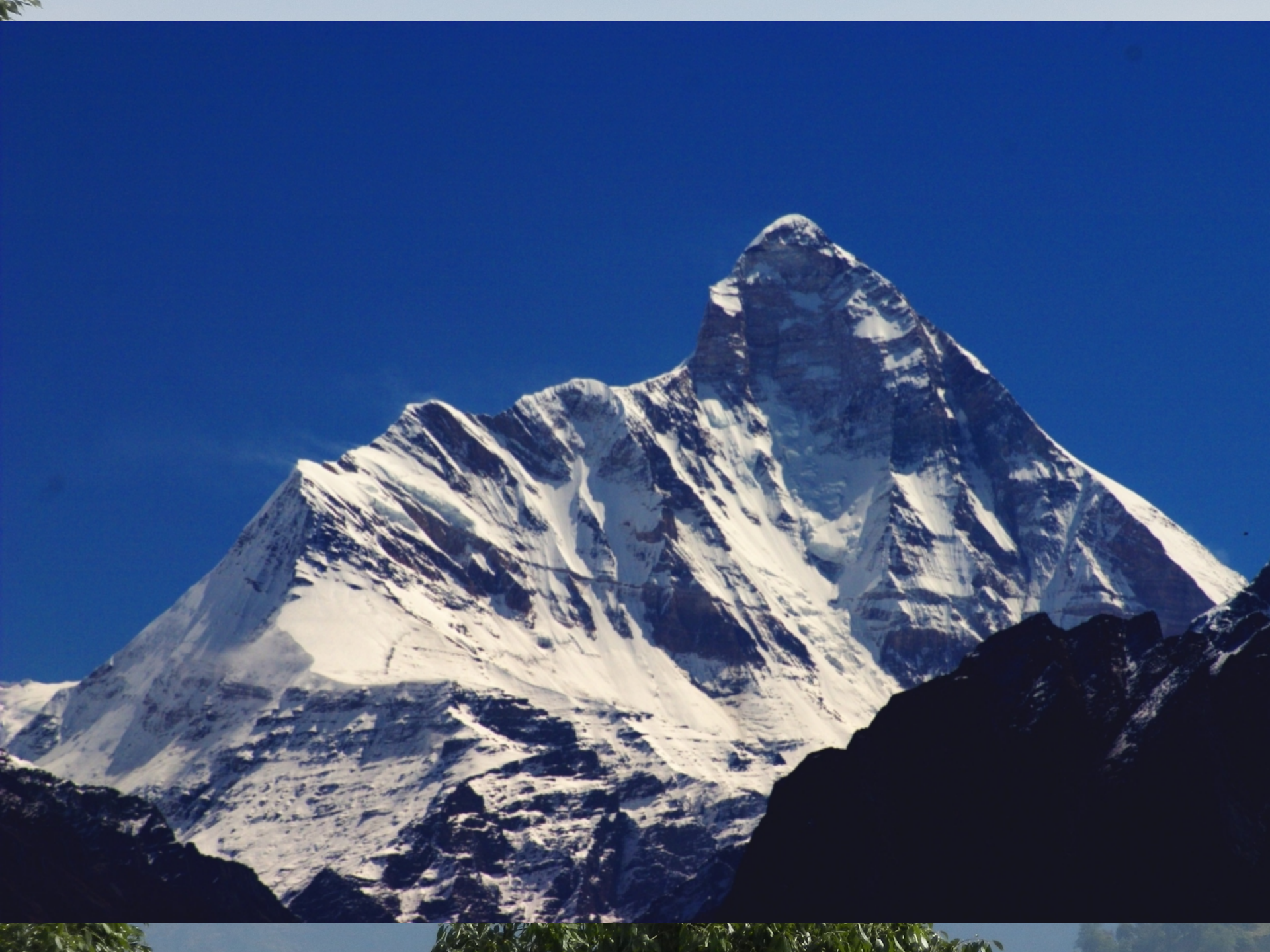
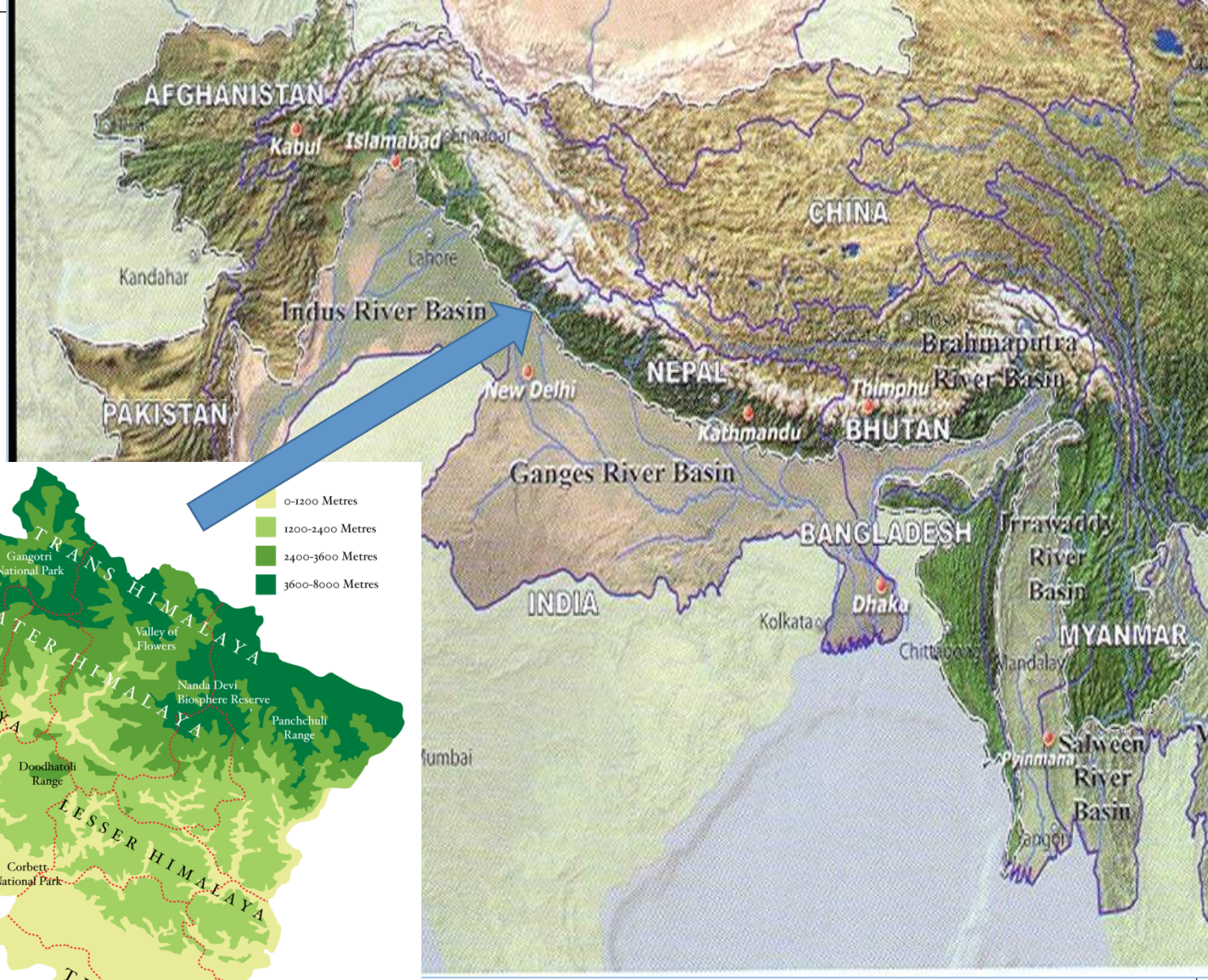
