

DEVELOPMENT EXPERIENCES OF UTTARAKHAND

Achievements, Challenges and Way Ahead

Summary of Proceedings & Recommendations

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January 2023

Foreword

Uttarakhand is on a cusp of change. The state will be completing soon 25 years of its creation as one of the states of Indian union. While recognising the potential of Uttarakhand and its people, the Hon'ble Prime Minister of India, Shri Narendra Modi ji has rightly mentioned that the next decade of the 21st century will be of Uttarakhand. His vision of the state has a lot of meaning for harnessing its potential and thus reshaping nation building process in coming decades.

Since its formation on 09 November 2000, Uttarakhand has achieved a remarkable path of economic progress as it bypassed the per capita income levels of Himachal Pradesh and India's average. The state is endowed with relatively abundant natural resources, high levels of social and human development, a relatively peaceful society, a low level of poverty, and no hunger. Industrial policy of Uttarakhand helped it emerge as a major industrial hub of the country, particularly in the pharmaceutical industry. As a result, it is one of the few states in the country which has a very high share of manufacturing in its gross state domestic product.

Along with this remarkable journey of the state, regional disparities are accentuating over the years largely due to the over concentration of economic activities in plain districts. Hill districts lag behind plain districts in a number of development indicators, manifesting rise in inequalities. Moreover, the high environmental cost of development is typically not reflected in traditional development indicators created by government agencies. Outmigration of people from the hill districts has accelerated over the years mainly in search of employment opportunities and better educational and health facilities. The dreams of people engaged in the social movement for a separate state of Uttarakhand were about availability of better employment opportunities, improved access to infrastructure facilities such as health, education, electricity, roads, telecommunications and better governance to address their grievances, which would arrest the out-migration of able-bodied youth in search of livelihoods.

As Uttarakhand has entered into its youthful stage, it is worth reflecting on the progress so far achieved, pinpointing the lapses, identifying the challenges ahead, and suggesting strategies and midway corrective measures to fulfil the long-cherished aspirations of the people of the state, which were not always captured in the mainstream discourse on development. Towards this objective, Doon University, Dehradun organised a national seminar on ***Development Experience of Uttarakhand: Achievement, Challenges and Way Ahead*** during September 22–24, 2022.

The discussions during the seminar were organised under eight sub-themes apart from two panel discussions. About over 45 well-researched papers were presented under different sub-themes. The seminar was attended by over 135 distinguished academicians, policymakers, civil society activists, and young research scholars, as well as a sizeable number of research scholars and students of Doon University. Another major feature of the seminar was an exclusive conclave of young scholars under the theme “Connecting to the Young Minds”.

Based on the academically stimulating yet rigours research papers and deliberations of the seminar, we are happy to bring out the *Summary of Proceedings and Recommendations*. We hope that the recommendations of the seminar will be useful for the concerned line departments of the Government of Uttarakhand in aligning their policies and programmes and moving on a path of realising the vision of our Hon'ble Prime Minister of leapfrogging of the state in achieving sustainable and inclusive development in coming years.

Doon University is grateful to Indian Council of Social Science Research, New Delhi; V.V. Giri National Labour Institute, Noida; Ministry of Earth Sciences, Government of India; Centre for Public Policy & Good Governance, Government of Uttarakhand; Directorate of Handicrafts & Handloom, Government of Uttarakhand and National Bank for Agriculture & Rural Development for their generous financial support for organising the seminar. The financial assistance received from Research and Development Fund of National Bank for Agriculture and Rural Development towards publication of proceedings of the conference is gratefully acknowledged. We also put on record our special gratitude for paper writers and resource persons for making this seminar an enriching experience.

Prof. Rajendra P. Mamgain, Head, Department of Economics, Doon University and Coordinator of the seminar deserves special appreciation for his meticulous planning and untiring efforts in procuring quality papers from eminent experts and policy planners and mobilising resources for the seminar. His dedicated team of faculty members including Dr. Madhu Bisht, Dr. Rahul Saxena, research scholars Peeyush, Anubhuti, Abhisek, and enthusiastic students of the Department of Economics put their best efforts in making the seminar a successful event. The members of the organising committee of the seminar, Prof. H.C. Purohit, Prof. Kusum Arunachalam, Prof. Harsh Dobhal, Prof. Ashish Kumar, Dr. Chetna Pokhariyal, Dr. Arun Kumar, Dr. Rajesh Bhatt, Dr. Savita Karnatak and Dr. M.S. Mandrawal and his team including Mr. Narendra Lal, Mr. Mukesh Kumar and Mr. Sanjay Ghildiyal deserves special thanks for their valuable cooperation and support. Secretarial assistance by Pallavi, Shweta and Sanjeev is appreciated for their hard work during the Seminar.

Prof. Surekha Dangwal

Vice Chancellor, Doon University

CONTENTS

➤ <i>Forward</i>	i
➤ The Context	1
➤ Need of the Seminar	2
➤ Brief Summary of Proceedings	5
➤ Policy Recommendations	21
➤ Seminar Programme	29
➤ Presentation by Young Researchers	44
➤ List of Participants	47
➤ Glimpses of Seminar Sessions	55

THE CONTEXT

After a prolonged struggle, Uttarakhand emerged as a new state of the Indian Union on November 9, 2000, having been carved out of the state of Uttar Pradesh. Its creation was primarily driven by the need to address regional underdevelopment. There were great aspirations with the formation of the state, along with the other newly created states of Chhattisgarh and Jharkhand. These included, among others, the creation of better employment opportunities to arrest the existing large-scale out-migration of able-bodied youth, mainly educated males, from the hill regions of Uttarakhand. In addition, it was anticipated that improved access to infrastructure facilities, such as health, education, electricity, roads, telecommunications, and better governance, would result in improved living conditions for the state's residents, and hill districts.

Uttarakhand's development experience over the past two decades has been quite positive in achieving high economic growth and reducing poverty. The state's economy is characterized by a high share of the secondary sector, at around half of the gross value added of Uttarakhand. The per capita income in Uttarakhand has bypassed the national level income since 2005–06, and that in Himachal Pradesh since 2008–2009, and is more than three times that of its parent state, Uttar Pradesh. The state has relatively abundant natural resources, a high level of social and human development, relatively peaceful society, a low incidence of poverty, and no hunger.

Despite these accomplishments, there are significant regional disparities in the state due to the overconcentration of economic activities in plain districts. The per capita income (measured in terms of per capita net district domestic product) in Uttarkashi district is about 2.5 times less than that in Dehradun and Udham Singh Nagar districts. Comparatively, hill districts lag behind plain districts in several other development indicators, indicating a lack of progress. The high environmental cost of development is typically not reflected in traditional development indicators created by government agencies.

As a result, the population in the Hill Region still struggles to eke out livelihoods largely from agriculture by involving large numbers of their households in the labour force. Consequently, the pace of out-migration could not slow down in the hill districts; rather, it has accelerated during recent years. The extent of out-migration has been so huge that many villages were left with single-digit populations in 2011—infamously termed as 'ghost

¹Ten districts with hilly terrain namely, Almora, Bageshwar, Chamoli, Champawat, Nainital, Pithoragarh, Pauri Garhwal, Rudrapur, Tehri Garhwal and Uttarkashi are referred as Hill Region. The remaining three districts, namely, Dehradun, Haridwar and Udham Singh Nagar are in the plain areas of Uttarakhand.

villages. Historically, these districts have had well-developed social indicators in comparison to many other districts of plain areas. At the same time, the state attracts migrants in large numbers from other states and also from the neighbouring country of Nepal. This paradox in the development of the state needs fresh debate and discussion, particularly in the situations that emerged during the COVID-19 pandemic. The political participation in the state at a different level of governance has poised new opportunities as well as challenges leading to shaping the future course of development in the state.

The Government of Uttarakhand's Vision 2030 document aims to "transform the Uttarakhand economy into a prosperous, healthy state in which the people are educated and gainfully employed in an equitable society, the synergy between the environment and the inhabitants is enhanced, and the development process is inclusive and sustainable." The drivers of growth identified include developing hill agriculture, tourism, MSMEs, IT, and renewable energy.

NEED OF THE SEMINAR

As Uttarakhand has completed over two decades of its creation and entered into its youthful stage, it is worth reflecting on the progress so far achieved, pinpointing the failures, identifying the challenges ahead, and suggesting strategies and midway corrective measures to fulfil the long-cherished aspirations of the people of the state, which were not always captured in the mainstream discourse on development. Towards this objective, the Department of Economics, School of Social Sciences, Doon University, Dehradun, organized a national seminar on Development Experience of Uttarakhand: Achievements, Challenges and Way Ahead during September 22–24, 2022.

The seminar discussed the following specific issues in the context of Uttarakhand's Vision 2030 for sustainable development:

- How has the state's political economy influenced its development trajectory, and how has the approach to addressing environmental, investment, employment, and social inclusion issues in the development planning process changed over time? Are these issues considered central to the overall development strategy?
- What impact has the development strategy had on the utilization of resources and the well-being of the population as a whole? Has the state been able to create decent employment opportunities and ensure that all social groups and regions have equal access to growth?
- What has been the experience of broadening social inclusiveness through greater access to economic and social opportunities? Why do still significant disparities exist in the development outcomes of populations belonging to social and religious groups and in hilly and plain regions?

- What has been the role of the development strategy in building and nurturing various social, economic, and political institutions in the state and their contribution to the generation of various benefits for its citizens? What kinds of conflicts and complementarities have these institutions created while dealing with the issue of inclusive development? How far has the failure of these institutions to accelerate the pace of development across regions and population groups affected the interests of the labour force? Is the current situation a result of the weakening of social, economic, and political institutions, or is it merely the result of a nation's or economy's conventional development path?
- What are the environmental sustainability challenges posed by climate change and the current development strategy? How do these need to be ameliorated in the broader context of the green economy?
- What role have civil society organizations played in the state's development? How can the state monitor and ensure the effective participation of these organisations in the journey of the development of the state?
- What lessons can be learned from the past experiences of the state as well as those of other hilly states such as Himachal Pradesh and Sikkim and those formed along with Uttarakhand? What strategies must be implemented in the new development framework to ensure sustainable development while ensuring a decent standard of living and reducing forced migration from the state's hill regions?

Keeping in view the above questions, papers were invited on the following eight broad sub-themes:

Sub-themes of the Seminar

- (i) Promoting higher and sustainable growth: Infrastructure, agriculture, industrial development
- (ii) Employment, migration and livelihoods
- (iii) Social sector development: Health, education and basic amenities
- (iv) Poverty, vulnerabilities and social protection
- (v) Environment, ecological vulnerability and prospects for green economy
- (vi) Civil society organisations and development
- (vii) Financing sustainable development
- (viii) Public policy, governance and institutional reforms

Panel Discussions

Two prominent issues central to the development strategy of Uttarakhand include Migration & Employment and Sustainable Development. These were also discussed in the following exclusive Panel discussions during the seminar.

- Meeting the Challenge of Employment, Livelihoods and Regional Inequalities
- Public Policy, Governance, and Institutional Reforms

During the seminar, over 45 well-researched papers were presented under various sub-themes. The seminar was attended by over 135 distinguished academicians, policymakers, civil society activists, and research scholars, as well as a sizeable number of Doon University students. Incorporating lessons learned from national and international experiences, the seminar proposed a plan for maximizing the state's potential in the coming years. The proceedings of the seminar would also assist in reorienting the state's development priorities in the coming years.

Prominent persons who actively participated in the seminar included Prof. Ramesh Chand, (Member, NITI Aayog), Prof. Surekha Dangwal (Vice Chancellor, Doon University), Shri Anil Raturi (Former DG, Uttarakhand Police), Prof. S.P. Singh (Former Vice Chancellor, HNB Garhwal University), Dr. Sanjeev Chopra (Former Director-General, LBS Academy of Administration), Dr. N. Ravi Shanker (Chancellor, DIT University and Former Chief Secretary, Govt. of Uttarakhand), Prof. Manoj Pant (Vice-Chancellor, Indian Institute of Foreign Trade, New Delhi), Prof. Amitabh Kundu (World Resource Institute, and former Professor, Jawaharlal Nehru University, New Delhi), Dr. Pradeep Mehta (State Head, UNDP), Prof. S.P Singh (IIT, Roorkee), Prof. Durgesh Pant (Director-General, Uttarakhand State Council of Science & Technology), Shri Anil Bahuguna (Former Joint Secretary, Government of India) and Prof. Pramod Kumar (Director, Giri Institute of Development Studies, Lucknow) among many others young scholars.

