



Sector Specific Summary

Recommendations

1. AGRICULTURE

1.1 Overview

Agriculture is the key sector in Uttar Pradesh and engages about 65 per cent of the workforce, most of whom are below poverty line. However, the performance of this sector has been far from satisfactory. During the 1990s, agricultural growth in Uttar Pradesh (2.3 per cent per annum) was lower than the all-India picture. A large population and poverty have put excessive pressure on natural resources which has led to fragmentation of landholdings (less than 0.9 ha). During the last two decades (1980-2000), there has been no significant change in the land use pattern, except a mere one per cent shift in favour of non-agricultural uses from unutilised land. The land use pattern exhibited stickiness across all regions. Unfortunately, cropping intensity also has not displayed any significant change in the state. Excessive soil moisture due to high rainfall in irrigated areas, and water stress in rainfed areas are the principal constraints to low cropping intensity.

Uttar Pradesh is a major foodgrain producing state—rice and wheat as well as chick pea and pigeon pea are the important foodgrain crops. Sugarcane is another important crop, the cultivation of which has increased with the expansion of irrigated area. Today, about 90 per cent of sugarcane in the state is irrigated. However, in terms of per capita production and yield per hectare, Uttar Pradesh is average. There is enormous scope for increasing agricultural productivity and growth.

With respect to regions, rice and wheat are the important crops in the Hill and Eastern regions. In the Western and Central regions, rice, wheat and sugarcane are the principal crops. Bundelkhand has emerged as a pulse and oilseed producing region. Overall, the

Western region is far ahead as compared to other regions with respect to production performance of different crops.

Performance of the livestock sector is very impressive. This sector has grown at an annual rate of 5.5 per cent during 1990s, which was 4.8 per cent during the 1980s. This sector has vast potential that needs to be harnessed.

Overall, important supply side constraints for higher agricultural growth are: (i) declining investment in agriculture, (ii) small and declining size of landholdings, (iii) inefficient irrigation system, (iv) crumbling seed sector, (v) weak credit sector, (vi) deteriorating quality of land and water resources, and (vii) supply-driven research and technology transfer. Agro-processing is in its infancy in the state. The private sector is not very enthusiastic for value addition of agricultural commodities.

1.2 Recommendations

1.2.1 Make Tangible Investments

- Augment public investment in the agricultural sector as this will help in attracting private investment.
- Mobilise resources by scrapping subsidies, improving efficiency and issuing 'agricultural infrastructure bonds'.
- Relax existing land laws for long-term lease and contract farming. This will facilitate the participation of the corporate sector in agriculture and allied activities, which in turn will encourage utilisation of wastelands for productive purposes.
- Mobilise resources for research in biotechnology, genetic engineering and tissue culture.

1.2.2 Reform the Irrigation Sector

The irrigation sector faces three interrelated problems: (i) large unutilised potential, (ii) under pricing of irrigation water, and (iii) injudicious use leading to land degradation. The low utilisation of surface irrigation is due to extensive seepage, uneven and unreliable water delivery and inadequate maintenance and modernisation of irrigation structures. The poor performance of public tube wells is because of inadequate and erratic power supply and poor maintenance. However, irrigation management can be improved through following strategies:

- While the creation of reservoirs, headworks and canals of major and medium projects would have to continue with the government, the tertiary distribution, and to some extent the secondary distribution, could be created through the involvement of irrigation users.
- Hand over public tube wells to the private sector. Such a strategy will completely phase out subsidies from irrigation. Each party will tend to optimise irrigation efficiency for revenue maximisation.
- Unbundle the existing tariff regulatory body.
- Provide incentives for water saving devices like drips and sprinklers, which use groundwater. Provide similar incentives for use-based on canal water also, where water logging has occurred or is likely to occur.
- Replace diesel and electricity by solar energy for running tube to make it more cost-effective. Even replacing diesel by electricity could be highly cost effective.

1.2.3 Strengthen Rural Credit

The credit system can be improved by promoting self-help groups (SHGs) to mobilise savings and access credit for productive purposes and popularising the Kisan Credit Card scheme. Further, an innovative model in the line of Rabo-ICICI-NABARD-NBF can also be introduced in rural areas.

1.2.4 Diversify Agriculture in Western Region

Diversification is essential in the western region where cereal production has reached a plateau. The western region has a comparative advantage in diversifying due to its proximity to the vast market of Delhi. Products such as vegetables, livestock products,

and floriculture have immense potential. However, diversification on a wide scale requires adaptive research and an interlock between the input sector, production and marketing.

1.2.5 Intensify Agriculture in the Eastern, Central and Bundelkhand Regions

This must be done in order to achieve greater yield and productivity. However, this does not mean that diversification is not necessary in these areas. In fact, optimal crops should be identified after a systematic process of analysis.

1.2.6 Develop Watersheds

The irrigated area has to be increased through watershed development and adoption of water saving devices like drip and sprinkler irrigation systems. This will also help in optimising fertiliser consumption.

1.2.7 Involve the Private Sector in Agro-processing

The state should promulgate proactive policies to motivate the active participation of the private sector. The two essential conditions for making agro-processing units viable in the market are: (i) regular supply of raw material, and (ii) high quality of raw material. Contractual arrangements need to be developed between agro-processing units and producers. The policy environment should include investment incentives like tax holidays to the private sector in agro-processing sector. The procedures to install agro-processing units should be simple and free from existing regulatory barriers. In this context, IP94 and AIP95 are welcoming steps.

1.2.8 Research and Technology Transfer

Research and technology transfer system needs to be revamped. A bottom-up approach would go a long way towards improving research and production efficiency. More resources need to be allocated to develop demand driven technologies and their dissemination.

2. INDUSTRY

2.1 Overview

Uttar Pradesh's large size relative to other Indian states and the professed goals of its leaders and policy makers make it imperative for industries in this state to develop fast. However, the objective of faster industrialisation needs to be addressed by a

strategically-oriented industrial policy. The analysis of three-digit industrial classification of output, within broad groups like agro-based, chemical-based, etc. suggests the following:

- The state's industrial economy is predominantly agro-processing based with significant strengths in the chemicals and engineering sectors.
- Up to the 1980s, Uttar Pradesh had a significant presence in textile processing and mineral-based industrial sectors of India, but this declined in the 1990s.
- Uttar Pradesh's presence increased significantly in basic goods, declined marginally in consumer goods and declined in intermediate goods.
- The state continues to be strong in composite mill woven cotton, handloom woven cotton and silk, production of blankets, shawls, carpets and made-ups, but has a marginal edge in weaving and man-made fibres.
- The dairy sector of Uttar Pradesh retained its competitiveness in the 1990s as did the tanneries and their footwear downstream.
- The state's cement and other mineral based industries declined.
- There was an increase in the production of petroleum-based products, fertilisers and pesticides.
- Capacities in steel rerolling, industrial machinery (both electrical and non-electrical) and in transport equipment and spare parts increased.
- The state's vantage position in aluminium manufacturing was eroded.
- Manufacture of two-wheelers, consumer electronics, household electrical appliances and other consumer durable increased considerably.
- Uttar Pradesh continues to be an important manufacturing base for fast moving consumer non-durables like perfumes, cosmetics and toothpaste.

The factors hampering industrial growth in Uttar Pradesh include: low competitiveness due to unexploited economies of scale, poor incentives, inadequate infrastructure and choice of location. Implementation of the following recommendations would help to overcome these.

