# Workshop Programme

DAY ONE	DAY TWO	
Theme One : SOCIO - ECONOMIC ISSUES	Theme Two : ENVIRONMENTAL ISSUES	
Chairman : Mr. Shanker K. Malla	Chairman : Prof. Upendra M. Malla	
- Kathmandu Valley Region  a. Economic Dimensions of Urbanisation and its National Linkages:	- Ecological Approaches to Urban Systems : Dr. Anne V. Whyte	
Dr. Mahesh Banskota b. Trend of Urban Growth: Dr. Chandra B. Shrestha	- Environmental Aspects of Urbanisation in Kathmandu Valley: Bharat P. Sharma	
<ul> <li>Strategy for Infrastructure Development:</li> <li>Prof. Nayan S. Saini</li> <li>The Economic Development of the Lhasa</li> <li>Valley: Mr. Wang Hai</li> </ul>	- Urbanisation, Economic Development and Environment in Peshawar Valley: Dr. M. Aslam Khan	
- Planning for a Valley: The Srinagar Experience: Dr. Om P. Mathur	- Environmental Impact on Dun Valley : Prof. M. C. K. Swamy	
General Discussions	General Discussions	
Proposed Outline of the Work Programme: Desmond J. McNeill	e motorphotomically departs of guidelike diversing that appendial execute for aboved learning	
Group Discussions	Group Discussions	
Convenors  Dr. M. Aslam Khan  - Wider Regional Scale and Economic Links	Convenors  Dr. Prodipto Roy  - Wider Regional Scale and Environment Links	
Dr. Nigel Harris - Key Economic Programme Priorities	Prof. M. C. K. Swamy - Key Environment Programme Priorities	
Prof. Abhijit Datta  - Urban and Regional Resource  Mobilisation for Economic Investment	Prof. Nayan S. Saini - Effective Instruments for Intervention and Implementation of Programmes Relating to Environmental Issues	

DAY THREE	DAY FOUR		
Theme Three: INSTITUTIONAL ISSUES	Theme Four: PROPOSED ISSUES FOR REGIONAL COOPERATION		
Chairman : Dr. Nigel Harris	Dr. Colin Rosser Dies		
	Chairman : Dr. Colin Rosser		
- Urban Development Strategy:	distributed by the Commission of the Commission		
Alfred P. Van Huyck	Reports from Working Groups:		
- Kathmandu Valley Land Use Development:	- Social and Economic Issues :		
Conflicts and Priorities:	Dr. Nigel Harris		
Duane L. Kissick	- Environmental Issues :		
- Institutional Framework:	Prof. M. C. K. Swamy		
Prof. Abhijit Datta	In Industry in the State of the		
	- Institutional Issues :		
- Urban Development in Bhutan :	Dr. Om P. Mathur		
Meghraj Adhikari	11C ROSSAN VENEV UDREMESEA		
General Discussions	General Discussions		
Group Discussions  Convenors	General Summing Up In Relation To Proposed Programme Follow - Up : Desmond J. McNeill		
Dr. Om P. Mathur	Desiriond 3. Merten		
- Regional Scale for Institutions	CLOSING OF THE WORKSHOP		
Alfred P. Van Huyck	Prof. Upendra M. Malla		
- Urban Development Planning and Implementation Institutions	Dr. Colin Rosser		
Dr. Prodipto Roy			
- Community Participation and Awareness			

### Annex 2

# Workshop Organising Committee

#### Steering Committee

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and Chairman, MAB Nepal

Dr. Colin Rosser Director, ICIMOD

Hazmaniya L. Rajbhandari Chief Engineer

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# Annex 3.

