

SUSTAINABLE DEVELOPMENT ANALYSIS – STUDY OF INDIAN STATES

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**DEPARTMENT OF MANAGEMENT STUDIES
INDIAN INSTITUTE OF TECHNOLOGY DELHI**

OCTOBER 2020

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SUSTAINABLE DEVELOPMENT ANALYSIS – STUDY OF INDIAN STATES

by

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Submitted

in fulfilment of the requirements for the degree of Doctor of Philosophy

to the



INDIAN INSTITUTE OF TECHNOLOGY DELHI

OCTOBER 2020

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

Dedicated to *my father*

Mohd Khalid Ansari

*Who could not pursue a PhD because
of family reasons*

CERTIFICATE

This is to certify that the thesis titled “**Sustainable Development Analysis – Study of Indian States**”, being submitted by **Mr. Ahmad Mohd Khalid** to the Indian Institute of Technology Delhi for the award of the degree of **Doctor of Philosophy** is a record of bonafide research work carried out by him. He has worked under our guidance and supervision and has fulfilled all the requirements for the submission of the thesis, which has attained the standard required for a Ph.D. degree of this institute. The results presented in this thesis have not been submitted in part or full to any other university or institution for any degree or diploma.

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ACKNOWLEDGEMENTS

First, I would like to thank my supervisors – Prof. Seema Sharma and Professor Amlendu Kumar Dubey who were a continuous support for research and motivation during my Ph.D. Most important was the independence they gave me and the trust they had in me, without which this thesis could not be completed. During second year of my Ph.D., I was struggling with my research topic because of lack of data and the thought whether I am on the right track. Words of my supervisors, “Khalid, less data does not mean a poor research. In fact, it opens an opportunity to study a problem that needs attention and add academic value”, really boosted my morale and continue my Ph.D. journey confidently.

Besides my supervisors, I would like to thank few amazing people who were part of my Ph.D. journey: Prof. Tara Chandra Kandpal (IIT Delhi) for his valuable time and suggestions on my writings in early years of my Ph.D., Dr. Dhvani Gambhir (Eternal Light LLP) – my senior who regularly guided me in my research and improving my articles despite busy with her own work and two little kids, Taiyyabur Rahman Khan (Kingston University) – my mentor and close friend who regularly checks my progress in research and personal life and shares life changing incidences and advices, Dr. Mudassir Khandey (Harvard University) – a friend who continuously motivates me, helped me with journal submission processes in early years of my Ph.D. and enlightens me with insights of academic world; Dr. Sapan Thapar (TERI University) – my senior and friend who helped me improve my indicator identification methodology significantly and regularly takes update on my research and future plans.

I also thank the experts who helped draft the questionnaire and all the respondents of the survey for their crucial inputs and insights. Special thanks go to Mr. Deepak Sanan, Mr. Tikender Singh Panwar, Dr. OP Bhuraita and Dr. Rajiv Bansal for an enriching experience and expert suggestions which resulted in a comprehensive case study on Himachal Pradesh.

I am thankful to Department of Management Studies (DMS), IIT Delhi for providing an excellent research environment and resources which facilitated quality research and publications. In addition, I want to thank the technical and administrative staff at DMS and IIT Delhi.

I thank my seniors and fellow researchers – Umesh Shukla, Muhammad Mujahid, Pankaj Singh Rawat, DS Mishra, Akansha Bhatia, Chetna Batra and Isha Goel for their valuable advices and suggestions at different stages of my research.

Last but not the least, I would like to thank my family members, particularly my parents – Mohd Khalid Ansari and Sayeeda Begum; and sister Dr. Bushra Naheed for supporting and trusting me while taking a tough decision to resign from job to pursue a Ph.D. which enticed backlash from several quarters.

Ahmad Mohd Khalid

ABSTRACT

The global agenda of sustainable development (SD) will get a major boost from the successful implementation of the Sustainable Development Goals (SDGs) in developing countries. This requires effective planning and understanding of the SDGs at the national level and developing sound SDG indicators that account for country priorities. India is an active stakeholder in the global sustainable development movement. India's SDG achievement is crucial for the world as it is the second most populous country in the world, one of the fastest growing economies and one of the nations with the highest share of global burden and environmental challenges which has great bearing on global growth rates.

Review of literature revealed limited studies on SDG indicator identification for the national or sub-national level in India. India's sustainability strategy was pointed to be weak by several researchers. Despite crucial role of sub-national and regional governments in SDG implementation, achievement, and ownership, their efforts have often been ignored.