The day-wise details of discussions are as follows: The detailed program and list of participants are appended as Parts A and B of the proceedings, respectively.

BRIEF SUMMARY OF PROCEEDINGS

Inaugural Session

The inaugural session commenced with Prof. RP Mamgain welcoming all the distinguished guests. In his introductory address, he highlighted the achievements of the state since its formation and highlighted the growing inequalities between the hill and plain regions of the state and rising outmigration. He also highlighted the weakening financial position of the state since the withdrawal of "special status" and the introduction of the Goods and Services Tax (GST).

The seminar was inaugurated by Prof. Ramesh Chand, Member, NITI Aayog, Government of India. In his inaugural address, Prof. Chand raised concerns about a sharp decline in Uttarakhand's gross state domestic product (GSDP) growth from 7.8% during 2011-12 to 2017-18 to 4.04 % during the two years of the pre-Covid period. This has been much lower than the national growth of 6.5 per cent. Similarly, COVID-19 had a more serious impact on the growth rate in the state, which needs to be seriously relooked to put the economy back on track in the coming years.

With the significant regional disparities in economic growth between the hill and plain districts of Uttarakhand, he emphasized the immediate introspection of the growth model of the state with a focus on its regional specificities and embracing two different development strategies for the two regions. The state can learn from the development trajectory of Himachal Pradesh and Sikkim. For transformation to happen, it is essential to promote the diversification of agriculture in favour of horticulture and fisheries in the hill regions. The scope of raising productivity and income through horticulture is much higher in Uttarakhand than in any other hill state. The productivity of horticulture crops in Uttarakhand is 11 times higher than that of the productivity of non-horticulture crops. Unfortunately, the data on horticulture has serious reliability issues due to exaggerated data of the Horticulture Department as compared to that of the Land Revenue Department. This also requires the collection of accurate data on horticultural development. It was also emphasized that tourism creates demand for local produce and products that are extremely nutritious and can even be organic. Uttarakhand has yet to exploit its potential for tourism development by diversifying into new areas. This requires quality infrastructure and the safety of the local people and culture.

The state should pool the land of ghost villages or clusters of villages and plan its economic use with the help of land use planners. It can be leased out to private entrepreneurs, start-ups, and Farmer's Producer Organizations (FPOs), preferably belonging to the state, for horticulture/herbal gardens or whatsoever is considered economically and ecologically sound, in consultation with the owners of the land. The lease or rent should be paid to the

owners. This will generate a lot of job opportunities and may entice some people to return to their home country.

In his special address, Shri Anil Raturi, former Director General of Police, Uttarakhand, pondered the very concept of ‘development’ in the broad parlance of economic theories. He was perplexed as to why the state's growth almost abruptly slowed in the second decade of its existence and why it was overly concentrated in a few plain districts. He emphasized the need to critically examine the current pattern of tourism, which needs to be promoted as high-end tourism that supports the demand for local goods and services.

In her presidential address, Prof. Surekha Dangwal, Vice Chancellor of Doon University, emphasized the importance of the seminar in offering specific recommendations to the state government, particularly at this juncture when the government is committed to working towards achieving its goals of sustainable development as outlined in its Vision 2030. She argued for the creation of a regular mechanism by the state government to regularly engage academic institutions and individuals in its policy-designing processes. She motivated the participants and young scholars to work efficiently for the development of the state since, according to her, the highest form of inefficiency is ‘human inefficiency’.

The inaugural session set the tone for the discussions in the subsequent sessions over the two days of the seminar. Each session identified major challenges and offered policy-oriented recommendations. This is briefly summarized in the following sections.

Session I: EMPLOYMENT, MIGRATION AND LIVELIHOODS

At this session, three papers were presented covering different aspects of the promotion of employment opportunities in Uttarakhand. In his paper on “Growth, Employment, and Earnings: Nature and Opportunities”, Prof. Rajendra P. Mamgain of Doon University and the seminar coordinator, highlighted the challenges of lopsided development in Uttarakhand with the increasing concentration of economic opportunities in Haridwar, Udham Singh Nagar, and plain parts of Dehradun district. As a result, the average annual income per worker in hilly regions is less than half that of the state's plains regions. Occupation-wise, per worker income, is lowest for self-employed in agriculture in the hill region. This is much lower than that of those working as casual labour both in hill and plain regions. The rural non-farm sector in the hill region, though it remains underdeveloped but has almost double the per-worker earnings than those working in agriculture. Therefore, there is a good scope to develop this sector, particularly agri-processing and tourism. But due to a lack of effective policies and related efforts in the domains of technology, credit, markets and value chains, this segment could not catch up with the process. Youth in the hill region of the state face a higher rate of unemployment (24 per cent) as compared to the three plain districts (16.4 per cent). Over the years, women have increasingly withdrawn from agriculture and are unable

to find any remunerative employment opportunities in the non-farm sector, despite their traditionally higher participation in the labour force.

In terms of economic progress, the author proposed narrowing the hill-plain divide on a priority basis. This requires a reimagining of the current development strategy of the state. Simply allocating resources is hardly enough to promote balanced regional development. Large construction projects rarely provide employment to the local labour force, largely due to its poor skill sets and the least preference for manual work. Therefore, it requires a “hill-centric development” strategy with a focus on “niche activities.” Horticulture can be a game changer. This necessitates the acquisition of assets such as land and the development and consolidation of farms on a cooperative basis. Tourism and knowledge-intensive services have good potential for creating employment opportunities in hill regions. This necessitates the diversification of tourism to unexplored regions. The stagnation in industrial development in plain areas of the state in recent years, associated with a variety of factors, needs to be addressed. The Aspirational Block programme of the NITI Aayog could help in this direction. Unfortunately, the very basis of the identification of Aspirational Blocks is based on a general model of development that hardly incorporates hill specificities. This needs to be corrected, and all blocks in hilly districts need to be declared “Aspirational Districts”. We may need to rethink forest laws and attract private capital investment in such services to create an eco-taskforce of local women to conserve the forests and environment of their villages. For better access to quality healthcare and educational services, the immediate focus should be on preparing a dedicated cadre of doctors, nurses, other paramedical staff, and teachers for the hill region with due incentives such as better salaries, living conditions, education facilities for children, etc. Medical colleges in each district need to be established for overcoming the shortages of health manpower.

The next paper in this session was on “Food Processing Industry as an Important Non-Farm Employment Option in Uttarakhand: Challenges and Opportunities,” by Prof. Parmod Kumar, Director, and Dr. Dipanwita Chakraborty, Consultant, Giri Institute of Development Studies, Lucknow, respectively.

The major findings include the vast potential of high demand for packaged, healthy, and immunity-boosting items such as Himalayan fruit juices, dairy products, namkeens, and ‘ready to eat’ cereal-based foods besides vegetable oils and fats that can contribute significantly to the economy of the state and concomitantly transform the quality of lives of its people through boosting employment in the high-income non-farm sector and reducing over crowding in agriculture. Also, there is a huge potential for organic honey processing, which has a big market. However, the sector is marred by skill gaps that are required for working in various segments of the food processing industries of Uttarakhand. It is necessary to adopt an integrated approach to facilitate the development of the agriculture and food

processing industries in Uttarakhand that can create 3,20,000 additional employment opportunities in the state that are largely non-farm in character and can raise the standard of living of a very large number of people in the state, especially in its rural areas.

The last paper in this section by Prof. R.C. Dangwal and Pinky Bahuguna of Department of Commerce, H.N.B. Garhwal University, Srinagar Garhwal, covered a very important sector, i.e., start-ups in Uttarakhand. Till 2021, there were over 1000 registered start-ups in Uttarakhand, of which only 378 were recognised by the DPIIT. The majority of start-ups in Uttarakhand are engaged in the professional and commercial, healthcare and life sciences, travel and tourism, IT services, and education sectors, and that too is largely concentrated in plain districts. The government should come up with favorable schemes and entrepreneurship development programs for attracting such start-ups to hilly areas of the state, along with effective regional skill training programs for entrepreneurship development.

Session II: PROMOTING HIGHER AND SUSTAINABLE GROWTH

This session discussed the issues of infrastructure, asset inequalities, spatial and economic transformation, and social security for the elderly. In their paper on “Infrastructure for Sustainable Development,” Dr. D. Bharat and Kushal Preeti from the Indian Institute of Technology, Roorkee, measured and analysed composite indicators of physical, school, and health infrastructure progress in Uttarakhand. The physical infrastructure index value for Uttarakhand compared to other states is low. The length of the railway route is much lower than the national average since 2011. The construction of national highways and roads in the state has significantly improved but needs further expansion by considering minimal damage to the environment. In the case of the school infrastructure index, the value calculated for the state is low since 2012, and the declining trend may be due to a reduced number of schools and a reduced number of schools with all-weather roads. Out-migration from the hills to the plains has exacerbated the disparities and forced several schools to be closed or merged. Since 2012, the hill districts like Bageshwar, Champawat, Rudrapur and Uttarkashi have hardly made any progress. Health is the most important concern in Uttarakhand. For the year 2018–19, the state ranks second in the health infrastructure index, just behind Himachal Pradesh. The average radial distance covered by primary and community health centres has remained constant. The increase in health spending has improved several key indicators. (i) Both infant and maternal mortality rates have significantly reduced between 2016–17 and 2020–21; (ii) the number of households covered under health insurance increased from 20 per cent to 63 per cent, and (iii) there has been a significant rise in the child sex ratio from 888 to 984. Similar to other indices, there is a growing disparity in health indicators between the hill and plain districts. The three plain districts have a greater number of functional health centres than the hill districts. The authors

argued that the regional imbalances should be fixed by making it easier to get to good infrastructure, especially in the state's hill districts.

The next paper in this session, “Spatial and Economic Transformation of Mountain Regions: An Assessment of RURBAN Development in Uttarakhand” by Prof. M.C. Sati of HNB Garhwal University analysed the progress of Shyama Prasad Mukherjee Rurban Mission in six sample Gram Panchayats in Uttarakhand, which was launched in February 2016. This programme is based on the vision of the former President of India, Dr APJ Abdul Kalam, who envisioned the transformation of rural areas through a strategy called Provision of Urban Amenities in Rural Areas (PURA). The programme operates in 52 Gram Panchayats (GPs) across six districts in Uttarakhand. The paper argues for the better utilisation of allocated financial resources as nearly 30 per cent of the approved expenditure could not be spent on the programme. This ratio was even much lower in the sample GPs of Bageshwar, Uttarkashi and Udham Singh Nagar. An intensive analysis of two GPs in Haridwar and Dehradun districts shows a positive impact of the programme on improving livelihoods through the formation of SHGs, access to improved technologies, skill training, and marketing, as revealed by the ratio of households receiving benefits to a total number of households. There has been a significant improvement in health and education facilities, both in terms of access and quality. The programme needs to be further upscaled to cover a larger number of villages, with a priority on those in hilly areas.

With rising longevity and declining fertility rates, the population of people aged 60 and above is growing faster than the general population worldwide. Though ageing is the natural stage of human life, it brings innumerable economic, social, and physiological problems for people who have grown old. Population ageing, therefore, requires adequate policies and government action for countries to maintain sustainable economic growth, eradicate poverty, and address inequalities. One of these government programs is extending social security so that older people can get health care and have a steady income. The paper by Dr Otojit Kshetrimayum of VV Giri National Labour Institute, Noida, critically evaluated the issues of vulnerability and social security for the elderly population in Uttarakhand. In the case of the state of Uttarakhand, elderly people constitute nearly 10.6 per cent of the total population, which is higher than the national average.