# Kathmandu Valley Region Study Team

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Pradumna Bhattarai Planner

Dept. of Housing, Building and

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Civil Engineer/Planner, ICIMOD Saroj K. Basnyet

#### Annex 4.

# Papers Prepared for the Workshop

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Meghraj Adhikari

Urban Development in Bhutan

CHINA

Wang Hai

The Economic Development of the Valley Regions

with Special Reference to Tibet

Sun Shangzhi

Lhasa and Regional Development

INDIA

Abhijit Datta

Urban Plan Finance and Local Resource

Mobilisation in India

Om P. Mathur

Planning for a Valley: The Srinagar Experience

Navan S. Saini

Strategy for Infrastructure Development to Guide Urbanisation in the Hindu Kush-Himalaya Region

Mukul Sanwal

Institutional Structure for Planning and Implementation: Dun Valley and other Towns of

Hill Areas of Uttar Pradesh

M. C. K. Swamy

Environmental Impact on Dun Valley

NEPAL

Mahesh Banskota

Economic Dimensions of Urbanisation in the

Kathmandu Valley and its National Linkages

Saroi K. Basnyet

(Kathmandu Valley)

- Water Supply and Sewerage

- Transportation

- Education

- Health

Pradumna Bhattarai

National Policy and Decentralisation

Padam B. Chettri

(Kathmandu Valley)

- Planning History

- Regional and Urban Land Use Planning

Ananda R. Pant

(Kathmandu Valley)

- Solid Waste Collection and Disposal
- Communication: Telecommunications

- Housing

Bharat P. Sharma

Environmental Aspects of Urbanisation in the

Kathmandu Valley

Chandra B. Shrestha

(Kathmandu Valley)

- Identification of the Region - Hierarchy of Settlements

- Population Dynamics

- Trend of Urban Growth

H. Detlef Kammeier

Ballabh P. Acharya

Ballabh P. Acharya

Decentralised Urbanisation and Planning Legislation: The Experiences of the Regional

Centres in Nepal

Duane L. Kissick

Kathmandu Valley Land Use Development:

Conflicts and Priorities

**PAKISTAN** 

M. Aslam.Khan

Urbanisation, Economic Development and

Environment in Peshawar Valley

UNESCO

Anne V. Whyte

Ecological Approaches to Urban Systems:

Retrospect and Prospect

GENERAL

Basundhara Dhungel

(AIT)

Urban Development Planning as Seen from the Women's Point of View:

Reflections and Propositions

Desmond J. McNeill

(ICIMOD)

A Methodology for Planned Urbanisation in the Hindu Kush - Himalaya Region with Particular

Emphasis on Rural - Urban Linkages

#### Annex 5.

# Summaries of Presentations

(in order of presentation)\*

# Theme One: Social and Economic Issues

ECONOMIC DIMENSIONS OF URBANISATION IN THE KATHMANDU VALLEY AND ITS NATIONAL LINKAGES

Mahesh Banskota

Urbanisation in Nepal is an old and slow process. In the last 30 years the pace has accelerated, but development is occurring in an uneven manner. A large percentage of total development expenditure in Nepal is concentrated in the Kathmandu Valley Region (KVR); investment in the hills is extremely low.

The Kathmandu Valley Region is the nation's major urban centre, including three major and ten minor towns, built by Newars: an ethnic group with a long history of urban dwelling. Large parts of the valley region remain rural. During the sixties, the region was one of the most productive agricultural areas in south Asia. Production has declined, but 70 per cent of KVR's economically active population are employed in the agricultural sector, primarily in cereal grain production. Currently, about 60 per cent of the Valley's food grain requirement is imported into the valley.

Manufacturing industries have increased over time, but in the face of limited diversification and raw material supply constraints, their growth has not been as rapid as in the Terai (southern plains). As these are mostly agro - processing industries, strong linkages are indicated between agricultural and manufacturing sectors in Nepal. Employment per unit and value added per person are greater in the Terai. While per capita bank deposits in KVR are constantly increasing, per capita credit is low. The situation is reversed in the Terai, indicating provision of credits from KVR and the hills.

Tourism is a relatively dynamic sector, not constrained by the domestic market. However, equity questions arise as there is little evidence of tourism benefiting hill areas.