Based on the perspective and gaps in existing literature, certain questions arise – Is India's sustainability strategy good enough to maintain a balance between different dimensions of SDG? What can be done to develop a more comprehensive SDG indicator set? What is the level of SDG data availability in the country? Do sub-national governments and local sustainability studies play a role in national SDG achievement? Does SDGs address India's concern appropriately? What are the main hurdles in SDG implementation in India? What is expert's perception on SDG and its future for India? What policy support and managerial action is needed to enhance SDG implementation in India?

To provide appropriate answers, this study attempts a practical and simpler approach to overcome the constraints, provide direction, and facilitate measurement of SDG position at

state level in India focusing on 22 major states. This is done by identifying gaps, suggesting a tailored approach to indicator selection and measurement and further, developing a suitable index for SDG measurement at the sub-national level. Using an online survey across different states and UTs in India, this study highlights concerns and opinions of experts on SDGs and its implications for India, what future holds for it? and whether they can address priorities and development issues of India. In addition, a case study was performed over India's one of the most progressive mountain states – Himachal Pradesh.

Findings of the study show that a comprehensive sustainability framework at national and sub-national level is still evolving in India. NITI Aayog's indicator development methodology has also been criticized by experts over unclear methodology and lacking perspective. This study finds that sub-national regions face a diverse set of socio-economic, cultural, and ecological issues, simultaneously also offering good practices and local solutions for global challenges and objectives such as achieving the SDGs.

This study has identified a most representative indicator set comprising 95 indicators for India covering SDGs 1-16 based on the global classification. In addition, data gap and availability exercise has been performed to showcase state of SDG data in India. It was found that exact matches as global indicators were hardly 15% and data was not available for almost 44% indicators, showcasing need for ramping up statistical capacity and redesigning the surveys and census exercises in India.

This study also found that high SDG performance of states like Kerala and Himachal Pradesh may be attributed to their well-established social welfare and state sponsored development model which is still problematic in case of low income states like Assam, Chhattisgarh, Bihar and Uttar Pradesh. Similar SDG performances of Delhi and Uttarakhand shows that high GDP per capita alone cannot guarantee high SDG performance.

The SDG's potential and future for India is not very clear to experts. While a group thinks that SDGs can solve real problems of India, an equally big group thinks that government and policymakers are completely unclear on SDG's contribution to India as it ignores ground realities and duplicates several existing government programmes.

This study has made several recommendations for policymakers, implementation agencies and researchers. The major recommendations include: (i) SDG indicators should be comprehensive and take into account concerns of all stakeholders and at all levels (ii) in setting the national targets for SDG Indicators, a more innovative and ambitious approach needs to be adopted (iii) review of local sustainability studies and efforts of subnational governments should be part of indicator selection process (iv) an audit of statistical capacity, financial and human resources, data availability and structure of existing surveys and census exercise is urgently required (v) low income states require large efforts and resources on social welfare infrastructure to actually be able to make significant progress over the SDGs (vi) for future sustainability, state of Himachal Pradesh requires continuous innovation and home-grown policies than restricting itself to the traditional system.

The results and findings of this study would be of great interest to policymakers and governments (national and local) in India and other developing countries and would help them redesign and investigate their national SDG implementation strategies on similar lines to improve its reach and effectiveness.

सार

विकासशील देशों में सतत विकास लक्ष्यों (SDGs) के सफल कार्यान्वयन से स्थायी विकास (SD) के वैश्विक एजेंडे को एक बड़ा बढ़ावा मिलेगा। इसके लिए राष्ट्रीय स्तर पर सतत विकास लक्ष्यों की प्रभावी योजना, समझ और देश की प्राथमिकताओं के लिए मज़बूत एसडीजी संकेतक (Indicators) विकसित करने की आवश्यकता है। वैश्विक स्थायी विकास आंदोलन में भारत एक सक्रिय हितधारक है। भारत की एसडीजी उपलब्धि दुनिया के लिए महत्वपूर्ण है क्योंकि यह दुनिया का दूसरा सबसे अधिक आबादी, बढ़ती अर्थव्यवस्था, वैश्विक सामाजिक बोझ और पर्यावरणीय चुनौतियों के उच्चतम हिस्से वाले देशों में से एक है, जिसका वैश्विक विकास दर पर बहुत बड़ा प्रभाव पड़ता है।

मौजूदा साहित्य की समीक्षा से पता चला कि भारत में राष्ट्रीय या उप-राष्ट्रीय स्तर के लिए एसडीजी सूचक पहचान पर सीमित अध्ययन मौजूद हैं। कई शोधकर्ताओं ने भारत की स्थिरता (Sustainability) की रणनीति को क्षीण बताया है। एसडीजी कार्यान्वयन, उपलब्धि और स्वामित्व में उप-राष्ट्रीय और क्षेत्रीय सरकारों की महत्वपूर्ण भूमिका के बावजूद उनके प्रयासों को अक्सर नजरअंदाज कर दिया गया है।