2.2 Recommendations

2.2.1 Infrastructure

- **Develop Industrial Corridors Linked Infrastructure:** A viable approach to the infrastructure development programme is to identify industrial corridors so that regions relatively better off in terms of infrastructure could be targeted to grow faster in the new competitive environment. The contiguity facilitates the realisation of benefits associated with economies of scale, scope and agglomeration.
- **Overcoming Infrastructure Bottlenecks:** The NCAER field survey team has found that power shortages and non-availability of land are likely to be the key infrastructure bottlenecks. Land was considered to be the most important element of infrastructure. Two-thirds of the units surveyed had given land the maximum ranking. Transportation and power were the next two on their scale of priorities.
- **Improving Social Infrastructure:** The private sector could be roped in for investment in education and health care. Incentives should be offered in this sector at par with those for industry.

2.2.2 Incentives

Although incentives do not figure as a 'decision variable' for the investor, the investor may, other things being equal, opt for a state that offers incentives. It is also important to watch the behaviour of units, which have received incentives. This helps gauge the success of the policy as well as monitors its implementation. The following points are important in this respect:

- **Encourage investment in identified thrust areas:** Competition to attract investment is intense. Countries are rapidly restructuring their response systems to investment inquiries, simplifying procedures and eliminating red tape. There are well-established principles applied to achieve this objective.
- **Generate the Negative List:** A published list of those sectors barred by government to private investment (for e.g. armaments and military hardware).
- **Make the Rules Transparent and Clear:** Inform all would-be investors of the various

rules under which they will be expected to operate from conception to start of production with complete transparency. No ‘clearances’ are required. The onus is on the investor to ensure that his operations conform to the rules, just as an existing operator is expected to.

- **Publish a Positive List of Thrust Areas:** Thrust areas would be defined after identifying industries with distinctive capabilities that can provide a competitive advantage for the state. This option can be implemented by either entering into a Memorandum of Understanding (MOU) for mega projects in thrust areas or through announcing a policy outlining promotional features for new industries in the identified ‘thrust’ areas.
- **Location status-based incentives:** need to be reviewed. Underutilisation of scarce capital, encouragement of non-viable industries, low productivity of capital invested and movement of industry to infrastructure-deficient areas are all problems arising out of location-based incentives (Basis: field and literature survey).
- **The trade tax structure:** should be simplified and the multiple tax structure needs to be reviewed.
- **Only deferral schemes:** need to be in place. Existing waiver schemes can be replaced by deferral schemes. No capital or interest subsidy needs to be provided.
- **Fiscal incentives:** can be used to encourage fixed investments. The option of basing incentives on the amount of investment and employment generation potential for unskilled labour needs to be researched.
- **Investment incentives:** should be given only to deserving investors by ensuring that only those who actually bring in fresh capital and new machinery get them. They should also be limited to a period of between 8 and 12 years, as technology tends to become obsolete after that.
- **Poor law and order:** is an important disincentive for producers. Eastern Uttar Pradesh has a negative image for breeding ‘goonda raj’ where various forms of crime and extortion thrive. The state should take serious steps to combat crime if it is interested in attracting industrialists to the state (Basis: Field Survey).
- **Publicise the comparative advantage:** of Uttar Pradesh in terms of access of resources and markets. Promotional activities should be taken up. For example, undertaking public relations drives, sending missions to other parts of India and abroad for conducting road-shows and branding and advertisement. Udyog Bandhu will have to play a crucial role in this exercise.

2.2.3 Clusters

- The private sector should be providers of common services rather than state-level public sector agencies.
- The inflow of foreign direct investment (FDI) should be encouraged in those clusters that have inherent export capabilities.
- The state should involve clusters in dialogues to evolve policies and plans on industry.
- Flexible and unconventional support instruments should be introduced. A number of consortia could be formed for export promotion, mutual credit guarantee and purchases. The institutional capacities of local associations can be upgraded. These are some of the support instruments that can be exploited to the advantage of clusters and their local economies.
- Positive competition should be induced. Encouraging competition, both external and internal, for clusters based on quality rather than price would ensure motivation for upgradation, which is necessary for units in Uttar Pradesh to retain their competitiveness.
- Cooperation mechanisms should be induced. Clusters could be encouraged to develop task forces to make them as self-sufficient as possible.
- Stimulate induction of new firms. A continuous process of introducing new firms into the clusters and phasing out of ineffective ones, whether induced or natural, is quite the norm. The process of development can be hastened by identifying the gaps in the value chain, which would necessitate the entry of a particular kind of firm. Providing services and linkages with local associations and research bodies could help new firms.
- A database on clusters should be built. Clusters should be typecast into them according to their production and marketing at three levels—local, national and international. Some of the most

important typologies relevant in Uttar Pradesh are: family firms, rural firms operating on a survival basis for the local market, urban firms in the formal and informal sectors catering to the local markets, and specialised firms within well-known areas catering to national as well as international markets.

- Policy support and development assistance in this crucial time will have to strike a fine balance between the speed of change and the capacity of the small firms in these clusters to absorb change. At the lowest end, the artisan clusters producing handicrafts would have to be protected. On the other hand, modern SSI clusters having the capacity to carry out international contracts would need to be promoted.

2.2.4 State-level Reforms

• Components Affecting Industry

- **Privatisation and Deregulation:** Privatising state-owned enterprises or confronting state-level enterprises with a competitive economic environment forcing them to become more productive, efficient, competitive and responsive to consumer preferences.
- **Facilitating Foreign Investment in the State Economy:** Financial integration with world capital markets—the macroeconomic counterpart of trade liberalisation achieved by replacing state government control of the capital allocation process with more efficiently functioning markets.
- **Fiscal Consolidation and Tax Reform:** Reducing the level of government expenditure and shifting the finance of continuing expenditure away from money creation towards taxes and government borrowing.
- **Investment Finance and Debt:** Evolving fundamental rules for sound debt management (i) to avoid insolvency crisis, internal rate of return (IRR) greater than the cost of debt, (ii) to avoid liquidity crisis, synchronising loan maturity and project maturity, and (iii) addressing uncertainty, risk premium.
- **Re-engineering Government**
 - **Reduce Size:** Decrease unproductive expenditures, subsidies and tax incentives to reduce the size of the government.
- **Quality of Governance:** Computers and computerised information systems are perhaps the most important productivity enhancing tools for provision of intangible services. A comprehensive programme should be drawn up with the help of professional consultants for computerising the operations of government and all related institutions especially related to industrial sector. These systems should make it possible for the government to provide quick and efficient services to stakeholders in the sector.
- **Administrative Practices:** Many of our administrative practices have not changed since colonial times. We need to urgently introduce modern management practices in departments that have a well-defined objective like tax collection. Management consultants should be hired by large departments, to assist them in a thorough re-examination of objectives, methods and procedures using business process re-engineering (BPR), enterprise resource planning (ERP) or other recognised methods. Departments can also benefit from the application of modern cost accounting techniques like ABC. There is also need to decentralise financial powers to subsidiary institutions along with systems and procedures for greater accountability.
- **Public Procurement:** A sustained decrease in unproductive expenditures and enhanced effectiveness of desirable expenditures requires greater transparency in purchase and procurement. The rules and procedures for public procurement should be brought up to international standards.
- **Natural Resources:** Unlike normal goods and services, which can in principle be produced in quantity and in which production cost determines price, resources are finite and have a scarcity value, called ‘resource rent’, which is an additional element in its market price. Efficiency in the use of natural resources requires that the optimal resource rent and extraction cost be competitively determined and prices mimic competitive pricing. This needs to be factored into the design of state-level policies.
- **Regulation for Infrastructure:** All infrastructure sectors that have ‘natural monopoly’ segments require a regulator. The most common ‘natural monopolies’ are networks such as roads, canals, pipelines, and electricity. Regulatory law must

provide for autonomy and independence of the regulatory authority, with full authority over pricing and conditions and quality of supply.