The paper looks at data from different sources about the health and social status of the elderly in Uttarakhand, as well as their economic status, vital statistics, and health. It evaluates the government of Uttarakhand's social security schemes for the welfare of the elderly, particularly the Old Age Pension Scheme. In terms of coverage, the old-age pension benefits only 40 per cent of the elderly population, which is substantially less as compared to several states and needs improvement through better awareness programmes, identification methods, and timely delivery of the pension amount.

Session III: AGRICULTURAL DEVELOPMENT

This session exclusively focused on the challenges and opportunities of agricultural development in Uttarakhand. It moved with the presumption that though agriculture is losing its importance in its contribution to states as well as national income, it is still important as it acts as a cushion to absorb the additional labour force. A paper on “Can High-Value Organic Crops Subdue Rural Hills’ Out-Migration in Uttarakhand?” by Prof. S.P. Singh of the Indian Institute of Technology, Roorkee, highlighted the challenges of depopulation, out-migration, and abandonment of agriculture and examined the potential of high-value organic crops for rural livelihood enhancement and checking the distress out-migration. To reverse this trend, the author advocates for the adoption of high-value organic crops (HVOCs), which have enormous potential due to natural diversity, improved access to transportation and communication networks, and proximity to major cities in the northern plains. The important suggestions include the following: (a) Development of horticulture and agroforestry clusters in convergence with MGNREGA and other relevant schemes. Uttarakhand Tea Board’s model could be a good example to emulate; (b) In collaboration with Green India Mission, the forest department can take uncultivated and barren lands on lease from absentee farmers to set up agroforestry zones; (c) Payments for ecosystem services to the farmers doing organic/natural farming should be introduced to ensure the long-term ecological, economic, and social sustainability of agriculture and agroforestry; (d) Land aggregation, land pooling, and land lease bank policy should be introduced to facilitate organic farming clusters; (e) Since organic farming is knowledge-intensive, it requires training and capacity building of women and youths on a priority basis; (f) There is a need to develop an action plan for protecting agriculture from wild animals; (g) Incentivize technology-related start-ups focusing on hill agriculture and reorientation of R&D and extension services towards agriculture sustainability; (h) Incentivize SHGs in Bio-fertilizer and bio-pesticides production; (i) Branding and certification of organic products for premium prices and creation of value-change through an organized system of collection, sorting, packaging, distributing, processing, and selling to the end-users; and (j) Convergence of the concerned line departments’ technical, human and financial resources to provide customized solutions to the farmers related to technology, training, marketing needs and other advisory services.

Another paper on “Farm Diversification Options for Improving Agricultural Resilience and Livelihood Security in Uttarakhand Himalayas” by Manoj Parihar, Kushagra Joshi, Navin Chander Gahatyari, Krishna Kant Mishra, and Lakshmi Kant from ICAR-Vivekanand Parvatiya Krishi Vikas Kendra examined the existing options and opportunities available in North-Western Himalayan region for agriculture diversification and their possible impact on farm resilience and livelihood security. The authors notice a gradual movement out of subsistence food-crop production to a diversified market-oriented

production system in other parts of the country. Diversification happens because of fast changes in technology used in agriculture and also because of changes in how people buy food. Modern innovations in hill farming could not be established because of the fragility of the terrain and the remoteness of the areas. Diversification also has an impact on the environment, as it breaks existing cereal cropping practices, which are of questionable sustainability. Recently, the changes in cropping patterns were observed more pronounced in hills. In future, cash crops may provide a sustainable livelihood thus, employment, income generation, and managing emigration.

Important suggestions by the authors include the following: (a) Promoting mechanization that can help in diversification by integrating mechanised tools and implements into horticulture; (b) Clearly outlined government policy frameworks are important for agricultural diversification through promoting rural infrastructure, including transportation, irrigation, storage facilities, processing, and farmer incentives; (c) As off-season vegetable cultivation is a proven profitable diversification strategy in hills, there is a need to provide adequate protection in terms of procurement and minimum support prices to fruits and vegetable crops; (d) State policy is responsible for providing institutional support for land management, particularly for preventing landholding fragmentation and for providing methods for their consolidation. This needs to be expedited, making land consolidation a priority; (e) Greater investment in research, extension, and training would be required to support technology generation policies in favour of the crops and businesses that have the potential for diversification; (f) A strong water policy is needed to conserve rainwater available in the monsoons, which can be utilized for irrigation purposes for vegetables and rabi-season cereal crops; (g) Due to a lack of knowledge and access to the markets, the farmers and producers of Uttarakhand lack awareness about the marketing of various value-added products and by-products like dairy, pickles, etc. Due to this reason, they are hesitant to invest in such ventures, even though they are lucrative and profitable. The development of cooperative firms/societies can give access to the market. For this, FPOs or Commodity Interest Groups should be provided machinery at subsidised rates on a collective basis to promote mechanization in the region. The farm machinery bank scheme is the right step taken in this direction.

However, different models, for example, like the uberization model, may be explored in this direction to attract youth. (h) The development of entrepreneurial skills is crucial for the development of business skills in people. Organising awareness campaigns and training programmes can help develop entrepreneurial skills; (i) Improve rural infrastructure such as cold storage facilities, collection centres, transportation, and least intermediaries; (j) Expand institutional finance availability, and encourage research and innovation in the fields of low-cost plant nutrients, rainwater harvesting, surface irrigation technology, and soil science all require direct policy intervention. Private investment in these areas has to play a critical role; and (k) Payments for ecosystem services to the farmers doing

organic/natural farming to ensure the long-term ecological, economic and social sustainability of agriculture. Similarly, organic agriculture can be integrated with eco-tourism and standalone services for value addition.

The question of low investment and its impact on determining farm incomes was discussed by Prof. Seema Bathla of Jawaharlal Nehru University and Dr. Anjani Kumar of International Food Policy Research, New Delhi, in their paper on “Income and Investment Patterns and Their Determinants among Agricultural Households in the Hill States.” They argued that due to the preponderance of marginal land holdings and poor production choices, the agriculture sector has low income and, hence a low propensity to save. This vicious cycle affects private investment in agriculture. As investment in agriculture is losing importance it may negatively affect mechanisation and productivity, and thus a continuation of subsistence farming. Very low private investment in agriculture coupled with the dwindling public investment is making agriculture a subsistence activity, which finally leads to outmigration in search of non-farm jobs. There is a need to infuse public investment in agriculture sector for creation of small water resources, land development, diversification in favour of horticulture and fisheries, use of efficient gender-friendly implements, rainwater harvesting, and dissemination of R&D, logistics, etc.

Session IV: SOCIAL SECTOR DEVELOPMENT

In this session issues relating to education, health and basic amenities were discussed to outline the strategies for further improvements in their accessibility and outcomes. A paper on “Educational Development in Uttarakhand” by Dr Sandip Datta, Delhi School of Economics highlighted a minification of public schools with a rapidly growing number of private schools in Uttarakhand and enrolment therein. This has been more so in hilly areas of the state. With the rapid outmigration from hills, there has been a downturn in the teacher-pupil ratio---over half of the schools have a pupil-teacher ratio being below 10. This is leading to a high per-student cost of teaching in public schools. The author concludes that parental abandonment in public elementary schools had slashed median public-school size to a mere 64 pupils (using schools’ self-reported enrolment at all India levels), and this has major implications for policy on school size and teacher recruitment. There is a need to rationalise public school education by pooling schools with very low pupil-teacher ratio (PTR) with others. This may require transferring teachers as well as students, which may pose administrative as well as political challenges. Yet the state needs to consider how fair it would be for the citizen/taxpayer to pay for the ‘hedonic rent’ that a large number of individual teachers get from assignments near home with few students to teach. They need to consider whether it is legitimate to incur large fiscal costs not because the state has too few teachers but because it cannot or will not reassign teachers from very small schools or teacher-surplus schools, and hence not reach the permitted upper limit of class sizes and PTRs.

Youth unemployment is a serious political and social issue in Uttarakhand. Unemployment among youth is around 20 per cent compared to all of India's average of 15 per cent. Joblessness among educated youth is quite acute – around 40% of the graduates are unemployed. Compared to the three plain districts, the hill districts have a higher rate of unemployment. Joblessness is a major trigger for out migration from the hills to the plains of India. The paper “Youth and Skill Development in Uttarakhand” by Dr. Manab Chakraborty, an independent social activist discussed whether the design, delivery, and diffusion of vocational skill development among youth could fruitfully engage and absorb the youth within the economy. To improve the employability of youth, major changes in formal and vocational education are needed. In addition, a supportive ecosystem for promoting labor-intensive industries, climate-smart agriculture, self-employment and planned migration will contribute to lessening growing youth unemployment. There is a need to rejuvenate life in ‘ghost villages’ by introducing economically gainful horticulture, attracting low impact high value tourism, and reviving the local ecology. Conventional development solutions such as rural roads, piped water, schools, and hospitals have not reached ghost villages. A combination of negligence, the high cost of physical infrastructure, and weak political voice have worked against the ghost villages. Therefore, a non-conventional solution is required to turn abandoned ghost villages into vibrant locations of economic activity. The benefit of eco-restoration can be shared with the local community, private companies, and State agencies. Further, the participating villages can be incentivized through sharing of carbon credits, payment for ecological services, and earnings from horticulture, and tourism. With hill-centric training, youth can be gainfully engaged. This requires reimagining the vocational training programmes for youth in Uttarakhand.

The issue of health has been a major point of traction, particularly after the spread of the COVID-19 pandemic. Three papers covering the aspects of nutrition, mental health and infrastructure were presented in this session. The paper on the nutritional status of children and women in Uttarakhand was presented by Dr Rajesh Roshan of Indian Institute of Dalit Studies. The author argued how income, poverty and the mother's education are significant factors determining the status of child nutrition. However, there is also evidence that intra-household relations, particularly those which rely on gendered social and cultural norms, mediate aspects of health and nutrition among the population. Although the problem of malnutrition, as believed by nutritionists is multifaceted and not just related to associated social, economic household and community level factors but also feeding practices are found to be the important factors for nutritional progress. The author (a) investigated and assessed the nutritional progress among the population in Uttarakhand and their regional variation; (b) analysed variability in dietary diversity among children and women; and (c) examined the relationship between dietary diversity and nutritional outcomes at regional/district level in Uttarakhand state. It is observed that on malnutrition indicators of

children and women, Uttarakhand has a mixed position as compared to national indicators. The ratio of stunted children varied from 21 per cent to 34 per cent, and underweight children varied from 12 per cent to 27 per cent as against of state average of 27 per cent and 21 per cent respectively. Anaemia among women and children is a major concern as there is an average of 59 per cent of children are anaemic with a high of 73 per cent in some districts. There is more than 40 per cent of anaemic women in the state with a high of more than 60 per cent in some districts. There is low dietary diversity, meal frequency and acceptable diets, adversely affecting nutritional levels. There are also significant variations in the consumption of specific food among women in the state. Although the nutritional status in Uttarakhand has improved since the NFHS-4 by all measures, continuing undernutrition remains a major public health problem among the population in the state and is important for public health significance. There is a need to promote dietary diversity to reduce malnutrition and anaemia among children with priority. As the programme and service level factor contribute positively, access and utilization of services especially in hilly districts will push to enhance IYCF behaviour for children. Micro-level policy interventions are required separately for hilly and plain regions.

The paper “Locating Maternal Health in the Context of Climate Change in Uttarakhand: A Public Health Perspective” by Prof. Ramila Bisht, Dr Carol Wilson and Dr Kumud Teresa Sawansi of Jawaharlal Nehru University, New Delhi argues for an integrative, holistic approach to achieve the maternal health targets, which requires a synergy between all the SDGs. The NITI Aayog Health Index Report (2021) reflects a poor cumulative Health Index for Uttarakhand and groups the state among poor-performing aspirant states of the country. Stark regional variations exist between districts in the hilly and plain regions of the state in the context of poor performance in reducing anaemia among women, stunting and underweight children. These hill districts such as Chamoli, Rudraprayag, Uttarkashi and Pithoragarh have been witnessing an increase in extreme weather-related events, changes in temperature and precipitation patterns in the state in recent years. These weather events directly impact livelihood and agriculture and negatively affect human health. Gender, one of the most critical determinants of health, intersects with other drivers of inequalities to impact maternal health in such climate vulnerabilities. The data evidence showed that maternal health indicators had been moderately lowered after the induced natural disaster of Kedarnath in 2013.