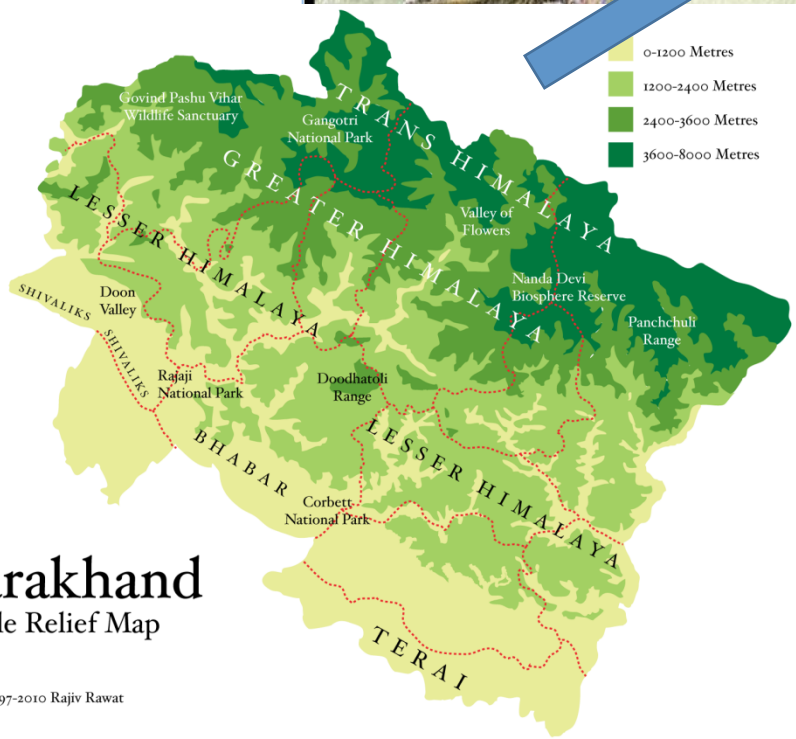
Environment & Development in a Sustainable Framework: Context Uttarakhand