Lack of data is a severe constraint in economic analysis of urbanisation and related trends in Nepal. Not only sectorial data, but data on relations between sectors and on rural-urban linkages, are non-existent. Data is essential to assess ongoing regional changes, of which development can take advantage. Regional issues, such as strong links between the Nepalese and Indian economies, deserve careful research for effective internal decision making.

#### TREND OF URBAN GROWTH

Chandra Bahadur Shrestha

A single urban system has been evolving in the Kathmandu Valley Region since the middle of this century. Earlier, each of the three urban centres in the valley was a different system of equal importance. Since the 1950s, Kathmandu has absorbed the other two centres, and two more systems have developed in the Terai of central Nepal. The primacy of Kathmandu is increasing.

<sup>\*</sup> Not all authors have had the opportunity to comment on the summaries presented here; ICIMOD has tried to reflect as accurately as possible the major points raised by the authors.

The hierarchical structure has undergone changes in terms of tiers, developing from a three - tier system prior to the 1950s to a six - tier system in 1981. Most of the urban centres have been small market centres; the number of such centres is steadily increasing. The pattern of urban growth has always been conditioned by route networks.

The current trend in the spatial pattern of urban growth has been the declining importance of urban centres of northern hill areas and increasing importance of southern towns of the Terai. The size of the towns declines from south to north, with the exceptions of Kathmandu and Patan. Changes have also occurred in locational pattern. Previously, market centres were located at high altitudes to avoid malaria. Later, development took place in lowlying plains and valleys. Although a change has been noted in the distribution pattern of market centres with increasing dispersion, the centres are still highly concentrated.

Regarding the spatial pattern of service areas of urban centres, the sphere of influence of Kathmandu is growing, while those of the valley's other urban centres have declined. Compared to India, Nepal's rural areas have poor access to market centres. Lack of job opportunities keeps the population growth rate lower in the smaller centres and higher in Kathmandu (4.6%).

Kathmandu's population growth rate would not be considered high when the addition of population due to extension of municipal boundaries is taken into account. There has been large scale out-migration from the Kathmandu Valley to small market centres in the Central Development Region and Terai towns, following the completion of new roads. Intra-urban movement of population is a growing phenomenon in Kathmandu. The movement has been markedly from inner areas to outskirts.

The key issues regarding urbanisation include: structural deficits, i.e., concentration of urban centres; minimal spread effect due to lack of roads and transport; and lack of medium sized towns necessary for development of the mountain areas.

STRATEGY FOR INFRASTRUCTURE DEVELOPMENT TO GUIDE URBANISATION IN THE HINDU KUSH - HIMALAYA REGION

Nayan Singh Saini

Urbanisation in the Himalaya region of Uttar Pradesh, traditionally an area of religious meditation, has been an ongoing process since Independence (1947). Regional trends affecting urbanisation include: out-migration (hills to plains) due to lack of job opportunities, scarce water and poor soil, in-migration (hills to hills and plains to hills) due to development projects; improved road networks; and health facilities which have contributed to rapid population growth.

Hill Area Development Programmes have significantly increased urban growth in hill areas. Overall, the existing urban infrastructure is good in terms of schools, teacher-pupil ratios, medical facilities, shops and bank branches. However, electricity consumption, paved roads and water supply are below national standards. The main problem is inequity of distribution due to inaccessibility and travel time.

Presently, all urban areas are tertiary (service) oriented, two-fifths of the population are male, one-third of the households have one or more members in defence service, most of the land is forested, and substantial fluctuation in population occurs, with the winter being the lean period.

Tourism may be the most compatible industry for the region, but given the fragile ecology, understanding of urban-rural linkages and resource utilisation is important. An ecological sensitivity analysis is proposed for the region, by watershed, to guide development. Further, two settlement policies for the Kumayun and Garwhal areas of the Uttar Pradesh Himalaya, should be designed. Based upon the analysis and policies, Growth Service Centres should be designated and infrastructure development carried out with local private agencies' full involvement. Identification of a key authority and catalyst agency is crucial.