The research proved that such calamities are inevitable in the near future, and the state public health system will eventually be affected. Climate change threatens humanity's existence in the long run and needs an immediate solution. There is a need for collective efforts from the government as well as the non-government entities to initiate climate action calls in the vulnerable state of Uttarakhand. Effective and sustainable climate action plans will reduce health vulnerability or at least will lead to adaptations. Deriving linkages between the performance of maternal health parameters and climate change vulnerabilities

in the state of Uttarakhand, the authors argue for a gender-responsive approach to climate action to ensure better performance of maternal health indicators in Uttarakhand.

Another important paper by Dr William Joe from the Institute of Economic Growth, Delhi discussed the issues of health infrastructure in Uttarakhand. He also highlighted how Uttarakhand lags behind the national average in the case of neonatal mortality rate and institutional births despite reasonable progress in most of the maternal and child health indicators. These two indicators are very strongly associated with the provisioning of public health infrastructure. A shortage of specialists (Ob & Gyn, Anesthetist, and Surgeons) increases the likelihood of adverse outcomes, particularly in cases of high-risk pregnancies and those requiring long transit time. More so, barriers to health care (distance factor and transport concerns) are significantly associated with the nature of the terrain and are a major inconvenience in health care seeking for maternal and child health care services in Uttarakhand. The government expenditure as per cent of GSDP is much less at 1% as compared to 1.7 % that in Himachal Pradesh. In ten hilly districts there exists a severe problem of access to health facilities due to geographical conditions, infrastructural challenges both in terms of absolute shortage and poorly maintained buildings, and irregular internet connectivity that affects information systems and service delivery reporting. Poor connectivity and difficult terrain further affect the training and capacity building of health functionaries under various programmes. Monthly incentives earned by ASHAs are among the lowest.

As a first step, the author suggested CHCs, and district hospitals be fully staffed and equipped with everything they need to do their jobs. Given the difficult terrain and connectivity concerns, the norms and conditions should be recalibrated. For retaining human resources, they should be incentives and rotations. At the same time, increased efforts in beneficiary tracking and mobility assistance are required. None of the above can be achieved without enhanced public health investments for strengthening health facilities in the state.

The paper “Social Sector Development in Uttarakhand: A Gap between Policy Formulation and On-Ground Implementation in Education” by Dr Kripa R Nautiyal, former ADG, Cost Guards examined the situation of educational development in Uttarakhand. He argued how the growing privatization of education is becoming a reality even in hilly regions of Uttarakhand. It also brings forth the reality of the growing phenomenon of depriving several students of quality education, largely associated with the deteriorating quality of education in government institutions. This is largely associated with the lack of supervision of public educational institutions by district and state authorities, the reluctance of teachers for posting in hilly areas by forfeiting promotions, the lack of skill development opportunities and the severe impact of COVID-19 on learning of students. The paper suggests designing a policy of short services for teachers and making their services more

rewarding to serve in remote areas in hill regions. Remote areas service should be made an inescapable requirement for the promotion. Conversely, the teachers who even forfeit their promotion to avoid remote area posting should be proceeded against and this be considered as an unsatisfactory performance by them and rules should be amended as required to get rid of unsatisfactory performers. For monitoring teachers' attendance and quality service delivery, the government can prepare a mobile team for regulatory and monitoring purposes.

Session V: ENVIRONMENT, CIVIL SOCIETY AND PROSPECTS OF GREEN ECONOMY

In this session, papers covered the issues of environment, fragility, and associated challenges in the development perspective of Uttarakhand. The session was chaired by Prof. S.P. Singh, an eminent environmental scientist. Prof. S.P. Sati of VCSG Horticulture University demonstrated how the fragility of the terrain and the increasing trend of climatic extremes can cause severe problems in terms of slope failures/ flash floods/ avalanches, etc. He argued how hydro-projects in the Himalayas are vulnerable to the severity and the pace of change in the processes including glacial retreat and detachments, permafrost thaw and associated landslides, rock-ice avalanches, debris flows and outburst floods from glacial lakes and landslide-dammed lakes can result in large amounts of sediment being mobilized, which can fill up reservoirs, cause dam failure and degrade power turbines. The Himalayan region poses challenges for taking up any big projects which can cause severe environmental damage. Some of the measures suggested by him include (i) a separate urbanization policy for hills; (b) developing alternate energy sources: Geothermal/micro-hydel/wind/solar; (c) a complete ban on large and medium hydropower projects in Higher Himalayan Valleys; (d) leaving river courses free flowing; (e) road construction to be undertaken only after detailed geological investigation; and (f) opting for micro hydel projects, etc.

Another interesting paper on “Greening the Economy of Uttarakhand: Can the Rights of Nature Help?” was presented by Prof. Bibhu Prasad Nayak of Tata Institute of Social Sciences, Hyderabad. The central argument of the author is that rather than treating nature as property under the law, the ‘rights of nature framework’ acknowledges that nature in all its life forms has the right to exist, persist, maintain and regenerate its vital cycles. Empirical evidence shows that growth in employment and income is driven by public and private investment into such economic activities, infrastructure and assets that allow reduced carbon emissions and pollution, enhanced energy and resource efficiency, and prevention of the loss of biodiversity and ecosystem services. It is therefore necessary to define a critical minimum stock of natural capital for the sustainability of all forms of capital and growth in the State. This needs to development of institutions, rules, and governance that underpin economic transactions and market outcomes beneficial for the local society and ecology.

Drawing from Paul M Romer (2018) that ‘for achieving the growth, the environmental cost should be minimum’ Prof. H.C. Purohit of Doon University presented a paper on “Measurement of Eco-System Services for Sustainable Economic Development”. Gross Ecosystem Products (GEP) are considered as the product and service value that the ecosystem provided for human welfare and economic and social sustainable development, including provisioning, regulating and cultural ecosystem services. Ecosystem services consist of materials, energy, and information from natural capital stocks which combine with manufactured and human capital services to produce human welfare. Genuine progress indicator (GPI) is a metric that has been suggested to replace, or supplement, gross domestic product (GDP). This includes GDP with environmental and social elements that impact the economy. It is considered a better metric than GDP as it gives a holistic view of the well-being of a nation's economy. For Uttarakhand, the ecotourism policy will work as a guiding principle to conserve and preserve the rich natural and cultural heritage of the state and help to promote nature-based tourism activities. It will help to increase livelihood opportunities for the communities so that it acts as an incentive for conservation action commensurate with the globally accepted principles of ecotourism to ensure adequate economic returns to the state. The natural and cultural heritage of Uttarakhand is to be conserved and developed through various eco-tourism activities with the involvement of community participation and engagement, ensuring their sustainable economic upliftment along with a unique and enjoyable learning experience for all the visitors arriving in the state. The rich forest and wildlife support the state’s potential to develop as a top tourist destination for nature, wildlife, religious, spiritual, herbal and adventure tourism and initiate measurement of ecosystem services in growth measures.

Popular movements that take the form of non-institutionalised collective political action while striving for political or social change are often described as social movements. This was argued in another paper on “Role of Social Movements in the Development Landscape of Uttarakhand” by Prof. Harsh Dobhal of Doon University. He said that development in India and Uttarakhand, in particular, has over the decades, evoked many kinds of responses: from those arguing that traditional communities and organic societies deliver more meaningful human welfare outcomes than state led and centralized development to a vast range of social movements that have focussed on sustainability issues such as Chipko, the Anti-Tehri dam movement and event efforts to stop the consumption of liquor. My brief presentation will explore how social movements in Uttarakhand have been able to impact both policy and politics at the state level.

The last paper in this session by Dr Sudhanshu Joshi and Shalini Bartwal of Doon University covered the issue of energy poverty in Uttarakhand. This issue is exacerbated by the state's geography, as it is located in the hilly region of the Himalayas, making it

challenging to build and maintain energy infrastructure. Uttarakhand's energy demand is growing, driven by the increasing population, urbanization, and economic development. While dependence on conventional energy supply chain solutions needs to be improved to meet this growing demand, these are very often expensive, inefficient, and environmentally unsustainable. To address these challenges, alternative supply chain solutions are required. The authors apply the best-worst method (BWM) to evaluate the alternative solutions. BWM is a multi-criteria decision-making technique that can be used to evaluate the feasibility of these alternative solutions. The criteria for evaluating alternative supply chain solutions for energy poverty in Uttarakhand may include technical feasibility, economic viability, environmental sustainability, and social acceptability. The study deployed a two-step procedure to evaluate the critical energy alternative based on a systematic literature review using the Scopus database, followed by the second stage of the interview with 12 experts from Power Transmission Corporation of Uttarakhand Ltd. (PTCUL) and other power distribution agencies operating in Uttarakhand

The authors argue that using renewable energy sources, such as solar, wind, and hydropower is one potential alternative supply chain solution. These sources are abundant in Uttarakhand and can be harnessed to provide energy to remote and underserved communities. The installation of solar panels and wind turbines can be done at a relatively low cost, and they can generate electricity without relying on fossil fuels. Additionally, renewable energy sources are environment-friendly, as they do not emit greenhouse gases. Another alternative solution is the use of microgrids, which are small-scale energy systems that can be used to provide electricity to isolated communities. They are designed to be flexible and can be adapted to local conditions, such as the availability of renewable energy sources. Microgrids can also be operated with conventional energy sources, such as diesel generators, to provide reliable electricity to remote communities. Finally, energy efficiency measures can also be implemented to reduce energy poverty in Uttarakhand. This can include the use of energy-efficient appliances, the adoption of energy-saving practices, and the promotion of energy-efficient technologies. Energy efficiency measures can reduce the energy demand, making it easier to provide essential electricity services to underserved communities.

Session VI: FINANCING SUSTAINABLE DEVELOPMENT

Finances are critical for accelerating the inclusive development process for any economy. After the withdrawal of the Special Category Status of Uttarakhand along with other Himalayan states, the overall situation of public finances of the state has deteriorated. The income from indirect taxes such as GST is less than promising. The state has reasonably higher levels of fiscal deficits, which are further aggravated due to the COVID-19 situation. This session, therefore, focussed on the state of public finances in Uttarakhand and provided useful suggestions for strengthening the finances of the state.

The first paper in the session was “An Overview of Uttarakhand’s Budgetary Priorities, Fiscal Health and Fiscal Reforms over the Last Two Decades” by Dr Subrat Das and Dr Nilachala Acharya of Centre for Budget and Governance Accountability, New Delhi. The authors demonstrated how the state’s per capita income growth, which was almost stable before the onset of COVID-19, nose-dived and the rate of recovery is much slower. The ratio of total expenditure including public to GSDP was much higher during the initial period and then declined to less than 20 per cent during the period 2011-12 to 2019-20. Thereafter, it marginally improved. This period was also characterised by a rise in revenue deficit. The state has managed its fiscal deficits well for a long time but still faces fiscal risk with an almost stagnant tax-to-GSDP ratio. No special measures are emerging towards revenue augmentation by the state government, which is a worrying spot. The state is though on the path of fiscal consolidation but that should not be at the cost of reductions in its finances for socio-economic development heads of expenditure. The state should gradually reduce the dependency on the central transfer of resources to avoid a situation when the Center’s resources transfer often dictates the State’s spending priorities. There is a need to boost spending under the Capital Account, especially for Social and Economic Sectors to address the infrastructure shortages in the State, especially for the development of health, education and other basic amenities.