B. K. Joshi
Doon Library & Research Centre







Uttarakhand

Simple Relief Map

Main events for underlining environment and development must go hand-in-hand

UN Conference of Human Environment &

Publication of Limits to Growth – 1972;

Bruntland Commission Report – 1987

Sustainable Development:“meets the needs of the present without compromising the ability of future generations to meet their own needs”.

Sustainability a difficult concept to define and use precisely

Overlapping and conflicting definitions proliferated

“sustainability” & “sustainable” became common buzzwords that meant nothing more than “environmentally desirable, if that”
Pezzey and Toman

Three aspects or domains of sustainability: environmental, economic and social (includes cultural, though distinct for some)

Two models for visualising the relationship of the three domains: Figure 1 & 2

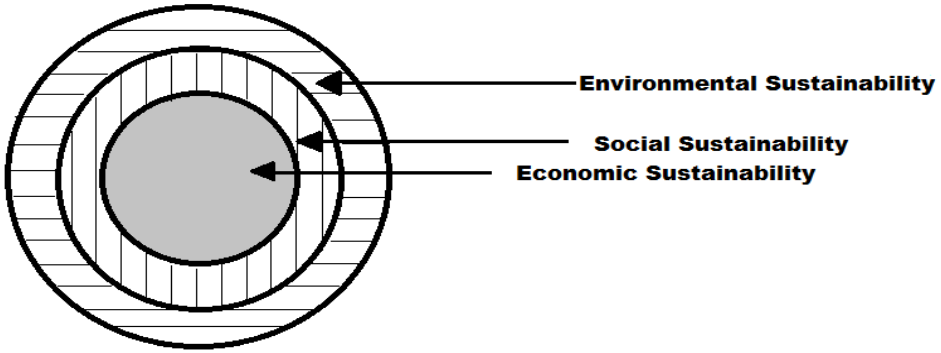

Environmental Sustainability
Social Sustainability
Economic Sustainability

Fig.1

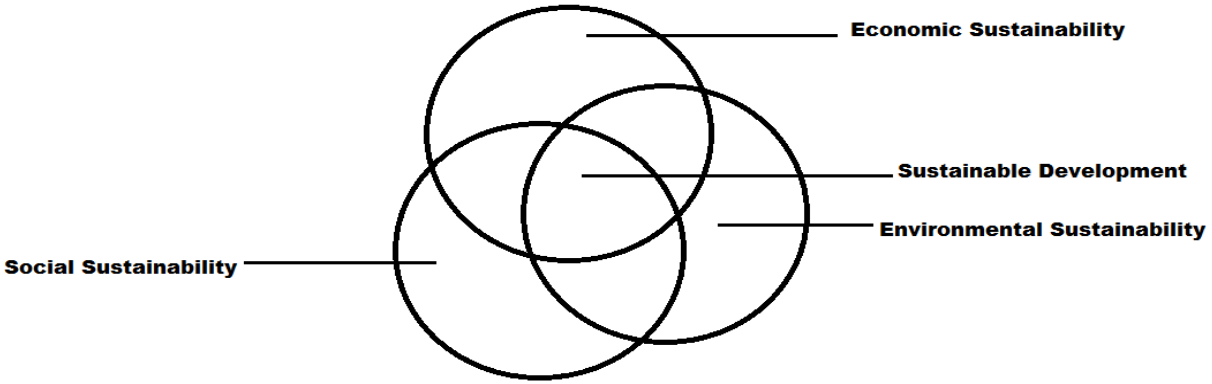

Economic Sustainability
Sustainable Development
Environmental Sustainability
Social Sustainability

Fig.2

Sustainability also a key concept for ecologists.