THE ECONOMIC DEVELOPMENT OF THE VALLEY REGIONS WITH SPECIAL REFERENCE TO TIBET

Wang Hai

The Tibet Autonomous Region is rich in natural resources, mostly unconverted for economic use. Mineral and energy resources, including hydroelectric, geo-thermal, solar and wind energy await exploitation. The river basin of the Yarlung Zangbo, the Lhasa, and the Nianchu Rivers, is the valley region of Tibet, with 43 per cent of the population, 60 per cent of the total grain production, and 40 per cent of the total annual industrial and agricultural output.

The Autonomous Region People's Government has an "open door" policy, and is increasingly making the area accessible according to perceived needs. An emphasis is being placed on agriculture and animal husbandry, light industry for agricultural raw materials, national handicrafts, traditional medicines, service occupations and tourism. Tourism is an increasing source of income and investment. The Lhasa Hotel, Art Museum and Theatre are among many new features in the capital. Urban projects such as transportation improvement are underway.

A tentative plan for the opening of the valley region adjacent to Lhasa has been proposed. Data collection and analysis are needed to estimate potential benefits from river improvements such as land reclamation, irrigation, hydropower and waterways to supply meat, milk and wool to the city of Lhasa.

PLANNING FOR A VALLEY: THE SRINAGAR EXPERIENCE

Om Prakash Mathur

The Master Plan for the development of Srinagar (1971-91) came under review by the National Institute of Urban Affairs (NIUA) in 1983. The review was necessary primarily because of unexpectedly rapid population growth and the gap between demand and provision of services, along with the usual problems of pressures on land

resources, inadequate infrastructure, a fragile economic base, and deepening environmental strains.

The original Master Plan envisaged spatial reorganisation, economic growth with major expansion in industry, infrastructure development with emphasis on the tourism sector, and the arresting of environmental degradation. While attributing certain failures of the original Plan to absence of coordination between departments and lack of effective implementation and monitoring mechanisms and authority, the revision has relied on traditional paradigms and allocative principles of planning. The revised Plan highlights the urgent need for Srinagar to strengthen and diversify its economic and occupational bases.

The key issues challenging Srinagar planners are: utilisation of Dal Lake for economic opportunity versus environmental preservation, provision of basic services to the boat population where they are versus relocation, and the impact of the growing informal sector on city beautification versus promotion of self-employment. Rather than a land allocation approach, a problem solving approach which emphasises proper utilisation of existing resources should be considered. A combination of innovative and adaptive approaches in place of comprehensive ones, may best serve the needs of valley cities.

Theme Two:
Environmental Issues

ECOLOGICAL APPROACHES TO URBAN SYSTEMS

Anne Veronica Whyte

The Man and the Biosphere Programme (MAB) of UNESCO has, since its inception in 1971, been developing an ecological approach to human settlements, especially major urban centres. Since 1975, nearly 80 projects have been carried out by national MAB Committees in collaboration with UNESCO-MAB.

Many of these projects have focused on human settlements as systems which share many of the features of ecosystems in that they are open systems with complex organisation, there is competition for resources, and hierarchical organisation of energy. This aspect of urban systems has been used as the main entry point for studying human settlements. A series of "urban metabolic" studies have been undertaken in which inputs, transformation and outputs of food, water and energy, have been measured.

The major lessons drawn from this 10 year experience of the MAB field programme are:

- The city is not necessarily the best unit of analysis; a larger system which includes rural - urban linkages, such as a watershed, is preferable.
- Input output models are essentially linear
  and are not the best basis for planning
  innovation or creative problem solving.
  Alternatives to be considered are simulation
  models involving local participation and
  expert systems.
- Projects have a higher chance of being implemented by policy makers and planners if these people are involved in the design, implementation and evaluation of the project, and the project responds to their expressed priorities.
- 4. The analogy of the city as ecosystem or an organism does not give sufficient weight to the creative, socio cultural aspects of cities, which are also centres of opportunity, information exchange and innovation. Cities are self organising systems as well as ecosystems.
- 5. Ecology in the 1980s has tended to downplay earlier emphasis on trophic levels, a hierarchical organisation of energy and macro - views of systems in favour of the analysis of strategies of organisms within the overall system. Similarly, urban systems cannot be understood simply in terms of their structure, but attention must also be paid to process. What are the major social economic, political, and environmental processes involved in urbanisation? Micro - studies should be included of local people's perceptions, decision making and behaviour. For this, a useful unit of observation may be the rural - urban household or extended family,