2.2.5 Policy Issues in Select Sectors

- **Export-oriented Units (EOUs) and Engineering Exports:** There is a need to include the development of EOUs as a special thrust area. The logic for this stems from the fact that India has been successful in the area of engineering exports over the past decade. For instance, India's performance in exports of simple metal products with high labour content (flat forged hand tools, sanitary castings, etc.) has been quite encouraging.
- **Information Technology (IT)–Software:** IT clusters in Bangalore contribute to around 35 per cent of India's software exports. 'Electronics and computer software' accounts for 40 per cent of Karnataka's exports. The IT cluster in Noida has already positioned itself as one capable of growing to a position of comparable importance. NCAER's study of Bangalore indicates that the city's IT cluster has developed successful linkages with research and academic institutes. McKinsey's projection of the growth of India's IT sector to US \$ 50 billion by 2008 employing 2.2 million knowledge workers throws up the possibility for exciting interstate competition.
- **IT Enabled Services Exports:** Since foreign corporations are concentrating on their 'core competencies', IT enabled services are being outsourced. A sharp fall in real costs of international telecom services has opened up enormous opportunities in this sector.
- **Bioinformatics or the Use of IT in Biology:** Bangalore has developed bioinformatics as a key growth area in service exports. NOIDA can emulate this as it has all the resources, the market technology and social infrastructure to be competitive in this important area.
- **Garments Assembly:** The assembly of garments for exports could be another key area for Uttar Pradesh's development. Modern SSI units in this sector would be in a position of strength with the lapse of the Multi-Fibre Agreement (MFA) in 2005. A proactive, induced cluster-oriented approach to develop garments 'parks' around Delhi is the need of the hour. Garment assembly activity accounts for over 14 per cent of

Karnataka's exports and Uttar Pradesh's proposed garment parks should also aim at a similar share of the state's exports.

3. THE HANDLOOM INDUSTRY

3.1 Overview

The handloom sector forms an important component of industrial activity in Uttar Pradesh. It comprises almost one-fourth of the total textile production and makes a substantial contribution to export earnings. However, it continues to be a traditional and hereditary occupation, using traditional methods of production and designs due to lack of exposure, awareness and knowledge of changing technologies, methods and the requirements of international markets. Uttar Pradesh contains 5.6 per cent of the total weaving units and 5.4 per cent of the looms in the country, employs 6.4 per cent of the total number of workers and 6.6 per cent of the total number of weavers, and consumes 15 per cent of the yarn used in India. Ninety-two per cent of the household units engaged in this activity have their own loom. Household units mainly use fly-shuttle looms whereas non-household units use the throw-shuttle pit loom. Most importantly, 79 per cent of the total weaver class in this state belongs to Other Backward Classes (OBCs) and Scheduled Castes (SCs). Therefore, the development of this sector assumes special significance.

3.2 Recommendations

3.2.1 Understand the Problems of the Sector Carefully

A homogeneous category such as 'the weaver' is a misleading one. Oversimplifying differences between producer segments can lead to policy distortions. In reality, there exist several different types of weavers and several organisational modes under which they weave. A rigid classification of weavers into one or the other category (such as cooperative weavers or those under the master weaver) is also unrealistic, since very often a combination of different types exist.

Cooperatives seem to be crumbling due to multiple reasons such as politicisation, lobbying for power and mismanagement of funds.

The apex marketing agencies are also collapsing. At present, the emphasis is on export markets and niche national markets. In addition to such existing markets, developing the local market is essential to provide benefits of economies of scale.

3.2.2 *Develop Effective Policies to Promote this Sector by Adopting the Following*

- **Give the handloom sector industry status** so that various entitlements available to industries can be availed of.
 - **Promote credit to small weavers through self-help groups (SHGs):** Give incentives to local bodies in developing SHGs. This is important because the master-weaver controlled cooperatives frequently manage to grab most of the credit available. The majority of weavers, who are outside any cooperatives, are then unable to avail of credit.
 - **Promote large-scale spinning mills to ensure an adequate supply of raw materials:** At present there are reservations on the spindle capacity in the spinning mills in favour of hank yarn. Yet, individual weavers face persistent yarn shortages. It is reported that 30-40 per cent of the hank yarn is diverted to the power loom sector. In the absence of sufficient capacity and competition, there are large scale manipulations through bogus cooperatives to the disadvantage of individual weavers. The cooperative spinning mills are unprofessional, using obsolete and cost-ineffective technologies. Subsidies for the export of yarn are often utilised to meet their running costs.
 - **Protect intellectual property rights through geographical indicators:** Market forces have diverted region specific products to a number of distant centres outside of the region of origin. While no control can be exercised on production and supply of a particular product, the brand name should be protected so that the prominence of 'area-based industry' (defined by the Abid Hussain Committee Report) is maintained. In the absence of this, handloom production will lose out on important market segments. WTO agreements and trade liberalisation have resulted in greater international competition in cloth production. This also calls for patent protection on the basis of cultural heritage.
 - **Patent India specific handloom products:** Products such as *sarees* and *dhotis* are traditional clothes of India and have a permanent demand in India. In order to protect this market demand, it is necessary to patent these categories of items, and reserve the exclusive right to produce them.
- Such rights could be vested in the hands of the weaving community as a whole, rather than specific individuals.
- **Promote R&D in handloom sector:** While improvements are needed at all stages of the weaving process, including pre-loom processes, there is hardly any research activity in the handloom industry. Research and documentation of designs as well as of existing markets also need to be undertaken.
 - **Create reliable databases on the handloom sector:** There is no reliable database regarding various productive and socio-economic aspects of handloom weavers. A comprehensive collection of data on handlooms covering all aspects of industry should be immediately initiated not only through official machinery, but also with the help of weaver organisations and responsible non-governmental organisations.
 - **Promote domestic markets:** Extensive reliance on export markets, which are highly segmented in demand, is fraught with problems for common weavers and hinders the development of the infrastructure. In this context, it is necessary to expand and develop the market beyond the premium export segment. The view that domestic demand for handlooms has no growth prospects is simply untrue.
 - There is a large and growing domestic demand for handlooms.
 - The potential for growth of this sector in fact lies in the medium and heavier plainer fabrics, rather than the complex patterned or high-count 'fine' fabrics, which are more suited to a niche market. This is because such production draws on simple and affordable technology and does not require expensive loom attachments.
 - Commission market surveys to provide an accurate picture of the customers' preferences and disseminate it to all the concerned agents, especially primary producers.
 - **Include handloom sector in a comprehensive textile policy:** Though successive committees and several reports concede that the handloom sector is extremely heterogeneous, this recognition is not reflected in textile policy formulations. Non-availability of data is only one of the problems.

From 1985 onwards, weavers have been seen as falling into three categories, viz. high-income skilled weavers, medium-income weavers and low-income weavers. This division is artificial, and though weavers making 'fine' fabrics do earn marginally more than those weaving plain cloth, the market demand for these high value fabrics is restricted to a niche market, so the number of weavers depending on this is relatively low. It has to be emphasised strongly that a categorisation of weavers is also a categorisation of organisational modes, which differ from region to region. To capture this variation, functional categorisation is needed where factors of production combine in specific ways. These are not fixed, but undergo change in relation to changes in the wider economy. A more realistic understanding of the problems of weavers and a suitably flexible categorisation has, therefore, to be devised based on realities at the field level.

4. HANDICRAFTS

4.1 Overview

The development of handicrafts in the country has been increasingly export-driven. Although the share of handicrafts and hand-knotted carpets is just about 2.5 per cent of overall exports from the country, these sectors account for very high employment and export potential. Total handicrafts exports from India amounted to Rs. 5835.97 crore in 1997-98, which increased to Rs. 9270.56 crore in 2000-01. Therefore, the sector experienced an annual growth rate of 14.71 per cent in rupee terms and 7.64 per cent in USD terms. About 29 per cent of India's artisans are in Uttar Pradesh, 13 per cent in the Gujarat-Rajasthan cluster, and 43 per cent in eastern India. The estimated number of persons employed in the handicrafts sector in Uttar Pradesh was reported to be about 2.03 million (full-time and part-time) in the year 1979-80. The carpet sector is pre-eminently represented in Uttar Pradesh, with as many as 1125000 workers out of a countrywide total of 1500000 carpet weavers. However, this sector is faced with extreme threats from both within and outside the country:

- International competitors, particularly China, with larger-scale operations are gaining market share on strength of volume, price, and quality.
- Growing environmental concerns in the country affecting supplies of raw material.