"development that improves the total quality of life,both now and in the future, in a way that maintains the ecological processes on which life depends."

The prefix environmental preferable over ecological, as it includes the interaction of humans with the ecosystem.

Sudhir Anand and Amartya Sen – Sustainability
Based on universality of claims – applied to future generations *vis a vis* us

A universalist approach cannot ignore deprived people today, to prevent deprivation in the future

Sustainability cannot be left entirely to market. Future is not represented in the market

Universalism demands that state should serve as trustee for the interests of future generations

Social sustainability, a more recent concern, is a least understood and least defined concept.

Two main approaches to defining it:

(i) it is a distinct domain and one of the three domains of environmental, economic & social sustainability;

(ii) not just one of the components in the triad but encompasses all human activities: includes ecological, economic, political and cultural sustainability

Summing up: Sustainable Development (SD) means:

- Qualitative change, not growth in quantitative economic terms;
- Maintenance of integrity of the life sustaining processes of the ecosystem;
- Ensuring inter-generation and intra-generation equality;
- Protecting interests of the deprived and vulnerable groups

Development in conformity with environment and promoting SD necessary in Himalayas:

'Third Pole' , 'Water Tower' - third largest store of fresh water after Antarctica & Arctic in over 15,000 glaciers.

Source of three large river basins – Indus in the west, Ganga in the central part and Tsangpo-Brahmaputra in the east, together home to over 600 million

Need for development in congruence with Environment has new, and urgent importance in Uttarakhand after flash-flood of June 16-17 2013

Though cause of the tragedy was a natural event, large scale loss of human life and property and destruction of infrastructure was due to human causes

Recalls Theory of Himalayan Environmental Degradation (Erik Eckholm: *Losing Ground*, 1976)

Vicious circle of degradation of the Himalayan resource base, mainly forests,

Deforestation and degradation: due to population growth and poor agricultural practices – inappropriate construction and poor maintenance of terraces

Theory criticised by Ives & Messerli, *The*
Himalayan Degradation (1989)

Far from being a part of the problem, local people were in fact the solution – repairing terraces and setting right the impact of heavy rains much quicker than natural processes

Theory no longer accepted as correct appreciation of dilemma facing Himalayan region

Elements of it, though, have survived

Magnitude of damage caused by 2013 Uttarakhand disaster attributed to thought less and excessive interference with environment, under influence of short-term economic gain.


HITACHI

Three hypotheses on environmental degradation (Baland, Das and Mookherjee, 2014) :

(i) "Poverty-Environment Hypothesis", degradation due to exploitation of common property resources by poor

(ii) environmental problems due to economic growth, which increases the demand for environmental resources

(iii) "Environmental Kuznets Curve“ – problem increases in early stages of development, then reduces after a ‘threshold’ GNP is reached

"Without some kind of effective government intervention, the future of Himalayan forests appear somewhat bleak. Forest degradation in this region is related to the unregulated extraction of firewood and fodder, which has led to an alarming decline in the quality and resistance of trees in the region“ (Baland, Das & Mookherjee)

Agriculture dependent on forests in the Himalayas

Exemplified by importance of a species of oak – *banj*

Primary source of fuelwood (high density good burning properties) , animal fodder (important in winter when little else is available),fertilizer (leaf litter rich in nitrogen; when mixed with cowdung and composted it is an excellent fertilizer)

Humus rich soils of *banj* forests aid infiltration of water and act as a giant sponge reducing water flow and erosion during periods of heavy rainfall.


Fodder
Fertiliser
Fuelwood

“With increase in human population forests in general, and oak forests in particular, are subjected to repeated disturbance due to lopping of trees for fuelwood and fodder. Today this is considered to be the chief cause of forest degradation and decline in the Himalaya.” (Thadani)

No easy solutions - Some possible ways :

Better governance of forests and community involvement through local institutions.

Providing alternatives - assured availability of fodder; replacing traditional cook stoves with more efficient stoves; providing electric cook stoves (with reliable and regular power); supply of LPG (preferred cooking fuel; small bio-gas plants.