- through which many of the rural urban linkages flow and are actually maintained.
- 6. Projects have a better chance of success if their objectives are well defined and relatively focused. In this respect, a planning objective, such as ecological sustainability, environmental impact assessment, or risk assessment, has advantages over a more general "integrated development "rubric. Such objectives should be defined at the outset as positive aspects of the project, rather than being added later as negative constraints.

# ENVIRONMENTAL ASPECTS OF URBANISATION IN THE KATHMANDU VALLEY

#### Bharat Prasad Sharma

Balance is needed between economic growth and care for environmental resources in the urbanisation process. In Kathmandu, the environmental issues needing to be examined in the socio-economic framework include: urbanisation, land use, agriculture, water and hydro-cycle, forestry, and natural resource harvesting. Kathmandu's growth pattern has followed the road network away from the city centre, leading to misuse of prime agricultural land. Cement, tannery and brick factories threaten the well - being of the environment. Sustenance, consonance and safety considerations are critical for the balance of the urban system, along with attention to action and reaction cycles of humans on the environment.

#### URBANISATION, ECONOMIC DEVELOPMENT AND ENVIRONMENT IN PESHAWAR VALLEY

#### Mohammad Aslam Khan

The Peshawar Valley has a very important regional role, with 35 per cent of the North West Frontier Province's population, 60 per cent of the industrial units, and 40 per cent of the value added by agriculture. Almost 60 per cent of the land in the valley is used for cultivation. Factors

contributing to the achievement of regional importance include: irrigation extension, power generation, the shift from food to cash crops, rapid industrialisation, farm mechanisation and use of agricultural inputs. These same factors have had substantial effects on the valley's environment.

More than half the land of the Peshawar Valley has either been affected or is soon likely to be affected by desertification, in particular, waterlogging and salinity. This is largely due to the extended irrigation carried out to meet the increasing population's food needs. Reduction in carrying capacity has also occurred through population increase, as well as through resource misuse. In - migration to cities and unequal distribution of population have aggravated loss of agricultural land, overcrowding (two - thirds of valley housing has three or more persons per room), the gap in demand/supply of services, and problems of water supply, sanitation and health.

Pollution of land/soil, water and air is of growing concern. Water pollution has occurred largely through the use of chemical fertiliser necessary for increased yields, while animal dung is used more and more to meet growing fuel demands. This fuel demand is leading to deforestation, soil erosion and sedimentation. The intensity of industrial pollution has been reduced until now due to planned dispersal of industries, which may not be possible in future. Likewise, the loss of prime agricultural land has partially been reduced due to planned infrastructural development, which has helped pull city growth in desired directions.

One further factor in the web of environmental linkages in the Peshawar Region is the lack of community involvement, which is an important hindrance to effective environmental management.

#### ENVIRONMENTAL IMPACT ON DUN VALLEY

M. C. K. Swamy

The Dehra Dun Valley, which is a distinct geographical entity, is highly urbanised and occupies a unique position as the gateway to the upper Himalaya mountains.

An understanding of the linkages between human - ecology, hydro - ecology and the environment is critical for effective planning in the Dun Valley. Although 50 per cent of the land is not suitable for urban development, the Dehra dun District is the second most urbanised in the State of Uttar Pradesh, India (49.21 per cent in 1981). In the fragile environmental setting, this high rate of urbanisation and consequent industrialisation (especially limestone quarrying and road construction) have brought about deforestation, soil erosion, siltation and air pollution. The high dependence of the rural people on livestock, fuelwood collection and pressures from tourism, are contributing to ecosystem deterioration. The monsoon seriously aggravates these problems in an already "mass wasting" setting like the Siwaliks. Siltation of streams and canals have depleted water availability for irrigation and urban uses.