- International campaigns against child labour and social standards.
- Lack of coordination between institutions affecting production and exports.
- High transportation cost.
- Excessive reliance on state incentives and support.
- The two most important factors for the decline of some craft segments are: decline in the demand for traditional articles of consumption; and reduced availability of raw materials.
- Competition from close substitutes. For example, traditional rural pottery being driven out by metals and plastics.

4.2 Recommendations

In order to meet these challenges, the following strategy is suggested:

4.2.1 *Fill the Prevailing Technology Gap in the Carpet Industry through State Sponsored R&D*

- Development of special yarns for carpet weaving.
- Improvements in loom design and layout.
- Upgradation of tools.
- R&D on natural dyeing/herbal finishing.
- Developing raw material sources, particularly wool for carpet weaving, by involving specialised agencies such as Central Wool Development Board for wool.
- Developing synthetic wool, alloys, blended yarn, spun silk (suitable for carpet weaving).
- Systematic and effective schemes to educate artisans about tools and techniques.

4.2.2 *Facilitate Raw Material Availability and Working Capital*

- Involve local bodies in developing self-help groups and help them to get adequate raw materials, and credit from the financial institutions.
- The Sub-group for Handicrafts for Tenth Five Year Plan has proposed a provision to be made for working capital loans to groups under Baba Saheb Ambedkar Hastshilp Vikas Yojana (AHVY) and also to individual artisans through the introduction of artisans' credit cards. This can be implemented as early as possible.

4.2.3 *Extend Extensive and Effective Training to the Artisans in Understanding Supply and Marketing Chain*

The handicrafts business constitutes concept selling rather than mere product selling. Efforts need to be made for the design and development of products that focus on the ultimate consumer. Suppliers and buyers, particularly those in rural areas, need to meet regularly to share and disseminate their knowledge about the supply chain for crafts exports. This chain extends from raw materials suppliers, contractors, converters, finishing units, export/importers/wholesalers, buying houses/agents/retailers, to artisans. Knowledge-sharing and training should focus on finance, skill upgradation, designs in demand, sources of better inputs and techniques, and methods to access new markets. Specifically, the following strategies could be used:

- Organise frequent meeting between buyers and sellers and develop awareness about new concepts such as eco-friendly methods, product diversification by dint of new fibres.
- Follow a selective developmental approach, focusing on specific production centres, such as craft clusters with common facility centres at village/block/district/cluster level. For example, Bhadoi (carpets), Nagina (woodcraft), Khurja (ceramics), Bareilly (*zardozi*), Agra (stoneware).
- Organise these activities with the active involvement of artisans and entrepreneurs and only nominal participation from any government agency.
- A few craft clusters may be identified to be given sustained attention in terms of a common facility centre for each such cluster. Such a centre will facilitate provision and supply of requisite developmental tools, implements, raw materials, dyes/herbal finishes, testing facilities, eco-friendly concepts, design support for product and market development and communication.
- The field offices of Development Commissioner (Handicrafts) in the state, need to be duly restructured and staffed with individuals who are focused on the sector and target-driven, to help inculcate the necessary awareness, enabling due promotion and monitoring of activities in the area.
- There is a need to strengthen the National Centre for Design and Product Development (NCDPD) at Moradabad. It is also essential that entrepreneurs in close cooperation with an

established NGO carry out the management and operation of the centre.

- Similarly upgradation and strengthening is needed for Indian Institute for Carpet Technology (IICT) for the carpet sector, Metal Handicrafts Service Centre (MHSC) may likewise be revamped and strengthened.
- Utilise IT extensively for database, monitoring of schemes and dissemination of information to be systematically and steadily promoted.
- Develop awareness about international standards. European nations are sensitive to toxins, e.g., cadmium in metalware and azo dyes in textile crafts, and child labour. Environment-friendly packaging and general social and hygienic conditions are other important facets. These aspects can be converted into an opportunity to launch an eco-conscious, targeted and aggressive campaign to enhance the acceptability of Indian products among premium market segments.

4.2.4 *Develop Concept of Craft Tourism*

Tourists are major consumers of crafts. Foreign tourists should have easy access to non-exploitative market channels. There are several untapped international market channels, e.g., museums, boutiques and other niche markets.

- Encourage and establish craft villages, and organised tour packages to craft centres and museums.
- Display outlets for crafts, using artisan made products in hotels and other establishments.
- Display crafts at special festivals like Taj Mahotsava at Agra, the Jhansi Mahotsava the Ganga Mahotsava at Varanasi and the Shilp Mela at Allahabad.
- Initiate a concerted campaign, to promote a 'hand-made in India' brand image based on certification and information on the product. In selected cases, special features of both the craft and the craftsperson can be explained, which will help generate interest in the product and consequently earn a higher unit value as well. The explanation could include information on the tradition, technique, design and the artist behind the crafts. Certification could also add that the product conforms to international safety, labour as well as environmental standards.

- Prepare an innovative range for children—to be a perfect study-time companion for them. Children may be encouraged to visit special workshops and stores, in fact, to take home some material which they can use in their creative endeavours.
- Encourage corporate houses and MNCs to adopt and encourage crafts for the gifts that they distribute.
- Promote well-managed, authorised kiosks/shops in every existing museum in the state, airports, important hotels and railways stations, where selected suppliers of crafts may keep their stocks for sale.

4.2.5 Increase the Domestic Market to Increase Scale of Operations

The level of handicrafts consumption in the country is extremely low, but the market is potentially vast. This should be the special focus of any initiative to promote the industry. Sales tax on handicrafts may be abolished as the artisans raise this demand from time to time. This would stimulate growth in output and sales.

4.2.6 Develop Requisite Infrastructure

The important craft clusters in Uttar Pradesh, Bhadohi-Mirzapur, Moradabad region, Saharanpur, Ferozabad, Bareilly and Varanasi do not have even minimum infrastructural support. Bhadohi-Mirzapur carpet belt is characterised by inadequate production control because of widespread disorganised looms, insufficiency of full-time labour, manual washing of carpets, besides general inadequacy of infrastructure regarding communication, roads, and quality control and design facilities.

4.2.7 Develop Synergies between Design and Workmanship

Currently, the design centres have been functioning in isolation. They need to be re-oriented in terms of their concept, reach and operations.

4.2.8 Develop Requisite Human Resources by:

- Examples and demonstration of good practices.
- Identification of wrong practices methods.
- Vocational training to students in the school curriculum: Classes 6–9.
- One year certificate course at selected ITI's in carpet belt for carpet technology (IICT may

determine the course) using audio-visual techniques.

- Establishing model schools in clusters for a well-organised hobby centre.
- Developing R&D centres for standardisation of tools and equipment, development of legal protection system, development and application of IT and Geographical Information System (GIS), in monitoring and evaluation, application of technology, for e.g. barcoding.

4.2.9 Streamline Management Issues

The state should have a clear mandate for the handicrafts/cottage industries to be supervised by a specific nodal directorate/department. A critical review needs to be carried out by a reputed non-government agency/institution. Even foreign experts can be hired to evaluate the efficacy of the schemes and the programmes initiated by the state and the Centre for the growth of handicrafts in the state, for appropriate lessons to be learnt and strategies to be formulated. In this regard, public-private partnerships (PPP) can be more helpful than pure government initiatives.