The next paper “Fiscal Diagnosis and Risk Analysis of Uttarakhand State Finances” by Dinesh Kumar Nayak from the National Institute of Public Finance and Policy, New Delhi raised concerns about low capital expenditure in Uttarakhand which hovered around 2.5 per cent of its GSDP during 2016-17 to 2020-21. The share of capital expenditure in total expenditure is also low (ranging between 15 to 16 per cent), which tended to decrease over the last three years. More so, an analysis of investments and other capital expenditure undertaken by Uttarakhand show its poor quality in terms of returns. As per the Finance Accounts 2020-21, the average return on Uttarakhand Government’s investment (on one statutory corporation, and 16 Government companies) was negligible and ranged from 0.40 to 0.71 per cent of the investment (at historical cost) during 2016-17 to 2019-20 but it increased to 1.09 per cent during the current year. However, the state government paid an average interest rate of 7.9 per cent on its borrowings during 2016-17 to 2020-21. Thus, investments made and loans are given to companies (e.g., Power Distribution Companies), corporations (e.g., Scheduled Caste and Scheduled Tribe Financial Corporations), and cooperatives (e.g., sugar mills), which are loss-making and that where net worth is completely eroded, is not sustainable. As per the Finance Accounts of the State for the year 2020-21, there were 143 incomplete/ongoing projects of the Public Works Department as on 31 March 2021 entailing over Rs 614 crore estimated cost, which again erodes the sustainability of investment in the state. Another fiscal risk under public account relates to the state government’s non-payment of its mandatory share (10 per cent) to the State Disaster

Response Fund and no investments are made from this fund. This is a violation of SDRF guidelines, and revenue loss to the State as well.

As a way ahead, the author argues for reducing the government deficit by an increase in taxes as well as a reduction in expenditure. The major thrust should be making government expenditure more efficient by better planning and efficient execution of programmes. From revenue performance to improved expenditure quality and prioritization, urgency in completing blocked projects would be unavoidable. Efforts should be made for the proper utilization of cash balance over market borrowing. The state should explore opportunities for infusing public-private capital using multilateral agencies. The tax base of the state needs to be expanded by infusing public finances into the development of micro and small industries and services in its hill regions.

Another paper on “GST and Resource Mobilisation in Uttarakhand” was presented by Mr Amit Gupta, Additional Commissioner, GST, Government of Uttarakhand. The paper finds that with the introduction of GST, the state experienced spectacular growth in the number of new taxpayers from 10,000 in August 2017 to 11,900 in August 2022. Similarly, GST revenue almost doubled from Rs. 82294 crores in FY 2017–18 to Rs 155000 in FY 2022-23. The ratio of total GST in GSDP also improved from 1.63 per cent in 2017-18 to 2.42 in 2020-21, taking the state to number two rank in terms of high tax/GSDP ratio. However, the average growth of revenue of the state from taxes on commodities and services sharply declined from 14.4 per cent during pre-GST to 0.3 per cent during the post-GST period, implying a significantly reduced speed of tax collection. This also means that the tax efforts of Uttarakhand like many other states did not increase indicating that GST has not helped improve the revenue position of the States after switching to the GST regime. The state needs to make efforts to increase its tax base by bringing new segments such as petrol, diesel, and alcoholic beverages under GST. There is a need to recalibrate GST rates and improve compliance through effective administrative measures. Compensation for smaller states like Uttarakhand should be extended for another five years.

VALEDICTORY SESSION

The Valedictory address was delivered by Prof. Surekha Dangwal, Vice Chancellor, of Doon University. Prof. Rajendra P Mangain, Seminar Coordinator presented the main findings of three days’ deliberations of the seminar along with policy recommendations for inclusive development in Uttarakhand. The vote of thanks was extended by Dr M.S. Mandrawal, Registrar, Doon University.

POLICY RECOMMENDATIONS

The major challenges that confront Uttarakhand are as follows: employment, migration, poverty, hunger, gender inequality, quality education, quality healthcare, regional inequality, environmental degradation & disasters, and public policy & governance. The following are the suggestions for the sustainable development of Uttarakhand:

Generic Suggestions

- Need Hill-centric development strategy—shift capital to Gairsain and develop Dehradun as business capital. This will take the governance to the doorsteps of people living in the hilly and remote districts and also fulfil the long pending demand of people who sacrificed for the creation of a separate state
- The Development Blocks need to be developed as 'growth centres' with integrated facilities of education, health, basic repair and maintenance services, business & service centres and housing. The Aspirational Block programme of the NITI Aayog could help in this direction. Unfortunately, the very basis of the identification of Aspirational Blocks is based on the general model of development that hardly incorporate hill specificities. This needs to be corrected and all blocks in hilly districts are declared as “aspirational districts”.
- Urban development policy is needed particularly for hilly districts which promote a 'sustainable city' with a decent living, the least garbage generation, modern waste treatment and zero damage to the environment.
- There is a need to rejuvenate life in 'ghost villages' by introducing economically gainful horticulture, attracting low impact high value tourism, and reviving the local ecology.

Promoting Employment and Reducing Distress-driven Outmigration

1. Putting livelihood promotion at centre stage and focusing on “niche activities”.
2. This requires a reimagining of the current development strategy of the state. Simply allocation of resources is hardly enough to promote balanced regional development.
3. The sectors with significant potential for employment generation are horticulture, fisheries, tourism, green energy such as solar energy production, off-season organic vegetables, local resource-based micro and small enterprises, knowledge-intensive IT-enabled services, and healthcare.
4. Horticulture can be the game changer, which requires assets such as land and its development and consolidation on a cooperative basis.

5. Similarly, freshwater fishing has vast potential with the increase in demand. This needs to be tapped by providing financial, technical and market support to farmers.
6. Promote the high-value agri-business-based livelihoods, tourism, green energy, eco-services and forestry as major drivers of employment and economic growth.
7. Promote tourism as it has good potential for creating employment opportunities in hill regions. This requires diversification of tourism to unexplored regions. Equally important is to promote local resource-based cuisines and other products for catering the demand of tourists. This will require creating an enabling environment for micro and small enterprises for locally educated youth.
8. The stagnation in industrial development in plain areas of the state needs to be addressed by providing facilities and incentives through crafting suitable promotional policies
9. Need for reconfiguration and consolidation of multiple programs focused on fostering self-employment and skill-building, to create durable means of livelihood.
10. With relatively better educational attainments of youth in Uttarakhand, IT-enabled knowledge-intensive services yet offer good potential for employment generation. This does not require a huge investment. A clean and temperate environment in many parts of the hilly districts coupled with an improved supply of electricity and internet connectivity can be harnessed further to develop this industry.
11. Attract start-ups to hilly areas of the state by providing a favourable support structure along with effective regional skill training programmes for entrepreneurship development
12. With hill-centric training, youth can be gainfully engaged. This requires reimagining the vocational training programmes for youth in Uttarakhand.

Sector-specific Recommendations

Agriculture & Allied Activities Development

1. Promoting climate-resilient agriculture as a source of remunerative employment and income
2. Promote cold water fisheries.
3. Harness the potential of horticulture which can be a game changer. Development of horticulture and agroforestry clusters can be undertaken in convergence with

MGNREGA and other relevant schemes. Uttarakhand Tea Board's model could be a good example to emulate.

4. Pooling of land in ghost and abandoned villages and use it on a lease basis carefully/purposefully.
5. Promote cooperative farming by strengthening and upscaling FPOs.
6. Develop climate resilience seeds—quality nurseries, low-cost ropeways.
7. Gender inclusion needed in natural resource management— Vanpanchayats need to be strengthened—require their training in scientific management of forests.
8. Land development policies need to be recrafted. Land registration is to be in the name of women/wives for accessing benefits. Chakbandi (land consolidation) needs to be promoted through the enactment of the Chakbandi law.
9. Increase public investment in agriculture, which has been dwindling over the years—developing irrigation facilities and promoting the use of modern available technology, seeds, and crops for improving the incomes of farmers.
10. Protect the sale of cultivable land to outsiders. Rather land can be given on a short-term lease to anyone for agricultural purposes only and not for other usages.
11. Examine forest laws and attract private capital investment in such services to create an Eco Task Force of local women for conserving the forests and environment of their villages.
12. Adopt an integrated approach to facilitate the development of the agriculture and food processing industry in Uttarakhand that can create 3,20,000 additional employment opportunities in the state which are non-farm in character and are capable of raising the standard of living of a very large number of people in the state, especially, in the rural areas.
13. Negotiations with the central government for the payment of ecosystem services to farmers which they provide by doing organic/natural farming. This will ensure the long-term ecological, economic, and social sustainability of agriculture and agroforestry
14. Incentivize technology-related start-ups focusing on hill agriculture and reorientation of R&D and extension services towards agriculture sustainability
15. Convergence of the concerned line departments' technical, human and financial resources to provide customized solutions to the farmers related to technology, training, marketing needs and other advisory services

16. As off-season vegetable cultivation is a proven profitable diversification strategy in hills, there is a need to provide adequate protection in terms of procurement and minimum support prices and insurance to fruits and vegetable crops
17. A strong water policy is needed to conserve rainwater available in monsoons which can be utilized for irrigation purposes for vegetables and *rabi* season cereal crops
18. Strengthening research and extension services and awareness programmes about farming, markets and farm products processing
19. Improving rural infrastructure such as cold storage facilities, collection centres, transportation and least intermediaries, expanding institutional finance availability, and encouraging research and innovation in the fields of low-cost plant nutrients, rainwater harvesting, surface irrigation technology, and soil science all require direct policy intervention. Private investment in these areas has to play a critical role.

Improving Public Education and Health Services

1. Create access to quality infrastructure for education and health nearer the village and town clusters in hill districts. The lack of these infrastructures along with the lack of employment opportunities is the main reason for outmigration from hill areas.
2. The school infrastructure needs to be developed near 'growth centres' or Block Headquarters by building residential schools and universities with the full support of public finances. These schools should be equipped with the availability of trained teachers.
3. Rationalise public school education by pooling schools with very low PTR with others. This may require transferring teachers as well as students, which may pose administrative as well as political challenges.
4. Design a policy of short services for teachers and making their services more rewarding to serve in remote areas in hill regions.
5. Remote areas service should be made an inescapable requirement for the promotion. Conversely, the teachers who even forfeit their promotion to avoid remote area posting should be prosecuted against and this be considered as an unsatisfactory performance by them and rules should be amended as required to get rid of unsatisfactory performers.
6. Prepare the mobile team for regulatory and monitoring purposes for monitoring

teachers' attendance and quality service delivery. IT-enabled monitoring can help immensely in this regard.

7. Skill development for youth for the market—focus on women. Youth entrepreneurship development programs to be pegged up—Taking skill development centres at block HQs.
8. Youth power to be channelized to innovative thinking and research in higher institutions. This requires enabling an eco-system of critical thinking and experiments—Need enhanced financial support with zero vested political interventions.
9. For having better access to quality healthcare and educational services, the immediate focus should be to prepare a dedicated cadre of doctors, nurses, other paramedical staff and teachers for the hill region with due incentives such as better salaries, living conditions, education facilities for children, etc.
10. Medical colleges in each district need to be established for preparing health manpower.
11. Immediate interventions are required to reduce the high incidence of anaemia among women and children, particularly in hills where it is highest. It requires a dietary diversity which is low at present, adversely affecting nutritional levels. Micro-level policy interventions are required separately for hilly and plain regions.
12. Effective and sustainable climate action plans are required to reduce health vulnerability or at least for improving adaptations.
13. Gender-responsive approach to climate action is required to ensure better performance of maternal health indicators in Uttarakhand, keeping in view the proven linkages between the performance of maternal health parameters and climate change vulnerabilities.
14. Make CHCs and district hospitals fully functional with physical infrastructure as well as human resources.
15. Given the difficult terrain and connectivity concerns, the norms and conditions should be recalibrated.
16. For retaining human resources, they should be incentivised and rotationised. At the same time, greater efforts in beneficiary tracking and mobility support are necessary.
17. All this can be achieved with enhanced public health investments for strengthening health facilities in the state.