The valley faces high population pressure and a low skill level. Most towns in the valley are administrative and service oriented. Agricultural land holdings are small, and cash crop introduction is unwise from the environmental perspective. Isolated urbanisation without rural area linkages cannot be the strategy for future economic development of the valley area.

The valley is losing the ability to feed the resident population. Environmental management is a must to restore the natural systems upon which the economy depends. Appropriate rural-urban linkages and innovative farming methods patterned on natural vegetation, hydraulic cycles, and integrated crops, livestock and trees, deserve careful development. Research is necessary to establish the environmental imperatives of the valley, upon which an integrated mountain development system could be based.

#### Theme Three: Institutional Issues

#### URBAN DEVELOPMENT STRATEGY

Alfred. P. Van Huyck

The issues facing development planning everywhere are brought into sharper focus and magnified for valley planning by two factors: finite space and fragile ecologies. Taking into account the deficits in existing infrastructure, low incomes,

and limited skills facing the valleys of the Region, development planning requires thought rather than more data collection. Development planning is usually based on the idea that development should be brought to the people where they are. Thinking in larger, "open systems" terms is necessary for realistic assessment and option generation regarding, for example, off-land employment as a viable alternative to subsistence agriculture.

KATHMANDU VALLEY LAND USE DEVELOPMENT : CONFLICTS AND PRIORITIES

Duane L. Kissick

Among the findings of the Kathmandu Valley Urban Land Policy Study is the realisation that no articulated role for the Valley exists. A clear vision is increasingly important as the population is expected to more than double by the year 2000, and conflicts between rural and urban land use are growing. If development continues at present rates of growth, all agricultural land in the Valley will have been urbanised by 2020. Yet the Valley is one of Nepal's most fertile areas, and enjoys increasing yields.

The ongoing urban growth is unplanned and inefficient. Lack of formal housing finance contributes to the urban sprawl. Landless low income groups are excluded from the land market due to rising prices, reflected in urban centre core area densities. Land remains the best investment in Nepal.

Development of lowlands and flood plains, traditionally avoided, is likely to lead toward serious drainage problems. The absence of standards for public sector land development and unsatisfactory management are contributing factors. With no institution for valley planning or development, and with land legal instruments generally contributing to the problems, it is suggested that the guthi corporation (traditional community organisations responsible for lands donated to public good currently holding up to 9% of the valley's prime agricultural land) could be effectively utilised as land policy instruments.

Using land transactions as indicators, future development sites can be determined and infrastructure facilities used as magnets or deterrents.

Recommendations arising from the study include:

- The Valley's role should be defined as national capital; cultural, historic and regional economic centre; and national/ regional services centre. Economic development and industry should be focused in the Terai.
- 2. Valuable arable land should be preserved as long as possible through efficient urbanisation. Introduction of access roads needs to be limited, a housing finance mechanism needs to be established using the guthi corporation as a land policy tool, flood plains and priority arable areas should be protected from development, and land brokers should be organised so their skills and knowledge can be built upon.
- Establishment of public land acquisition and utilisation policy is recommended, in accordance with a valley development plan.
- 4. Improvement of the cadastral system is urged.
- 5. Legal modifications need to be made.
- House, compound and urban land taxes could be merged into one urban property tax.
- A Valley Development Authority should be established, which recognises its national role but reflects the spirit of decentralisation.
- Immediate priority should be given to establishment of a development and investment plan for the Valley and institutional development for its authority.

#### INSTITUTIONAL FRAMEWORK

#### Abhijit Datta

The nature of local-level public institutions is not generally understood, more so in the countries of the Hindu Kush-Himalaya Region with widely varying systems of local government and administration. Historically, local institutions have evolved on a continuum from centralised to decentralised systems; also there seems to be uneven growth of rural and urban institutions, with China being the sole exception.