- There are over 800 staff under the DC (H) in the central region. The staff strength needs to be drastically reduced. Redeployed staff should also be re-oriented to increase their effectiveness.
- There is a need to ensure integrated development of craft clusters. All such organisations at the national, state and district level should coordinate their activities to ensure maximum synergy.
- For a few joint ventures to be set up in the state, specific responsibility may be assigned to one of the organisations/departments of the state to coordinate among different agencies in the state government for facilitating entrepreneurs from the country as well as abroad.
- The controls and restrictions that have been impeding the growth and promotion of crafts in the state need to be identified and redressed. There are already a few proposals for the revamp of the legislative/regulatory framework for e.g., carpet weaving being exempted from the purview of the Factory Act.
- Since the industry is decentralised, the cluster approach for development of the sector, if adopted, will enable growth and benefit the artisans.

5. TOURISM

5.1 Overview

Tourism has hitherto been regarded as a non-priority sector in state economic planning. This view has recently undergone a shift. Tourism is now perceived as a significant contributor to the economy, specifically as a generator of employment for all sections of society.

The state policy on tourism is reflected in Uttar Pradesh's industrial policy. The two main objectives that come to light include:

1. Increasing employment in the region.
2. Targeting high growth.

The policy aims to achieve these, through a series of public-private partnership programmes. The industrial policy also mentions the imperative for preservation of environment and cultural heritage, as well as the need to promote specific geographic areas/corridors.

The State Tourism Policy for Uttar Pradesh has certain specific objectives, which need to be tailored with the overall development programmes for the region and infrastructure constraints. Therefore, tourism projects should have the following attributes:

- Tourism projects must be able to provide economic benefit to the local population and enhance employment opportunities.
- Quality must be a key consideration for any project approval.
- The project must be integrated through a master plan.
- Projects must improve and diversify the tourism product base, with a focus on adventure, religious and monument based traveller.
- The specific targets within the tourism industry include:
 - Increasing the hotel capacity of the region.
 - Increasing the visitation numbers.
 - Enhancing the investment in the tourism industry.
 - Increasing revenue per visitor through a superior visitor profile, better facilities and value addition to the tourism product.

5.2 Recommendations

In order to capitalise on the inherent opportunities of the region, some of the possible strategies are as follows:

5.2.1 Focus Regional Development Programmes on Centres of Growth

Uttar Pradesh has emerged as a conglomeration of centres of importance loosely linked by poor road rail connections. Some centres such as Agra, Orchha, Jhansi, and Mahoba are known for historical monuments while places such as Varanasi, and Allahabad are famous for ancient spiritual traditions. Adequate infrastructure is essential to spur further growth in these regions.

5.2.2 Develop Rural Tourism

Large parts of the region have managed to preserve their age-old characteristics and cultural traditions and norms. This primarily rural character of the state has great tourism potential. Rural tourism has gained prominence amongst Indian policy makers in recent times. Some key benefits that could be highlighted to promote rural tourism include:

- Ecotourism: Experiencing the lifestyles, art and culture as it is lived in the rural setting, the ancient habitations, rivers, etc.
- The assets, values and traditions of meditation, yoga, ayurveda, etc.
- Fairs, festivals, arts and crafts.
- Benefits the local community by providing employment opportunities and improvements in quality of life.

5.2.3 Promote Heritage Assets

Bundelkhand possesses rich inventories of heritage properties. The region was divided into fiefdoms and petty kingdoms, the rulers of which attempted to outdo each other in the grandeur of their monuments. Many of these are now in a state of ruin because of the lack of adequate capital. These need to be restored and developed as tourist properties. There are several steps that need to be taken for this to happen:

- Promote the 'adoption' of heritage properties by the private sector.
- Encourage private owners to take up heritage hotels.

- Promote the conversion of government-owned properties to heritage hotels.

5.2.4 Develop Destination Management Plans

Already existing tourism centres need destination management plans to maintain and improve their existing status. Varanasi, which, attracts the maximum number of tourists in the region, would require immediate attention. Plans need to be made for city decongestion, cleaning of *ghats* and the river and improvement, accommodation, etc. A study must be commissioned to revive this ancient city of India and reverse the process of urban degradation, without destroying the cultural ethos of the area.

5.2.5 Develop Innovative Tourism Concepts and Products

Given the diversity of traditions in the state, innovative tourism concepts can be developed which can create a memorable experience for the tourists. Some of the experiences identified in the region are:

- Experiencing fairs like *Kumbh mela*, fairs and festivals based on music, dance and drama like the Barsana Holi, *Magh Melas*, Deep Deepawali in Varanasi.
- Spiritual concepts-based tourism.
- River-based experiences on the Ganges, Yamuna, Gomti, etc.
- Soft adventures like trekking, walking tours, river rafting, and wildlife and nature tourism.
- The *ghats* experience in Varanasi.
- Experiencing rural life with rural activities and crafts.
- Promoting wellness concepts for rejuvenation of body, soul and mind like yoga and ayurvedic therapies.

5.2.6 Develop Tourism as an Economic Activity

Tourism projects must drive development, like any other economic activity, and provide a flow of steady economic benefits to the local community. It is important that all future development work in the region be in public-private partnerships in order to optimise the industry's development potential and ensure efficient management practices.

5.2.7 Promote Agra as a Convention City

A convention is defined as a congregation of a minimum of 100 and a maximum of 1000 delegates that

are booked by international industry associations. The Ministry of Tourism, Government of India, established the Indian Convention Promotion Bureau (ICPB) in April 1988 for the promotion of India as a convention destination. However, India has not developed a single convention-focused city. Convention destinations are marketed through private efforts, rather than by city authorities. The only notable conference/convention facilities in India are Vigyan Bhawan in Delhi, Ashok Hotel in Delhi, Sher-e-Kashmir in Srinagar and Jaypee Hotel in Agra.

Projecting Agra as a convention city would attempt to bring the convention market to north India. Agra has long been India's tourism and cultural icon. Located close to Delhi (200 km), it is served with excellent road, rail and air links. However, the following direct infrastructure requirements for the success of a convention city must be met:

- The Centre must conform to international standards and contain comprehensive facilities for catering to every type of conference and exhibition. Flexible spaces and varying hall sizes mean that day-long company meetings to month-long congresses with 1000 delegates can be complemented by cultural performances and product promotions.
- The project must be interfaced with other existing and proposed hotel projects.
- The city must gear up to be a more hospitable place for the visitors and delegates with adequate infrastructure facilities and civic amenities. The touts and rickshaw drivers are a bane for most tourists. A visit to Agra tends to become just a day journey, without any actual spending by tourists in the area.
- Additional public spaces with parks and green areas need to be allotted, along with access roads to the waterfront and waterfront development.
- Public-private participation is recommended to ensure the efficient management of the project. This could be performed through setting up of an independent board, on the lines of the Singapore and Hong Kong Convention boards.

5.2.8 Develop the Bundelkhand–Ganga Heartland Train Circuit

In an attempt to capitalise on the vast cultural and historic potential of this region, the concept of a tourist train has been suggested. This plan has been evolved by Jayanta Sanyal after detailed deliberations with the railways

as well as travel and tour industry with the following features:

- The travel circuit will encompass: Jhansi, Mahoba (Khajuraho), Chitrakoot, Allahabad, Varanasi.
- The train will comprise of AC two-tier coaches with dining car facilities.
- Bi-weekly trains will ply alternately starting from Delhi and Varanasi.

The focus of the trip, apart from showcasing the rich architectural heritage, would also include special activities (both in the train as well as at destinations). These could include yoga, meditation sessions, lectures, films expounding the history and culture of the region. On-site activities could include visit to the local *haat*, dance, dance shows depicting local legends, etc.