Environment related

1. Eco-sensitive development strategy is the need of the day. For this micro planning is needed for efficiency and productivity at the grass root level for efficient utilization of resources including human power. For this, make Gram Panchayat Development Plan a reality by equipping them with capabilities and finances for resource planning and usage.
2. Ban the construction of large hydro projects in high hills to avoid disasters.
3. Only micro hydel projects need to be developed ensuring full transparency in their execution, management and resource sharing.
4. Harness the potential of solar energy by pegging up the financial assistance and subsidy components. The revenue fixation and sharing arrangements as land rents for erecting solar panels on common lands and private lands should be transparent. These revenues then can be used for the 'eco-task forces'.
5. Promoting a green economy in a time-bound manner

Pegging up public investment for infrastructure development

1. Massive investment in public works in border districts is needed. Along with this, we need to promote village tourism in these areas in a big way. This will create a multiplier impact on employment, income and national security.
2. High-speed Internet connectivity in hills
3. Developing Micro and Small Enterprise infrastructure, especially in hill areas in a scientific manner
4. Creating industrial zones/parks in hill districts on the pattern of SIDCUL by relaxing the Forest Act

Strengthening Public Finances

1. Finances of the state need to be strengthened through better fiscal management strategies including tax collections.
2. Though the state is on a path of fiscal consolidation, it should not be at the cost of reductions in its finances for socio-economic development heads of expenditure.
3. The state should gradually reduce the dependency on the central transfer of resources to avoid a situation when the Center's resources transfer often dictates the State's spending priorities.

4. There is a need to boost spending under the Capital Account, especially for Social and Economic Sectors to address the infrastructure shortages in the State, especially for the development of the health and education sector.
5. Better mechanisms to be adopted for the timely completion of projects and inspection of quality controls
6. Increase in tax base and reduction in expenditure on administrative heads for reducing the deficit. The major thrust should be making government expenditure more efficient by better planning and efficient execution of programmes
7. The tax base of the state needs to be expanded by bringing new segments such as petrol, diesel, and alcoholic beverages under GST. Infusing public finances in the development of micro and small industries and services in hill regions will help in expanding the tax base.
8. The state should explore opportunities for infusing public-private capital using multilateral agencies.
9. There is a need to recalibrate GST rates and improve compliance through effective administrative measures.
10. GST Compensation for smaller states like Uttarakhand should be extended for another five years.
11. A long pending demand for compensation to Himalayan states like Uttarakhand has been for providing compensation for its eco-services. This can be granted under Finance Commission allocation by the central government. The amount can be shared with the local community, private companies, and State agencies. Further, the participating villages can be incentivized through sharing of carbon credits, payment for ecological services, and earnings from horticulture, and tourism.

Reforms in Policymaking

- The policymaking process should follow a logical methodological flow and should be based on scientific evidence. It should be decentralized and made participative. Citizens should be allowed more space in agenda-setting.
- Some of the key stages in policymaking processes that should be ensured are:
 1. Establishing the need for policy intervention
 2. Developing and analysing evidence base for the policy formulation

3. Identifying and appraising multiple policy options for an issue
4. Provisioning impact assessment within the policy
5. Rigorous stakeholder consultation
6. The policy should have a detailed implementation plan.

Governance Reforms

A. Legislative Oversight over Executive

1. The Committees of the State Legislative Assembly can be made more functional to oversee and scrutinize the functioning of departments, especially the Department Related Standing Committees.
2. The Public Accounts Committee of the Assembly should regularly meet to analyse the observations made by CAG in their various reports.

B. Capacity-Building of Middle-Level Bureaucrats

1. Middle-Level Bureaucrats are the first line of government functionaries (e.g., doctors, BDOs, teachers, revenue officials, police, etc.) with whom citizens interact on a daily basis.
2. They can play an important role in not only the effective implementation of policies and programs of the government but also their formulation.
3. They should be regularly capacitated in their thematic domains and should be exposed to best practices in the world in their domain.

Other Institutional Reforms

1. Reducing the size of bureaucracy by rationalization of staffing patterns and departments/organisations.
2. Improve the conditions of government institutions by providing qualified human resources as well as finances and infrastructure—these institutions play a major role in human development including the social development of the state.
3. Delaying of PRIs for better coordination—Linear organizations rather than vertical/hierarchical ones which generally is inefficient in service deliveries.
4. Connect S&T with every policy planning.
5. Reforming governance to connect with common people.

SEMINAR PROGRAMME

DAY 1: 22 September 2022

Young Researchers Conclave: Socio-economic Development of Uttarakhand

Special Lecture (14.30-15.45)

	Prof. V.A. Baurai
Chair	Former Principal, Shri Guru Ram Rai (PG) College, Dehradun
Special lecture	Prof. M.K. Agarwal
<i>Creating Jobs</i>	Head, Department of Economics, Lucknow University
Convener	Ms. Radhika Bahuguna Faculty, Department of Economics, Doon University
Rapporteur	Dr Madhu Bisht Faculty, Department of Economics, Doon University

Session I : Growth, Agriculture, Industry & Development 15.45-17.00

	Prof. Harsh Dobhal
Chair	Visiting Professor, Doon University
	Dr. Manoj Pant
Discussant	Additional Chief Executive Officer Center for Public Policy and Good Governance, Government of Uttarakhand
Presentations by young researchers	
Rapporteur	Ms Vibha Pundir Faculty, Department of Economics, Doon University

Session II: Education, Health and Social Sector Development

17.00-18.15

Chair	Prof. M.C. Sati Department of Economics, HNB Garhwal University, Srinagar Garhwal
Discussant	Dr. S.C. Nautiyal Director, Industries & Chief Executive Officer, Uttarakhand Handloom and Handicraft Development Corporation, Government of Uttarakhand
Presentations by young researchers	
Rapporteur	Dr. Rahul Saxena Faculty, Department of Economics, Doon University

DAY 2: 23 September 2022

Registration

9.15-10.00

Inaugural Session

10.00-11.15

Welcome and About the Seminar	Prof. Rajendra P. Mamgain Head, Department of Economics, Doon University & Seminar Coordinator
Inaugural Address	Prof. Ramesh Chand Hon'ble Member, NITI Aayog, Government of India, New Delhi
Special Address	Shri Anil Raturi , IPS (Retd.) Former Director General of Police, Uttarakhand

Presidential Address	Prof. Surekha Dangwal Hon'ble Vice-Chancellor, Doon University
Convener	Dr Sudhanshu Joshi Assistant Professor, School of Management, Doon University
Rapporteurs	Ms. Vartika Pande Faculty, Department of Economics, Doon University
	Ms. Anubhuti Lakhera Research Scholar, Department of Economics, Doon University
Tea/Coffee:	11.15-11.30

Session-I : Employment, Migration and Livelihoods

11.30-13.00

Chair	Prof. Amitabh Kundu World Resource Institute, New Delhi
	Prof. Rajendra P. Mamgain Doon University
Presentations	<i>Employment and Earnings: Nature, Trends and Opportunities</i>
	Prof. Pramod Kumar Director, Giri Institute of Development Research, Lucknow
	<i>Rural Non-farm Employment</i>

Prof. Ramesh C. Dangwal

Professor & Head, Department of Commerce,
HNB Garhwal, University (HNBGU), Srinagar,
Garhwal&

PinkyBahuguna, Research Scholar, HNBGU
*Entrepreneurship Development: A Model for
the Sustainability of Uttarakhand-Based
Start-ups*

Dr. Prashant Kandari

Associate Professor, Department of Economics,
HNB Garhwal University
*Work and Time Use of Women in
Uttarakhand*

Convener

Dr. Savita Karnatak

Associate Professor, Department of
Psychology, Doon University

Rapporteurs

Dr.Madhu Bisht

Faculty, Department of Economics, Doon
University

Mr. Abhishek Badola

Research Scholar, Department of Economics,
Doon University

Lunch: 13.00-14.00

Panel Discussion-I: Meeting the Challenge of Livelihoods and

14.00-15.30

Chair

Prof Amitabh Kundu

World Resource Institute, New Delhi
Formerly, Professor of Economics, at
Jawaharlal Nehru University

Panellists	Dr. Bhaskar Pant Chief General Manager, NABARD Regional Office, Uttarakhand
	Dr. Pradeep Mehta State Head Uttarakhand, UNDP, Dehradun
	Dr. Alka Pandey Khadi Gram District Village Industry Office, Dehradun
	Shri Pankaj Gupta President, Uttarakhand Industries Association
Convener	Dr. Shudhanshu Joshi Assistant Professor, Department of Management, Doon University
	Ms. Vartika Pande Faculty, Department of Economics, Doon University
Rapporteurs	Mr. Abhishekh Badola Research Scholar, Department of Economics, Doon University

Session II : Promoting Higher and Sustainable Growth

15.30-16.15

Chair	Prof. A.P. Pandey Former Vice-Chancellor, Manipur Central University
	Dr. D. Bharat Indian Institute of Technology, Roorkee <i>Infrastructure Development in Uttarakhand</i>
Presentations	

Prof. M.C. Sati

Professor, HNB Garhwal University, Srinagar,
Garhwal

*Spatial and Economic Transformation of
Mountain Regions: An Assessment of
RURBAN Development in Uttarakhand*

Dr. Khalid Khan

Indian Institute of Dalit Studies, New Delhi
*Addressing Asset Inequalities in
Uttarakhand: A Comparative Regional
Analysis*

Dr. Otojit Kshetrimayum

Fellow & Coordinator, Centre for North East
India, VV Giri National Labour Institute,
Noida

*Mapping Vulnerabilities and Social
Security: The Case of Elderly in
Uttarakhand*

Dr. Rajesh Bhatt

Convener

Assistant Professor, Department of
Psychology, Doon University

Ms. Radhika Bahuguna

Rapporteurs

Faculty, Department of Economics, Doon
University

Ms. Ayushi Patwal

Research Scholar, Department of Psychology,
Doon University

Tea/Coffee: 16.15-16.30

Session III: Agricultural Development

16.30-17.30

Chair

Prof. Pramod Kumar

Director, Giri Institute of Development
Research, Lucknow

Prof. S.P. Singh

Indian Institute of Technology, Roorkee

Presentations

Can High-Value Organic Crops Subdue Out-migration from Rural Hills of Uttarakhand ?

**Dr. Manoj Parihar, Dr. Kushagra Joshi,
Dr. Navin Chander Gahatyari, Dr. Krishna
Kant Mishra and Dr. Lakshmi Kant**

ICAR-Vivekananda Parvatiya Krishi
Anusandhan Sansthan, Almora

*Farm Diversification Options for Improving
Agricultural Resilience and Livelihood
Security in Uttarakhand Himalayas*

Prof. Subir Sen

Associate Professor, Indian Institute of
Technology, Roorkee

*Reimagining Agricultural Development in
Uttarakhand*

Convener

Dr. Madhu Bisht

Faculty, Department of Economics, Doon
University

Ms Radhika Bahuguna
Faculty, Department of Economics, Doon University

Ms. Shalini Bartwal
Research Scholar, Department of Management, Doon University

Ms. Vartika Pande
Faculty, Department of Economics, Doon University

Mr. Abhishekh Badola
Research Scholar, Department of Economics, Doon University

Dinner: 19.30 onwards

DAY 3: 24 September 2022

Session IV : Social Sector Development

09.00- 10.30

Chair
Prof. S.P. Singh
Professor, Indian Institute of Technology, Roorkee

Presentations
Dr. Sandip Datta
Assistant Professor, Delhi School of Economics, University of Delhi
Educational Development in Uttarakhand

Dr. Manab Chakrabarty
Agri SME value chain, Climate Change Adaptation, Rural Finance and Project Cycle Management Expert
Youth and Skill Development in Uttarakhand

Prof. Ramila Bisht & Carol Wilson,

Jawaharlal Nehru University, Delhi

Kumud Teresa Sawansi, TISS Saksham
Pramaan, Aditi Mahavidyalaya, University of
Delhi

*Locating Maternal Health in The Context of
Climate Change in Uttarakhand: A Public
Health Perspective*