Much of the expenditure on these items could be financed through a properly designed and implemented system of Payment for Ecosystem Services (PES).

Need to compensate Himalayan areas for preserving their natural resources – mainly land, forests and water – in the interests of larger social good

Some consequences of forest degradation:

Decline of agriculture

No incentive to cultivate small family holdings, largely rain-fed, that barely meet subsistence needs

Increased migration of young men, for jobs

Cultivation becomes the responsibility of women adding to their burden and drudgery.

Uttarakhand: Decadal Population Growth Rate, 1991-2001 & 2001-2011 and Sex Ratio 2001 & 2011

District / Uttarakhand	Population Growth Rate		Sex Ratio	
	1991-2001	2001-2011	2001	2011
Uttarkashi	23.07	11.75	941	959
Chamoli	13.87	5.60	1016	1021
Rudraprayag	13.43	4.14	1115	1120
Tehri Garhwal	16.24	1.93	1049	1078
Dehradun	25.00	32.48	887	992
Garhwal	3.91	-1.51	1106	1103
Pithoragarh	10.95	5.13	1031	1021
Bageshwar	9.28	5.13	1106	1093
Almora	3.67	-1.73	1145	1142
Champawat	17.60	15.49	1021	981
Nainital	32.72	25.20	906	933
Udham Singh Nagar	33.60	33.40	902	919
Hardwar	28.70	33.16	865	879
Uttarakhand	20.41	19.17	962	963

Ironic that the main reason underlying the demand for a separate state was that in the composite state of Uttar Pradesh the development needs of the area were ignored forcing the youth to migrate. If that was substantially correct, then statehood has not been the panacea that was hoped for. According to a popular saying in the area "the water and the youth of the mountains always flow downwards" (*Pahar ka paani aur pahar ki jawani neeche bah jate hain*)

In terms of traditional measures of development Uttarakhand has undoubtedly done very well.

It is among the fastest growing states of India.

GSDP growth between 2004-05 and 2013-14 averaged about 18 per cent per year.

Increase in PCI at current prices: Rs 16,408 in 2001-02 & Rs 112,428 in 2013-14.

In 2004-05 PCI slightly higher than India and 10th highest among 17 major states. In 2012-13 it was 30 % higher than India and 4th highest among 17 major states (more than Gujarat)

Growth highly skewed geographically - confined to four districts of Dehradun, Udham Singh Nagar, Hardwar and Nainital. Nine mountain districts left behind

Per Capita Income in Districts of Uttarakhand: 2010-11

District/Uttarakhand	Per capita Income (Rs)
Uttarkashi	42,521
Chamoli	62,608
Rudraprayag	42,418
Tehri Garhwal	51,442
Dehradun	81,406
Garhwal	57,596
Pithoragarh	51,464
Bageshwar	41,047
Almora	55,050
Champawat	51,648
Nainital	74,758
Udham Singh Nagar	80,241
Hardwar	80,850
Uttarakhand	59,584

Development in Uttarakhand conceived in terms of aggregate economic growth.

It is quite clear that ignoring environmental constraints can prove disastrous

Hence the need to make development policy and practice sustainable

Challenge: How is this to be done?

Development Dilemma - Case of Hydropower

State totally dependent on hydropower

Also identified as engine of growth by govt.

Power potential identified 25,000+ MW

Developed slightly over 3,164 MW

Under development approx. 14,000 MW

(facing various problems)

Hydropower has run into problems

Two kinds of objections raised –

environmental and those based on faith.

Real issue not addressed: What is the energy policy in Uttarakhand?

Energy policy cannot be seen in isolation

It has to be understood in the context of wider development policy

In the absence of clarity on development goals and policies, energy policy too lacks clarity

State government should stop thinking, planning and acting in silos – sectoral and departmental

Development gets locked into a rigid framework of departmental programmes

The integrated and holistic character of development encompassing a number of closely inter-related dimensions gets lost

Development should be conceptualised as a network or web of inter-related fields, all of which are equally important

All should be addressed simultaneously - change in one field has an impact on, and is in turn affected by, change in other fields

Mistaken to conceive of development in a sequential mode

A beginning has been made by the Report (March 2013) of the Expert Group on Green National Accounts chaired by Sir Partha Dasgupta constituted by Government of India


THANK YOU
DOON LIBRARY & RESEARCH CENTR