5.2.9 Develop Tourism Related Infrastructure and Facilities of International Standards in the State to Improve Tourism

- Airport of international standard should be built in Agra and smaller airports for smaller aircrafts should be built at Varanasi, Ayodhya and Khushinagar.
- Private investment in the construction of hotels needs to be encouraged.
- Convention centres in Lucknow and Ayodhya are needed in addition to a convention centre in Agra.

6. VILLAGE DEVELOPMENT

6.1 Overview

Since Uttar Pradesh is predominantly a rural economy, village development is extremely important. Village development projects typically include drinking water, sanitation, electricity and village health improvement. Case studies carried out to assess the efficiency of village development schemes in the selected nine villages (three in Jhansi district, two in Allahabad district and one each in Lucknow, Varanasi, Sitapur and Bulandshahr districts) suggest the following:

- The family size in the villages covered ranged from six to eight, with at least four children in most households. This holds true across castes and religions. Family planning programmes implemented through the public health centres are reported to be working well. However, these

services need to be improved. Service coverage of Polio and other vaccinations in all the visited villages was complete and there were no complaints regarding them.

- The village health system for the poor is largely dependent on the public health services offered by the government. public health centres located in the *tehsils* provide reasonably good services although occasional shortages of medical supplies and instances of favouritism have been reported.
- The status of women in general is appalling in all the villages. They are the largest labour force inside and outside the family. The macro level figures of literacy levels among the men and women show wide disparities.
- There exists more than one public funded government programme to provide water, sanitation and other local infrastructure facilities to the villagers. However, villagers are not satisfied with their services.
- During the last decade, the programmes carried out through group approaches seem to be working well. The credit programmes through self-help group concept under Swashakthi and Swarnajayanti Gram Swarozgar Yojana (SGSY) or other government line department programmes are doing a better job of delivering and collecting the credit without any default or difficulties. However, the programmes executed directly by the line departments mainly through the contractors or *Panchayat Sarpanchs* are not satisfactory. They are reported as not serving the intended beneficiaries marked by the favouritism of the representative or the officials.
- Across all the regions, agriculture and labour services to the urban areas seem to be the biggest employment provider for the poor in the villages. The wages of the labourers are comparatively low and range from Rs. 50-30 for men and women respectively in agriculture during the season.
- Several villages in western and central Uttar Pradesh practice multiple crop cultivation using the benefits of well irrigation.
- There is landlordism reported in the villages selected in the urban fringes for the study. The landlords run their farms from the cities by appointing local caretakers. Since agriculture is not very rewarding, attempts have been made to diversify into horticulture.

6.2 Recommendations

6.2.1 Democratise Villages

Projects implemented through the self-help groups (SHGs) or Swajal seems to have been more effective and better for the intended beneficiaries. Therefore, the future projects should build on this approach.

6.2.2 Adopt a Nested Institutional Approach

The village level groups thus formed should be strengthened through a nested institutional approach by continuous training and capacity building. This would result in the sustained functioning and straightening of civil society groups in the villages. Programmes on a larger scale should be implemented through local organisations rather than the government.

6.2.3 Implement Village Infrastructure Projects through Beneficiaries

Case studies indicate that the implementation of village infrastructure is best done through the beneficiaries or through their groups. It is found in almost all cases that the implementation through these civic society groups is better than execution through contractors or the middlemen.

6.2.4 Strengthening the Public Health System

The public health system in villages is overstretched and over loaded. Since health benefits from the system are meant to flow to large segments of society, government intervention and programmes are critical for its success. Interfacing these services with the large number of local organisations promotes them more effectively. Services related to village development such as drinking water, health, sanitation and greening of villages need to converge at the delivery point. Village level groups can perform the rest of the job once the delivery is planned through them.

6.2.5 Redefine the Role of Government, NGOs and Local Organisations

It is amply clear from the success of the projects like Swajal that the conventional implementing role of the government should be dropped and NGOs and the local organisations should be engaged to deliver the planned services and projects. In this context it may be recalled that empowerment of *Panchayati Raj* Institutions (PRIs) is seen as a potential system to boost development work in villages. However, with implementation of PRI,

the role of non-government organisations (NGOs) and self-help group (SHG) may have to be redefined as the two models occupy the same space. The state is working to develop a model of rural growth centre with the participation of private corporate sector and government to take into account both supply as well as demand side issues.

7. POWER

7.1 Overview

The power industry in Uttar Pradesh is relatively large and predominantly government-owned. The geographical distribution of generation capacity and connected load is skewed. In addition to limiting real sector growth potential, the underdeveloped power sector has persistently haemorrhaged state government finances.

In view of increasing volumes of activities and specialisation, the Government decided to unbundle UPSEB to introduce competition in generation and distribution. This has helped identify the sources of inefficiency. Also, financial restructuring has improved the financial viability of the sector, thereby creating appropriate conditions for future privatisation. Tariff-setting was moved to an independent regulatory commission in September 1999 for rationalisation. The Commission is mandated to adopt a tariff structure that would meet the objectives of efficiency, economy and equity.

7.2 Recommendations

Alarmed by poor power availability and its fall-out on economic performance, Uttar Pradesh has initiated major reforms in the power sector. The latest initiatives are contained in the Uttar Pradesh Energy Policy, 2002-03. However, the success of reforms is contingent upon several factors. Therefore, well-considered strategies are needed to make reforms a success. Such initiatives include, *inter alia*, the following:

7.2.1 Make KESCO Privatisation a Success Story

Even though KESCO privatisation can potentially be a major breakthrough in the reform path, it has proved to be difficult because of a number of factors (Box 7.3, Chapter 7, Volume II). To make KESCO privatisation a success, the following measures need to be taken:

- Formulate a comprehensive privatisation strategy by spelling out how risks would devolve on prospective investors.

- Pronounce views on some important regulatory issues for a period of at least five years. This has been partially done by the UPERC.
- Involve the regulatory commission, *ex ante*, in the process of estimating the existing level of losses and the quality of receivables.
- Do not pass on any liabilities of the previous owner to the new private investor.

7.2.2 Abandon the Single Buyer Model

Uttar Pradesh continues to follow the single-buyer model although it is widely recognised that the model is fundamentally flawed. The single-buyer model entails a state-owned transmission company, which acts as the sole buyer of all power from generating companies. All distribution companies can buy only from this company and consumers can buy from distribution companies alone. All tariffs are based on cost-plus basis and no competition is allowed at any level. There are two problems associated with this model. First, since there is no competition and all tariffs are based on cost-plus basis in this industry structure, there is no incentive to make any efficiency gains. Second, being a state-owned entity, the transmission company is amenable to day-to-day control by the government, which jeopardises its commercial operations. Any alternate strategy to single buyer model must address both these problems. The expert group on restructuring of State Electricity Boards (SEBs) has recommended the open access model as an alternative to the single-buyer model.

The essential features of Open Access model recommended by the Expert Group are:

- Generating companies will compete with each other to sell directly to distribution companies or bulk consumers. This way, market forces will determine efficiency levels, investment and pricing.
- New generators can sell directly to bulk consumers, which will:
 - Encourage new investment, since new producers will not be compelled to sell power to bankrupt entities.
 - Release power absorbed from SEB supply to be used elsewhere.
- To address the concern of distribution companies that they may lose their best consumers who provide critical cross subsidy, allowable cross subsidy is to be identified and recovered as

wheeling surcharge or duty to be paid by the bulk consumer.

- Transmission company will wheel power for a regulated charge. It will not buy or sell electricity and will not be owned or controlled by a generating or distribution company. This will eliminate scope for conflict of interest and promote non-discriminatory open access.
- An independent system operator, who will be subject to the oversight of the state regulator, will replace the regional state and regional load dispatch centres.
- Sale to a distribution company under a long-term Power Purchase Agreements (PPA) will be subject to regulatory clearance, while sale to bulk consumers or distribution companies in an environment of competition need not be subject to such approval.
- To avoid any disruption of power to any existing consumers, all extant agreements for generation and supply of electricity by existing generating companies should stay in force. Competition and open access should be in respect of new, additional capacities, which will be allowed to access bulk consumers directly.
- Open access should be allowed without waiting for privatisation of distribution.