Dr. William Joe

Associate Professor, Institute of Economic
Growth, Delhi

*Public Health Infrastructure Development
in Uttarakhand*

Dr. Rajesh Roshan

Assistant Professor Indian Institute of Dalit
Studies

New Delhi

*Nutritional Landscape in Uttarakhand:
Progress, Determinants and Policy Concern*

Mr. Kripa R. Nautiyal

Former ADG, Coast Guards

*Social Sector Development in Uttarakhand:
A Gap Between Policy Formulation and on-
Ground Implementation*

Dr. Savita Karnatak
Convener Associate Professor, Department of Psychology, Doon University

Dr. Khalid Khan
Rapporteurs India Institute of Dalit Studies, New Delhi

Mr. Abhishek Badola
Research Scholar, Department of Economics, Doon University

Special Lecture: *Development Strategies of Hill States- Identifying the*
10.30-11.15

Prof. R.C. Dangwal
Chair Professor & Head, Department of Commerce, HNB Garhwal University, Srinagar Garhwal

Prof. Manoj Pant
Speaker Vice-Chancellor
Indian Institute of Foreign Trade, New Delhi

Ms. Radhika Bahuguna
Convener Faculty, Department of Economics, Doon University

Ms. Shalini Bartwal
Rapporteur Research Scholar, Department of Management, Doon University

Tea/Coffee: 11.15-11.30

Session V : Environment, Civil Society and Prospects of Green Economy
11.30-12..45

Prof. S.P. Singh
Chair Chairperson, CHEA & Former Vice Chancellor, HNB Garhwal University

Presentations

Dr. S.P. Sati

Head, Department of Basic and Social Sciences,
College of Forestry,
Veer Chandra Singh Garhwali Uttarakhand University
of Horticulture and Forestry
Bharsar, Ranichauri Campus, Tehri Garhwal
*Development of Uttarakhand State through the
Window of Climate Change*

Shri Shushil Bahuguna

Senior Journalist, NDTV

Dr. Bibhu Prasad Nayak

Associate Professor, Tata Institute of Social Sciences,
Hyderabad

*Greening the Economy of Uttarakhand: Can Rights
of Nature Help?*

Prof. H.C. Purohit

Head, School of Management, Doon University
*Measurement of Eco-System Services for
sustainable economic development*

Prof. Harsh Dobhal

Professor, Doon University
*Role of Social Movements in the Development
Landscape of Uttarakhand*

Dr. Sudhanshu Joshi

Assistant Professor, School of Management, Doon
University

Dr. Sudhanshu Joshi

Assistant Professor, School of Management, Doon University

Greening the Industries: Influences and Policy Imperatives

Convener

Ms. Vartika Pande

Faculty, Department of Economics, Doon University

Dr. Naresh Mishra

Rapporteurs

Faculty, Department of Social Work, Doon University

Dr. Rahul Saxena

Faculty, Department of Economics, Doon University

Session VI: Financing Sustainable Development

12.45-13.30

Prof. Manoj Pant

Chair

Vice-Chancellor, Indian Institute of Foreign Trade, New Delhi

Nilachala Acharya & Dr. Subrat Das

Centre for Budgetary Governance & Accountability, New Delhi

Presentations

An Overview of Uttarakhand's Budgetary Priorities, Fiscal Health and Fiscal Reforms over the Last Two Decades

Dr. Dinesh Nayak

National Institute of Public Finance & Policy, New Delhi

Fiscal Diagnosis and Risk Analysis of Uttarakhand State Finances

Mr. Amit Gupta, IRS

Joint Commissioner, GST, Government of Uttarakhand

GST and Resource Mobilisation in Uttarakhand

Dr. Balwant Mehta

Senior Fellow, Institute for Human Development, New Delhi &

Prof. Rajendra P Mangain, Doon University

Out-Migration from Uttarakhand and COVID-19 Impact: A Case of Migrants in Delhi

Dr. Rajesh Bhatt

Convener

Assistant Professor, Department of Psychology, Doon University

Rapporteurs

Dr. Madhu Bisht

Faculty, Department of Economics, Doon University

Mr. Peeyush Sharma

Research Scholar, Department of Economics, Doon University

Lunch:13.30-14.15

Panel Discussion-II: Public Policy, Governance and Institutional

14.15-15.45

Chair

Dr. N. Ravishanker , IAS (Retd.),

Chancellor, DIT University & Former Chief Secretary, Government of Uttarakhand

Prof. Durgesh Pant

Panellists

Director-General, Uttarakhand State Council of Science & Technology &

Chief Coordinator of Hon'ble Chief Minister of Uttarakhand

Dr. Vipin Chandra, Information Commissioner,
Government of Uttarakhand

Mr. Sanjeev Chopra, IAS (Retd.),
Former Director-General, LBS Academy of
Administration, Mussoorie

Prof. A.C. Joshi
Chair Professor, Center for Public Policy, Doon
University

Dr. Manoj Pany
Additional Chief Executive Officer, Centre for Public
Policy & Good Governance, Government of
Uttarakhand, Dehradun

Convener

Dr. Prachi Pathak
Assistant Professor, Department of Management, Doon
University

Rapporteurs

Ms. Shalini Bartwal
Research Scholar, Department of Management, Doon
University

Mr. Abhishek Badola
Research Scholar, Department of Economics, Doon
University

Tea/Coffee: 15.45-16.00

Valedictory Session

16.00-17.00

Highlights of the
Seminar & Major

Prof. Rajendra P. Mamgain

Head, Department of Economics, Doon University

Valedictory Address

Prof. Surekha Dangwal

Vice Chancellor, Doon University, Dehradun

Convener

Prof. H.C. Purohit

Head, School of Management, Doon University

Vote of Thanks

Dr. M.S. Mandrawal

Registrar, Doon University

Chief Rapporteur

Mr. Raju Sajwan

Centre for Science and Environment, New Delhi

Presentations by Young Researchers (22 September 2022)

Growth, Agriculture, Industry and Development

Anjali Semwal

Department of Political Science, SGRR University, Dehradun
Uttarakhand Vision 2030- Towards a Sustainable Economic Growth

Anubhuti Lakhera & Peeyush Sharma

Department of Economics, Doon University
Share of Services Sector in Uttarakhand: An Overview

Anurag Bhandari, Prof.(Dr.) Vikas Tyagi & Dr R.P Badoni

Himgiri Zee University, Shergpur, Dehradun
State of Minimum Support Prices in Uttarakhand

Rakesh Kumar Pal

HNBGU, Srinagar,
Scope of Commercial Agriculture in Uttarakhand: Challenges and Opportunities

Rakshit Kweera

Department of Political Science, University of Hyderabad
E-Governance in Uttarakhand: Present Analysis and Scope for the Future

Ramanpreet Kaur Nayyar

DAV PG College (HNBGU),
Emerging Issues related to E-Learning, E-Awareness and E-Governance: Way Ahead

Ramesh Verma

HNB Garhwal Central University
Uttarakhand me Krishi Vividhikaran Evm Vyavishikaran - Bhoomi Upyog, Utpadan, Evm Utpadkta ka Vishesh Adhyayan

Dr. Richa Ginwal, Dr. Daleep Kumar & Dr. Nandan S. Bisht

Research Scholar, Dept. of Economics, Kumaun University,
Nainital, Digitalization and Green Economy: Prospects and Challenges in the Indian Context

Kunal Agarwal & Prof. SP Singh

Research Scholar, Department of HSS, IIT Roorkee

Socio-economic Development in Uttarakhand- An Inter-district Analysis

Sushant Kumar

Department of Economics, HNBU, Srinagar,

Role of Micro, Small, and Medium Enterprises (MSMEs) in the Industrial Development of Uttarakhand

Swati Goswami and Pooja Kohli

HNB Garhwal Central University,

The Role of Environmental Concern in Developing University

Students Sustainability-Driven Entrepreneurial Intentions in Uttarakhand

Vijay Mohan Rawat

HNB Garhwal Central University,

Environment Ecological Vulnerability and Prospects for Green Economy

Sumitra Kumari Dr. Sunil Panwar & Dr. Rajendra Prasad Badoni

HNB Garhwal Central University,

Analysis of Trend in Area, Production, and Yield of Major Vegetables in Uttarakhand

Education, Health, Migration, Community & Development

Aditi Rawat & Kuldeep Verma

Centre for Mountain Tourism and Hospitality Study, HNBSGU

Community Participation in Sustainable Tourism Development in the Garhwal Region of Uttarakhand

Bharti Sharma, Prof. Padam. S. Bisht & Dr. Namita Verma

Department of Economics, Kumaun University, Uttarakhand Open

University Haldwani

An Analytical Study of Development of Education Sector in the Uttarakhand State

Dr. Vidya Sasikumar

English & Cultural Studies, Christ University, Bengaluru,

Cinema as a Potential Pathway to the Development of Uttarakhand

Divya Oli, Sonam Kutiyal, Rashmi Bhatt and Prof. Padam S. Bisht

Dept. of Economics, Kumaun University, Nainital

Causes and Patterns of Migration in Champawat District of Uttarakhand

Gulnawaz Usmani (Dr.) & Prof. Aftab Anwar Shaikh

Dept. of Economics, Poona College of Arts, Science and Commerce, Pune
Maternal Health Status and its Effect on Child Health

Mahesh Kumar, SGRR Dehradun

Prof. M.C. Sati, HNBSGU Srinagar

Integrated Planning for Disaster Management and Rehabilitation in Uttarakhand

Prateek Negi, Assistant Professor of Geography, Pestle Weed College of
Information Technology, Dehradun

Upasna Ghale, Psychological Counsellor, Army Public School (Birpur), Dehradun.

*The Arcade Project of Psycho-geography: A Critical Design for Ivy League University
styled Cantonment Town*

Preety Sahu

Academic writer, Paperpedia, Noida,

*Preserving the linguistic Diversity of Uttarakhand: Role of language and Education
Policies and Practices*

Gokul Fulara

Aziz PremJi Foundation, Almora

*Challenges and Possibilities Arising Due to Covid-19 in the Education of
Government Schools of Uttarakhand*

Rakesh Singh, Ravindra Kumar Yadav & Dr. VB Chaurasia

DAV PG College,

Migration in Jaunsar Region after Covid 19

Dr. Sebati Malik

Post doctoral fellow of ICSSR Giri institute of development studies, Lucknow

Employment Migration and Livelihood of the People in Uttarakhand

Riya Sharma

Shri Venkateshwara University, U.P,

Availability of Health Services: A Case Study of Mussoorie

Shobha Bhatt, Ayyanadar Arunachalam & Kusum Arunachalam

SENR, Doon University,

*Indigenous Healthcare Practices and Associated Knowledge Systems of the
Jaunsari Tribal Community of Uttarakhand, Western Himalaya*



List of Participants

S.no.	Name	S.no.	Name
1	Aakriti Bhatt	31	Akshita Saraswat
2	Aakriti Ghildiyal	32	Aliya Sheikh
3	Aariz Mohammad	33	Alok Kumar
4	Abeer	34	Aman Gussain
5	Abha Negi	35	Anadi Dhyani
6	Abhay Negi	36	Anahita Singhal
7	Abhay Singh Rawat	37	Ananya Rai
8	Abhijeet Sati	38	Ananya Rai
9	Abhimanyu Saini	39	Ananya Syal
10	Abhinav	40	Anisha Negi
11	Abhinav Panwar	41	Anisha Saini
12	Abhishek Anthwal	42	Anjali Pokhriyal
13	Abhishek Chauhan	43	Anju
14	Abhishek Sati	44	Ankita Nautiyal
15	Adeeba Saifi	45	Ankur Karanwal
16	Adeeba Saiti	46	Ankur Singh
17	Aditi Rawat	47	Ankur Singh
18	Aditi Tomar	48	Anmol Kukreti
19	Aditiya	49	Anshita Bhatt
20	Aduika Kaur	50	Anshu Kathari
21	Aishwarya Maindola	51	Anshu Kothari
22	Akanksha	52	Anshu Singh Chauhan
23	Akansha Varma	53	Anuj Tomar
24	Akash Aggrwal	54	Anuj Tomar
25	Akhilesh Nautiyal	55	Anukriti Nathani
26	Akriti Bhatt	56	Anurag Sharma
27	Akshara Bhatt	57	Anusha Kothari
28	Akshat Bhatt	58	Anusha Kothari
29	Akshay Pathak	59	Anushk Kumar
30	Akshita	60	Anushka bhatt