LOCAL GOVERNMENT SYSTEMS TYPES						
AREAS	Integrated	Unified	Separate			
l. Rural/ Urban	China	er ci-				
2. Rural	Bhutan	India Pakistan Nepal				
3. Urban	_	Bhutan	India Pakistan Nepal			
4. Valley	Lhasa (Chin Thimphu (F		-			

From the above diagram it is clear that countries like India, Pakistan, and Nepal lack valley-specific local institutional arrangements. There are at present two options: (a) under a unified system, a valley-specific local institution could be created under a governorate as in the middle-eastern countries, though this is unlikely to be created as the existing municipal authorities would have to surrender their autonomy vis-a-vis the field administration; or (b) under a separate system a valley - specific unified local government

could be created on the model of the British two tier arrangement for metropolitan areas, although in view of their impending abolition, it is unlikely that the system will be given a trial in the developing countries of South Asia.

The three South Asian countries of India, Pakistan, and Nepal have experimented with function - specific ad hoc authorities as well as general-purpose development authorities in the large urban concentrations. The experiences with these authorities have not been entirely successful, from the points of view of local political or resource mobilisation. Currently, there is a rethinking about the role of metropolitan development authorities in India and any alternative institutional system that may be devised in India for metropolitan areas will have bearing on the question of appropriate institutions for the valley regions in other South Asian countries as well.

Since local institutional restructuring is politically sensitive and difficult to bring about quickly, a practical alternative to the local institutional tangle would be to influence these through the creation of a valley-specific development bank which could bring about efficient functioning of the existing institutions, rather than substituting them by creating new institutional arrangements.

#### URBAN DEVELOPMENT IN BHUTAN

#### Meghrai Adhikari

The definition of "urban" in Bhutan is different from many other countries, as the largest city - Thimphu - has a population of only 15,000. "Urban" is understood to mean a centre with services and high potential for growth.

Despite the existence of a Town Planning Department prior to 1984, urban centres in Bhutan have been plagued by lack of coordinated infrastructure programmes to supply water and sanitation systems, complex narrow road networks, inappropriately mixed land uses, and urban buildings unsuitable for the climate. In 1984, a National Urban Development Corporation (NUDC) was established, through which central government directives are given to district offices.

NUDC has adopted a policy of promoting housing which reflects Bhutan's cultural heritage, as well as the climate and local resources. Research is focusing on improvement of traditional mud wall building methods and materials, and passive solar heating efficiency to utilise energy and to conserve the forest. Involving local people in the planning process and training local artisans are emphasised. Each division of NUDC has carefully designed manpower structures to provide a framework for staff training and recruitment, as skilled manpower is a critical constraint in Bhutan.

Presently, a number of urban studies are underway, including preparation for a plan for Thimphu with maximum emphasis on housing, office accommodation, commerce and basic infrastructure, with the goal that urban areas should generate their own revenues and service provision.

A METHODOLOGY FOR PLANNED URBANISATION IN THE HINDU KUSH - HIMALAYA REGION WITH PARTICULAR EMPHASIS ON RURAL - URBAN LINKAGES

#### Desmond James McNeill

The theory and practice of urban planning have undergone considerable changes in Asia in the last two decades, with increasing emphasis being placed on appropriate institutional frameworks. General transitions are occurring from master plan bureaus to development agencies, from economic growth to basic needs and productive employment, and from technocratic planning to community participation.

Decreasing emphasis is being placed on physical, land use aspects; comprehensive planning objectives are more frequently sought. Use of the investment budget is replacing instruments of land use control.

Urban development planning should be concerned with maximising the productive role which towns play in the national economy, for the benefit of rural as well as urban dwellers. Towards this end, emphasis must be on implementation, based on detailed analysis of key factors, provision of relevant and reliable information to agencies, and

initiation of projects consistent with overall objectives through proposals to line agencies.

A strategy for economic development should be central to the methodology. Emphasis should be on stimulating and guiding, rather than attempting to control, and planning should be viewed as a continuous process of informed, coordinated decision making.

# Annex 6.

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