7.2.3 Redesign Distribution Zones

Uttar Pradesh has adopted a mixed zone model for distribution, whereby the state has been divided into four geographically contiguous zones besides KESCO. These four zones are mixed in the sense that each represents a combination of both rural and urban zones. They have been configured in a manner that makes them more or less comparable on the basis of size, load profile and balance between subsidising and subsidised consumers. The Power Policy, 2003 recognises that, “...GoUP would consider reworking the configuration of the Distribution companies also.” The policy, however, does not emphasise the need for privatisation of concentrated zones on a priority basis. In any event, it appears that the modality of distribution privatisation is still an open question. It is imperative therefore that wider discussions are held to weigh the available options and reach an early conclusion. Because, delays would lead to further accumulation of utility’s losses, and make privatisation progressively difficult.

Uttar Pradesh started the right way by attempting to privatise concentrated zones (KESCO). This did not succeed because of implementation issues. It would be a mistake to abandon the strategy, which is a superior option than mixed zoning for the following reasons:

1. Concentrated zones, which constitute a large part of the power market, are relatively more attractive to prospective investors on account of the ease of revenue collection.
2. Since these zones account for a large part of power theft in the state and since it is easier for companies to control theft in these zones, their privatisation will help address the T&D loss problem relatively more efficiently.
3. The option for claiming subsidy encourages distribution companies in mixed zones to camouflage theft and inefficiency (rather than to improve distribution efficiency) by over-reporting consumption of subsidised categories, and thereby raising the subsidy burden on the government.¹ Such options do not exist for concentrated zone distribution companies, since they, by definition, have no access to subsidy flows. In fact, these zones can be made to cross-subsidise rural zones through a transparent electricity surcharge, which can be routed through a Fund.

In operational terms, the suggested approach implies that distribution in the major cities in Uttar Pradesh say the 11 municipal corporations, are privatised first.

7.2.4 Accord Higher Priority to Generation Efficiency than Capacity Addition

It has been shown that generation plants in Uttar Pradesh are operating at very low levels of efficiency. This implies that there is considerable scope for efficiency improvement of the existing capacity, which could go a long way in addressing the problem of power shortages. More importantly, this can be achieved with relatively less investment and time than through capacity addition.

7.2.5 Eschew Escrows and Long-term Contracts

The Government should notify a policy clearly eschewing contracting of new capacities through PPAs and escrows as security mechanisms. The existing PPAs and escrows should be terminated with compensation to allow for competitive sale of power in the market. This

will ensure that newly privatised distribution companies are not burdened with the erstwhile escrow arrangements and PPAs. Instead, they would have the freedom to enter into their own voluntary contracts, and develop other routes to reduce energy purchase costs.

7.2.6 Create Power Sector Revitalisation Fund

To make privatisation a success, the state government needs to continue to provide financial support to the sector, which of course can be phased out within a reasonable time frame. Establishment of a Uttar Pradesh Power Sector Revitalisation Fund (PSRF), which would institutionalise the GoUP's commitments to pay timely and adequate subsidies and meet its liabilities *vis-à-vis* the central sector generating units, can inspire confidence among the stakeholders such as prospective lenders and investors.

In addition to convincing prospective stakeholders about future government support, the creation of such a fund will serve two useful purposes. First, it will improve transparency in the government's financial transaction *vis-à-vis* the power sector. Second, it would elicit better response among bidders. Because, by ensuring greater certainty about the assets and liabilities that the bidders would assume, the Fund would encourage the potential bidders to bid and to price their bids appropriately.

7.2.7 Make Rural Electrification Viable

Supply of electricity to rural areas in Uttar Pradesh has been a challenge. The percentage of villages electrified (57%) is substantially lower than in the neighbouring states of Madhya Pradesh (97%), Punjab (100%), Haryana (100%). It has to be borne in mind that the percentage of villages electrified is not a true indicator of access to power by households. Thus, while 57 per cent of the villages have been electrified, only 20 per cent of rural households (2001 Census) have access to power. It is widely recognised that the cost of expanding the grid to cater to sparsely populated rural habitations is high as compared to the thickly populated urban areas. Households have not been keen on getting authorised connections because of high access costs and poor quality of service.

Expanding household access and improving the quality of rural power are critical for the reform process, because these would not only increase welfare, but also help build a greater consensus on reforms. The first issue to address is to identify the provider.² A number

1. To scrutinise the validity of the claims for subsidy by distribution companies, the regulator will have to verify the actual consumption by subsidised categories, which is a very cumbersome exercise.

2. For a detailed analysis of international experience in rural electrification, see Report of the Energy Review Committee (Godbole Committee), Part II.

of options are available. The provider could be a private corporate entity (chosen on the basis of minimum subsidy bidding, as described earlier), or a cooperative like the Palli Vidyut Samiti (rural cooperatives) of Bangladesh, or a state government enterprise.

In addition to finding an appropriate provider, a number of other issues have to be sorted out. A significant initial step is to raise the tariff for the farm sector, which is currently at very low, unsustainable level. Secondly, an efficient delivery system for subsidies should be devised, which can support expansion of access to a larger number of households. Thirdly, use of renewable sources of energy and off-grid technological solutions need to be encouraged in remote areas.

7.2.8 Devise a Sustainable Subsidy Mechanism

With growing demands for higher expenditure in more deserving areas such as education and health, Uttar Pradesh cannot afford the high levels of financial assistance (in terms of subsidies and loan write-offs) that it has traditionally given to the power sector. While loan write-offs should be avoided since they create moral hazard problems, subsidies have to be gradually reduced to a minimum sustainable level. It has to be emphasised that a sudden and substantial cut in state support may jolt the reform process, as was the case in Orissa where the state government stopped paying subsidies after privatisation of the distribution zones. An early privatisation of urban distribution will, of course, provide some relief to state finances.

The fact that only a limited size of subsidies can be made available for the power sector on a sustained basis highlights the need for designing an efficient subsidy delivery system.³ This system should be characterised firstly, by an efficient subsidy system entailing an articulation of criteria that determines who should benefit from the system and by how much; secondly, the system should ensure that subsidies are well targeted and thirdly, the targeted groups should have only limited access to subsidised power; excessive subsidies will not only put pressure on state finances, but also lead to an inefficient use of power.

8. ROADS

8.1 Overview

Uttar Pradesh has an extensive road network, but it is of substandard capacity and its quality is not adequate due to poor maintenance. Conditions of the Uttar Pradesh roads have been persistently poor both in terms of quality and quantity. Only 40 per cent of state highways (SH), and 4 per cent of major district roads (MDR) are two-laned. More than one-third of the roads in Uttar Pradesh are unsurfaced and almost half of the unsurfaced roads are non-motorable. Only a strategic programme can alter the situation. Responsibility for the development and maintenance of roads except national highways, rests with the state government. National highways in the state are developed, maintained and managed under an agency system. The responsibility of rural roads is with Public Works Department (PWD) and the Department of Minor Irrigation and Rural Engineering Services (RES) under the state government. The execution of work and day-to-day management of NHs is looked after by the state PWD. The major problems with the road sector have been inadequate funds and poor legal and institutional arrangements for road financing.

Recent reform initiatives include the statement of a Uttar Pradesh Road Development Policy which has the main objective of encouraging private participation. However, the policy does not articulate a comprehensive strategy to achieve these goals. The BOT policy has also been decided upon by the PWD. The State Road Fund (SRF) established in 1998 is envisaged to be an important source of funding for the construction and maintenance of state roads. Efforts have been made to reform the PWD, which is responsible for the maintenance of this sector.