मौजूदा साहित्य में पररप्रेक्ष्य और अंतराल के आधार पर, कुछ प्रश्न उठते हैं - क्या एसडीजी के विभिन्न आयामों के बीच संतुलन बनाए रखने के लिए भारत की स्थिरता की रणनीति उचित है? अधिक व्यापक एसडीजी संकेतक सेट विकसित करने के लिए क्या किया जा सकता है? देश में एसडीजी डेटा उपलब्धता का स्तर क्या है? क्या उप-राष्ट्रीय सरकारें और स्थानीय स्थिरता अध्ययन राष्ट्रीय एसडीजी उपलब्धि में भूमिका निभाते हैं? क्या एसडीजी भारत की समस्या को उचित रूप से संबोधित करते हैं? भारत में एसडीजी कार्यान्वयन में मुख्य बाधाएँ क्या हैं? एसडीजी और भारत के भविष्य पर विशेषज्ञ की क्या धारणा है? भारत में एसडीजी कार्यान्वयन को बढ़ाने के लिए किस नीति समर्थन और प्रबंधकीय कार्रवाई की आवश्यकता है?

उचित उत्तर प्रदान करने के लिए, यह अध्ययन बाधाओं को दूर, दिशा और माप की सुविधा प्रदान करने के लिए एक उपयोगी और सरल दृष्टिकोण का प्रयास करता है। इसका उपयोग भारत में 22 प्रमुख राज्यों की एसडीजी स्थिति जानने के लिए किया गया है। इसके लिए अंतराल की पहचान, संकेतक चयन और माप के अनुरूप दृष्टिकोण, उप-राष्ट्रीय स्तर पर एसडीजी माप के लिए एक उपयुक्त सूचकांक विकसित करने का सुझाव दिया गया है। भारत में विभिन्न राज्यों और केंद्र शासित प्रदेशों में एक ऑनलाइन सर्वेक्षण का उपयोग कर यह अध्ययन एसडीजी के विशेषज्ञों की चिंताओं और विचारों पर प्रकाश डालता है, जैसे की - भारत के लिए इसके निहितार्थ क्या हैं, इसका भविष्य क्या है? और क्या वे भारत की प्राथमिकताओं और विकास के मुद्दों को संबोधित कर सकते हैं। इसके अलावा, भारत के सबसे प्रगतिशील पहाड़ी राज्यों में से एक - हिमाचल प्रदेश, पर एक केस स्टडी की गई है।

अध्ययन के निष्कर्ष बताते हैं कि भारत में अभी भी राष्ट्रीय और उप-राष्ट्रीय स्तर पर एक व्यापक स्थिरता ढांचा विकसित हो रहा है। NITI Aayog की संकेतक विकास पद्धति की भी अस्पष्ट पद्धति और कमी के परिप्रेक्ष्य में विशेषज्ञों द्वारा आलोचना की गई है। यह अध्ययन यह भी बताता है कि उप-राष्ट्रीय क्षेत्र विविध प्रकार के सामाजिक-आर्थिक, सांस्कृतिक और पारिस्थितिक मुद्दों का सामना करते हैं। साथ ही साथ एसडीजी को प्राप्त करने जैसी वैश्विक चुनौतियों और उद्देश्यों के लिए अच्छे अभ्यास और स्थानीय समाधान भी प्रदान करते हैं।

इस अध्ययन ने एक Most Representative Indicator Set की पहचान की है जिसमें वैश्विक वर्गीकरण के आधार पर एसडीजी 1-16 को कवर कर के भारत के लिए 95 संकेतक शामिल किये गए हैं। इसके अलावा, भारत में एसडीजी डेटा की स्थिति दिखाने के लिए डेटा गैप और उपलब्धता अभ्यास भी किया गया है। यह पाया गया कि वैश्विक संकेतक के रूप में सटीक मिलान मुश्किल से 15% है और लगभग 44% संकेतकों के लिए डेटा उपलब्ध नहीं है। ये इस्तिथि दर्शाती है भारत में सांख्यिकीय क्षमता को रैंप करने और सर्वेक्षण और जनगणना के अभ्यास को फिर से डिज़ाइन करने की अत्यंत आवश्यकता है।