S.no.	Name
61	Anushka Chauhan
62	Anushree Yadav
63	Aparajita Bhawaani
64	Arjun Uniyal
65	Arpit Kumar
66	Arun Singh
67	Arundhati Naithani
68	Arushi Joshi
69	Aryaman
70	Aryaman Rana
71	Aryaman Rana
72	Aryanian Rana
73	Asha Kanyal
74	Ashish Chandola
75	Ashita Dhaundiyal
76	Ashita Dhaundiyal
77	Ashutosh
78	Ashutosh Srivastava
79	Asif
80	Astha Chhetri
81	Astha Chitri
82	Astha Lakhera
83	Astha Negi
84	Atmansh Kumar
85	Atul Rawat
86	Avika Nautiyal
87	Ayush Bhardwaj
88	Ayush Bijalwan
89	Ayush Chauhan
90	Ayush Dimri

S.no.	Name
91	Ayushi Singh
92	Ayushi Singh
93	Mr. Bhashkar Pant
94	Bhoomika Bahuguna
95	Prof. Bibhav P Nayak
96	Dr. Casol Wilson
97	Chetna Rawat
98	Chetna Rawat
99	Chinar Bharti
100	Dr. D. N. Tiwari
101	Deepak Kumar
102	Deepti Sundli
103	Dewang negi
104	Dheeraj Maithani
105	Dhruvit Bahukhundi
106	Dimple Bhatia
107	Dimple Bhatia
108	Dr. Dinesh K. Nayak
109	Disha Bhagal
110	Divyansh Rautela
111	Dolly Chaudhary
112	Dr Savita Karnatak
113	Dr. Alka Pandey
114	Dr. Anish Kumar
115	Dr. Arun Kumar
116	Dr. B. S. Bisht
117	Dr. D. Bharat
118	Prof. H C Purohit
119	Dr. Kiran Bala
120	Dr. Kumud

S.no.	Name
121	Dr. Madhu Bisht
122	Dr. Nilachala Acharya
123	Dr. Prabhat Kumar Singh
124	Dr. Rahul Saxena
125	Dr. Rajesh Bhatt
126	Dr. Rajesh Raushan
127	Dr. Sandip Datt
128	Dr. Subir Sen
129	Dr. Sudhanshu Joshi
130	Dr. Vidya Shashi Kumart
131	Gagan Dangwal
132	Garv Issar
133	Gaurana
134	Gaurav Bisht
135	Gaurav Rana
136	Gaurav Rawat
137	Gauri Kumar
138	Gauri Kumar
139	Gokul Fulara
140	Guanjan Thapa
141	Gunjan Thapa
142	Gurkeerat Bedi
143	Harmeet Kaur
144	Harsh Panwar
145	Heer Nawani
146	Hemant Negi
147	Himani
148	Himani Rawat
149	Himanshu Arya
150	Hushleen Kaur

S.no.	Name
151	Hushveen Kaur
152	Ikshu Chauhan
153	Isha Chauhan
154	Isha Chuauhan
155	Ishaan Ramola
156	Ishani Joshi
157	Ishika Rawat
158	Ishita Rawat
159	Jatin Jayra
160	Jatin Mohan
161	Jyoti
162	Jyoti Bisht
163	Jyoti Chamoli
164	Kabya K Saikia
165	Kanak Thapliyal
166	Kanishka Gusain
167	Kanishka Mandrawal
168	Karan Bisht
169	Kartik
170	Kartik Semwal
171	Kartikey Chamoli
172	Kartikey Kutiyal
173	Karuna Aswal
174	Keshav Mishra
175	Dr. Khalid Khan
176	Khushi Chauhan
177	Khushi Panwar
178	Kiran Bisht
179	Kiran Gariya
180	Kirti Khatri

S.no.	Name
181	Kishika Kunwar
182	Km Sumitra
183	Komal Sajwan
184	Krishna Kumar
185	Kshitiz Singh Negi
186	Kuldeep Verma
187	Kushagra Raturi
188	Kushal Preeti
189	Lakshay Arora
190	Lakshika Upreti
191	Dr. Lakshimi Kant
192	Lakshita Uprati
193	Lui Ray
194	Prof. M.C. Sati
195	Madandra
196	Mahak Bisht
197	Mahendra Chandra Arya
198	Dr. Manab Chakarborty
199	Mandhra Singh Arya
200	Mannat Gambhir
201	Prof. Manoj Pant
202	Mansi Kaushal
203	Mansi Thapliyal
204	Manya Singh
205	Manya Singh
206	Mayank Jugran
207	Mayank Kashyap
208	Mayank Kashyap
209	Mehak Bhatia
210	Mehek Panwar

S.no.	Name
211	Meyenya
212	Mohd Arsh Nizam
213	Mohit Singh Rawat
214	Mothit Singh Rawat
215	Mridula Durgapal
216	Mridusmita Das
217	Naina
218	Nandani kalra
219	Nandini
220	Nandini Jugran
221	Dr. Narendra Lal
222	Navya Bajaj
223	Neha Chadha
224	Nidhi Joshi
225	Nitin Danu
226	Nitin Pant
227	Nivaydita Lakhera
228	Om Tripathi
229	Paras Jadon
230	Paridhi Aggarwal
231	Pooja Kohli
232	Prabhat Bhadri
233	Prachi Nautiyal
234	Prachi Tomar
235	Pragati Bisht
236	Prajjwal
237	Prakhar Gusain
238	Prakhar Semwal
239	Prakriti Semawal
240	Prateek Negi

S.no.	Name
241	Pratishtha Gusain
242	Dr. Preeti Sahu
243	Prerna Shaily
244	Prince Pal
245	Priya Kant
246	Priya Rana
247	Priyanjali Negi
248	Priyanka
249	Priyanka Mehta
250	Priyanshi Bhatt
251	Priyanshi Jagwan
252	Priyanshi Kumar
253	Priyanshu Arya
254	Prof. A.P. Panday
255	Prof. D. Bharat
256	Prof. Parmod Kumar
257	Prof. R P Mamgain
258	Prof. Ramesh Chand
259	Prof. S P Sati
260	Prof. Subir Sen
261	Prof. Surekha Dangwal
262	Prof. V A Bourai
263	Purvi Gupta
264	Dr. Radhika Bahuguna
265	Raghav
266	Rahul Singh
267	Rajiv Sajwan
268	Raju Sajwan
269	Rakesh Kumal Pal
270	Rakesh Singh

S.no.	Name
271	Rakesh Singh
272	Rakshit
273	Rakshit
274	Ramanpreet Kaur Nayyar
275	Rashi Bansal
276	Ravindra
277	Rishabh K Tiwari
278	Ritika Panday
279	Riya Chaudhary
280	Riya Sharma
281	Rohan Rana
282	Rohit
283	Rohit Chauhan
284	Rohit Singh
285	Rohit Uniyal
286	Ruchika Yadav
287	Rudra
288	Rudraksh Kandpal
289	Rudransh
290	Dr. S.C. Nautiyal
291	Sajeet Bijaluan
292	Saksham Chauhan
293	Sakshi Chaudhary
294	Sakshi Gusain
295	Sakshi Kaparwan
296	Sakshi Rawat
297	Saloni Negi
298	Samarth Kala
299	Samridhi Nautiyal
300	Samson Prakash

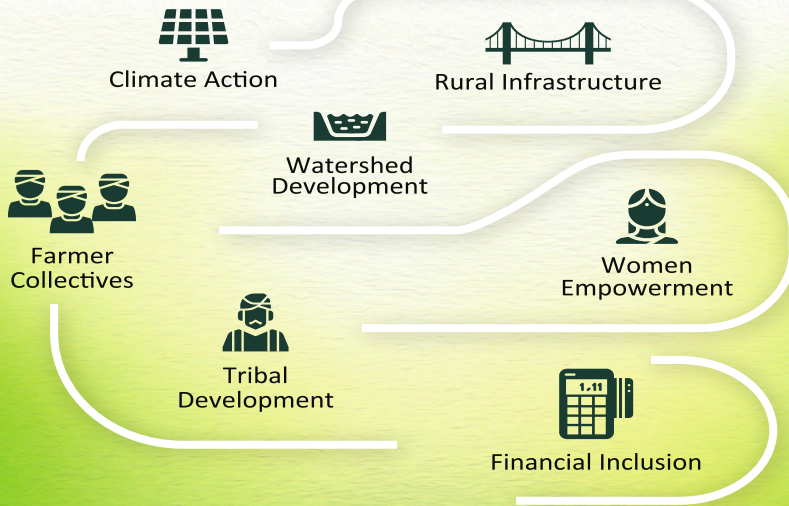
S.no.	Name
301	Sana Jaidi
302	Sanjaya Panwar
303	sanskriti
304	Sanskriti Bisht
305	Sanskriti Gusain
306	Saumya Rawat
307	Saumya Singh
308	Sejal Chauhan
309	Shabar Shah
310	Shagun
311	Shalini Bartwal
312	Shalini Rana
313	Shaurya Singh
314	Sheena Zara
315	Shikha Rawat
316	Shivangi Bahuguna
317	Shivangi Khatri
318	Shivangi Rana
319	Shivangi Shah
320	Shivani Rawat
321	Shiven Sharma
322	Shivika Budakoti
323	Shradha Kaushal
324	Shradha Saini
325	Shreshth Authwal
326	Shreshth Negi
327	Shrey Painali
328	Shreya Bhatt
329	Shreya Maithani
330	Shreya Mehta

S.no.	Name
331	Shreya Nautiyal
332	Shreya Shah
333	Shreyas Saklani
334	Shreyasi Nautiyal
335	Shriuti Thapa
336	Shriya Bhardwaj
337	Shruti Karakoti
338	Shruti Semwal
339	Shruti Tiwari
340	Shubham
341	Shubham Kuriyal
342	Siddhant Kataria
343	Siddharth
344	Sneha Gupta
345	Sneha Maithani
346	Sneha Pathak
347	Sohil Metiyani
348	Somit Garg
349	Sonal Panwar
350	Sonali Binjola
351	Sonali Sharma
352	Sourav Chhetri
353	Sourav Singh Rawat
354	Srijna Pahri
355	Steffi Parmar
356	Stuti
357	Sudanshu Uniyal
358	Suhaleha
359	Sulochan Nautial
360	Sumitra

S.no.	Name
361	Suraj Gaur
362	Suruti Thapa
363	Sushant Kumar
364	Sushant Rana
365	Suyal Dewakar
366	Swarnika
367	Swarnika Aggarwal
368	Swati Goswami
369	Swati Pandey
370	Swati Singh
371	Tahua Zaidi
372	Tanisha Bhatt
373	Tanishka Bhadri
374	Taniya Joshi
375	Tanuja Joshi
376	Tanya Dimri
377	Tanya Joshi
378	Tarun Khare
379	Tashika Rawat
380	Teesta Joshi
381	Uoit Gusain
382	Urvashi Thapliyal
383	Vaishnavi Chauhan
384	Vaishvi
385	Vanshika Rathi
386	Vanshika Semwal
387	Vanshika Varma
388	Vashvjeet kharabanda
389	Vasu Ahuja
390	Vivek Chauhan

S.no.	Name
391	Vedika
392	Vednika Gupta
393	Vibha Pundir
394	Vidushi Rawat
395	Vigyani Duseja
396	Vijay Mohan Rawat
397	Vipasha
398	Vipin Bhadri
399	Vipul Singh
400	Vipul Wartti
401	Vishrjeet Kharbanda
402	Yash Shah
403	Yugank Rai
404	Yugank Rai
405	Vishal Kandhway
406	Rajat Uniyal
407	Karuna Negi
408	Munna Singh
409	Dr. Girish Khanduri
410	Peeyush Sharma
411	Anubhuti Lakhera
412	Abhishek Badola

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