 for empowering the low-income individuals to manage their finances including education related initiatives (Ministry of Education, P.G.I. 2.0 Report, 2020-21). Through the direct state intervention, UT Government provides free text books and uniforms and reimbursement of fees to students under RTE Act 2009. The young generation seeks educational facilities which could later generate accessible opportunities for quality education with sustainable future prospects. However, the government's efforts for implementation of Information and communication Technology (ICT) and Uttarakhand Skill Development Mission are at the very slow pace.

## DISCUSSION

In India, social disparity, political and economic instability, poverty and unemployment are the key challenges. However, these are consistently being addressed by the governments at central and state level. In addition to that, the formulation and implementation of need based developmental policies and programmes set a target of attaining sustainable progress in transformed perspective with changing dynamics.

The Governments realize their goal of public welfare by spending their resources through various welfare schemes. Growing number of schemes without rationalization leads to only token allocation of funds across schemes. The Government at Centre as well states have limited resources therefore the schemes are required to be rationalized and prioritized, it can certainly improve budgetary management of the ongoing schemes in terms of sufficiency and continuity of flow of funds as well effectiveness of schemes for the beneficiaries.

The changing demography of India is advancing towards the global technology. All socio-economic sectors demand strong potential in youth with their smart access to digitally advanced skills through quality education. For sustainable development in all sectors, there is the most prioritised attention to invest in those education sector schemes which develop entrepreneurial skills in youth at secondary level. For effective localization of SDGs, the state governments require a coordinated management at state level for efficient monitoring and reporting system to estimate the trends of achievements. The mapping of local people needs with the SDG aligned objectives of implemented schemes/programmes is the pre-requisite action of local government authorities for achieving desired outcome. The implementation of 'Samagra Shiksha' scheme for catering Quality Education may be effective in Urban cities of Uttarakhand such as Dehradun, Haridwar and Nainital. But, as per policy guidelines, there is hardly any improvement in the schools located in rural hilly village areas. Non-availability of infrastructural facilities, lack of technology enabled education, absence of skill-based vocational education are very disappointing factors for economically and educationally disadvantaged children enrolled in government schools. In Uttarakhand, around 263 schools have been selected under PM SHRI scheme, but the available data reflects very delayed financial support with least prioritized approach for developing these schools. The current literacy rate of Uttarakhand is 78.82 percent where Dehradun and Nainital on the top with 84.25% and 83.88% (Indiacensus.net). Maximum number of state schemes focus on financial help by awarding scholarships to some selective outstanding students or disbursement in kind to all. How! such schemes can add quality to education, while in the present context, the criteria of quality education are experiential learning in an innovative teaching environment. Skill-based practical education ensures to produce efficient youth. The facilities through 'Mid-day meal scheme', 'Direct Benefit Transfer scheme' and study material disbursement can motivate the disadvantaged children to continue education in schools upto a level till their basic needs are satisfied. The Study finds that the core objective of education system is to provide foundational literacy and numeracy, that , no doubt, increases literacy rate of a state/ country. It will increase the quantity, but not quality. The entire education system is required to be more productive in quality rather than in quantity.

Environmental, social and economic systems are interdependent. It is suggested in Global Agenda 2030 to the governments to formulate the people-centred, gender-sensitive, inclusive and equitable development policies and programmes. The relevant strategies to implement the policies and programmes play key role in achieving goal-oriented outcome for sustainable development in various sectors. In addition to that, it needs to focus on the follow-up and review process on regional and sub-regional level (Moallemi, E. A. et al.2020). Due emphasis is required to align budgetary expenditure on developmental schemes/programmes with economic, social, and environmental priorities.

The current time demands a strategic education system. Therefore, the analysis suggests the policymakers and stakeholders to promote more of such schemes which provide sufficient resources to set up in-house school workshops accessible to learners for practical application of acquired knowledge, problem solving with critical thinking, collaboration, adaptability to digitally equipped environment etc. Further, the policy makers may consider at the stage of formulation and budgetary allocation to such schemes/ programmes by way of rationalisation and prioritisation which are catering the skill-oriented quality education to all with realization and utilization of full potential.

## CONCLUSION

The suggestive interventions may open few skylights for policy makers, researchers and stakeholders to rethink and revamp the existing education sector schemes focusing more on qualitative outcome of education rather than quantitative bulk. The SDG 4 attuned planning of relevant and effective educational programmes according to the needs of learners, provision of efficient financial, human

and technological resources, restructuring of academic curriculum appropriate to fulfil the demands of current time simultaneously aligned with industries' requirements, implementation of robust assessment and feedback mechanism for tracking the progress of teachers and students learning outcome to align with productive employability.

### Conflict of Interest
The authors declare no conflict of interest.

### Author Contributions
Ms. Ranjana Sharan and Dr. Ridhi Khattar contributed equally to the conceptualization, methodology, data analysis in studying the research gap area with reference to SDG 4.

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