इस अध्ययन में यह भी पाया गया कि केरल और हिमाचल प्रदेश में उच्च एसडीजी प्रदर्शन का श्रेय इन राज्यों के सुस्थापित सामाजिक कल्याण और राज्य प्रायोजित विकास मॉडल को दिया जा सकता है; जो अभी भी असम, छत्तीसगढ़, बिहार और उत्तर प्रदेश जैसे कम आय वाले राज्यों के मामले में समस्याग्रस्त है। दिल्ली और उत्तराखंड के समान एसडीजी प्रदर्शन से पता चलता है कि प्रति व्यक्ति उच्च जीडीपी अकेले उच्च एसडीजी प्रदर्शन की गारंटी नहीं दे सकता है।

भारत के लिए एसडीजी की क्षमता और भविष्य, विशेषज्ञों के लिए बहुत स्पष्ट नहीं है। एक समूह को लगता है कि एसडीजी भारत की वास्तविक समस्याओं को हल कर सकते हैं, दूसरा बड़ा समूह सोचता है कि एसडीजी के भारत में योगदान पर सरकार और नीति निर्धारक पूरी तरह से स्पष्ट नहीं हैं क्योंकि यह जमीनी वास्तविकताओं की अनदेखी करता है और कई मौजूदा सरकारी कार्यक्रमों की नकल करता है।

इस अध्ययन ने नीति निर्माताओं, कार्यान्वयन एजेंसियों और शोधकर्ताओं के लिए कई सुझाव दिए हैं। मुख्य अनुशंसाएँ में शामिल हैं: (i) एसडीजी संकेतक व्यापक होना चाहिए और सभी हितधारकों और सभी स्तरों पर ध्यान रखना चाहिए (ii) एसडीजी संकेतक के लिए राष्ट्रीय लक्ष्य निर्धारित करने में, एक अधिक नवीन और महत्वाकांक्षी दृष्टिकोण को अपनाने की आवश्यकता है (iii) स्थानीय स्थिरता अध्ययनों की समीक्षा और उप-सरकारों के प्रयासों को संकेतक चयन प्रक्रिया का हिस्सा होना चाहिए (iv) सांख्यिकीय क्षमता, वित्तीय और मानव संसाधन, डेटा की उपलब्धता और मौजूदा सर्वेक्षणों की संरचना और जनगणना अभ्यास की एक ऑडिट की तत्काल आवश्यकता है (v) कम आय वाले राज्यों को सामाजिक कल्याण बुनियादी ढांचे पर बड़े प्रयासों और संसाधनों की आवश्यकता होती है जो वास्तव में एसडीजी पर महत्वपूर्ण प्रगति प्रदान करने में सक्षम होते हैं (vi) भविष्य की स्थिरता के लिए, हिमाचल प्रदेश राज्य को पारंपरिक प्रणाली के लिए खुद को प्रतिबंधित करने की तुलना में निरंतर नवाचार और घरेलू नीतियों को प्रोत्साहित करने की आवश्यकता है।

इस अध्ययन के परिणाम और निष्कर्ष भारत और अन्य विकासशील देशों में नीति निर्माताओं और सरकारों (राष्ट्रीय और स्थानीय) के लिए बहुत रुचि के होंगे और यह उनकी पहुंच और प्रभावशीलता में सुधार करने के लिए, भारत की तर्ज पर उनकी राष्ट्रीय एसडीजी कार्यान्वयन रणनीतियों को फिर से डिज़ाइन करने और उनकी जांच करने में मदद करेगा।

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ABBREVIATIONS

Abbreviation	Full Form
ADB	Asian Development Bank
DES	Directorate of Economics and Statistics
EAG	Empowered Action Group
EU	European Union
HDI	Human Development Index
HDR	Human Development Report
GNI	Gross National Income
GOI	Government of India
GoHP	Government of Himachal Pradesh
GSDP	Gross State Domestic Product
IAEG	Inter-agency Expert Group
MDG	Millennium Development Goals
MMR	Maternal Mortality Rate
MoEF	Ministry of Environment and Forest
MoHFW	Ministry of Health and Family Welfare
MoSPI	Ministry of Statistics and Programme Implementation
MRI	Most Representative Indicator
NCR	National Capital Region
NES	North Eastern States
NFHS	National Family and Health Survey
NITI	National Institution for Transforming India
NSS	National Sample Survey
PCA	Principle Component Analysis

PPP	Purchasing Power Parity
RE	Renewable Energy
SD	Sustainable Development
SDG	Sustainable Development Goals
SDGI	Sustainable Development Goals Index
SDSN	Sustainable Development Solutions Network
SRS	Sample Registration System
OECD	Organisation for Economic Co-operation and Development
UN	United Nations
UNDP	United Nations Development Program
UNECE	United Nations Economic Commission for Europe
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UT	Union Territory
VNR	Voluntary National Review