8.2 Recommendations

8.2.1 Give Commercial Orientation to the Road Sector

To improve the road network, the state needs to give a greater commercial orientation to the road sector i.e., manage the road network like any other business enterprise. While fuel taxes and need for funds to maintain the road network match, most of the fuel taxes go to general budgetary support. Overall fiscal reform, such as power sector reform, will also help to lessen the need to use fuel taxes for general budgetary expenditure. Nevertheless, the state government must move away from construction and maintenance of roads to purchasing road services.

3. Decisions on the extent of subsidies during a period—coinciding with the multi-year tariff horizon set by the regulator—are to be made up-front by the state government. The government needs to pay subsidies in cash and on time.

8.2.2 Make Legislative Modifications to Improve the State Road Fund (SRF)

An adequate and stable flow of funds is an important link in the commercialisation of the road sector.⁴ The following stipulations should be taken into consideration to make the road fund successful. First, to improve transparency the tax revenue should be deposited directly into the road fund without having to pass through the consolidated fund of the state. Second, an independent statutory board should be established to manage the fund which should include road user representatives.⁵ Third, independent auditors should audit the fund, and the works financed through the road fund should be subjected to a full financial and technical audit.

8.2.3 Transform the SRF into an Institution

At present, roads are a public monopoly and their ownership is likely to remain in government hands in foreseeable future. Commercial orientation of the sector necessitates the following four steps. First, provide legislative backing to the road fund to ensure a secure and stable source of funds. Second, involve road users in management of roads through the Road Board. All funds from different sources for the road sector should pass through the fund. Third, develop and adopt contracts which define the responsibilities of the concessionaire; and fourth, establish a clear organisational structure within the government defining responsibility and accountability including independent financial and technical audit for different roads.

8.2.4 Subsidised Rural Roads

Rural roads are not self-financing. They have to be subsidised for maintenance as well as construction. The best practice to build quality assets is to split the rural roads into two parts. Highway-to-market roads should be handled globally, i.e. by a state government agency and financed within the family of state road network. The Uttar Pradesh government has already taken steps in this direction and an enabling Act has been initiated. Performance based maintenance contracts should be awarded to ensure that these roads are well maintained.⁶ The farm-to-

village roads are best managed by village councils. Higher-level road agencies may provide technical advice but should leave most of the work to be done by the local communities on a self-help basis. Financial support from the government needs to be limited to meeting the costs of bought-out material. Though funds may come through the Ministry of Minor Irrigation and RES, they should be channelled through the State Road Fund and supervised by the State Road Management Board.

8.2.5 Establish Road Management Board as a Statutory Body

The best way to involve road users at the state level is by involving them in a Road Management Board. A statutory independent road board needs to be empowered to manage the road fund. The Road Board should work in a transparent manner in: (a) use of funds and (b) award of contracts. The Board must have members representing organisations like the chamber of commerce, farmer's organisations, the road transport industry and the construction industry. For the board to be effective, it must have an independent Chairman. The board should ensure that:

- Benefits from private participation include both increased investment and improved efficiency.
- The focus should be on complete road services (construction, operation and maintenance) rather than on only construction of roads.
- Tolls may be levied wherever feasible.
- Combining real estate and road development increases project complexity and reduces its bankability and, hence, must be avoided.

An important challenge which the board shall face will be with respect to village roads. Innovative methods based on mutual benefits with involvement of *Panchayats* and local government are required to derive maximum benefits from public and private investment and improved efficiency.

8.2.6 Concession Structure

Appropriate concession structures should be in place to mitigate risks. Maintenance costs can be reduced without compromising on quality when maintenance works are contracted out. The Ministry of Surface Transport already has a Model Concession Agreement for projects less than Rs. 100 crore, which should be adopted for renovating/constructing new roads and the bidding should be transparent.

4. In 1999-00 and 2000-01, the government allocated only Rs. 100 crore to the State Road Fund, though our estimation suggests that the government collected over Rs. 770 crore between 1998-99 and 2000-01.

5. At present the fund is managed by PWD. This creates a conflict of interest, because, both, sanctioning and supervising authority is with PWD and same officers.

6. A performance specified road maintenance contract reduces maintenance cost by 50-70 per cent compared to a force contract or a unit price contract. ("Maintenance Contracts for Rural Roads" by Dr. Gunter Zietlow; XXIst World Road Congress, Kuala Lumpur, 3-9 October, 1999).

At the national level also, BOT projects and NHAI funded projects are essentially to leverage available funds to improve financial and operational efficiency through private sector participation and to mitigate those risks which the private sector cannot shoulder. The two stage bidding process—pre-qualification stage and commercial bids from pre-qualified bidders—is to ensure overall efficiency over the project life cycle compared to minimum government expenditure at the point of award of contract.

8.2.7 Streamline the Organisational Structure

The organisational structure to construct and maintain roads other than village roads has been centralised under PWD. The responsibility of village roads is under a separate ministry. The government needs to streamline the administrative responsibilities to ensure that all funds for the road sector pass through the State Road Fund and are supervised by the State Road Management Board.

8.2.8 Strategise Implementation of Policy

The government needs to create three categories of roads, depending on traffic. First, bypasses and other roads which are meant to relieve congestion; such roads can be tolled, though government may have to provide some funds as capital grant or equity as in Andhra Pradesh and Madhya Pradesh. Second, where traffic is more than 20000 pcu/day on SH and MDRs that have only two lanes, the government needs to involve private developers in expanding two-lane to four-lane using composite contracts where construction and maintenance are consolidated into one multi-year contract such as an EPC and Maintenance Contract or a BOT contract. Other two-lane and single lane roads should be improved using rehabilitation and performance specified maintenance (R&M) contracts. Third, for other non-high density corridors i.e. bearing traffic of less than 1000 pcu/day but providing market access, R&M contracts should be awarded.

9. TELECOM AND IT

9.1 Overview

Uttar Pradesh government's policy on e-governance implicitly recognises that state government should become a prime user of Internet and provider of content to people at their doorsteps.

The telecom and IT network has been growing rapidly, but compared to other states the network and services have lagged behind in the last five years. With the implementation of NTP 99, the reorganisation of BSNL and the entry of Uttar Pradesh Networks as a basic service provider, basic services, the broadband network and other value added services in the state might grow faster. Substantial participation from private sector in the field of infrastructure will ensure that the state is not underprovided in the coming years, because of competition among different providers. The future of telecom and IT in the state looks bright. The telecom sector in Uttar Pradesh is now unbundled both horizontally and vertically. The private sector provides basic services, national long distance services, international services and other value added services in a few cities and dominates the cities adjacent to Delhi. The telecom network spread of basic services to rural areas is complete.⁷ Rural areas close to urban conglomerates have access to value added services such as Internet, paging, cell phones, etc.

In fixed services, TRAI's recommendation of free entry in basic fixed service shall be a boon for the state. The scene is changing rapidly as Uttar Pradesh Networks, a private company owned by Reliance India Limited has started providing services in Allahabad and Lucknow with plans for further expansion. Both, BSNL and Uttar Pradesh Networks are working towards building a national telecom network backbone which passes through the state. Opening up of the fixed line business to unlimited competition should accelerate the spread of telecommunications network in the state optical fibre cable (OFC) network which shall provide the backbone for a broadband network.

9.2 Recommendations

9.2.1 Implement IT-friendly Policies

Policy interventions are required for changes in labour laws, providing right of way and making provision for wires for present and future expansion. For example, in Greater NOIDA pipes are already being laid for such expansion while roads are under construction. Similarly, in other towns and cities where roads are being built, such provisions need to be made.

7. BSNL announced a scheme in October 2003 which works out to be free for customers willing to take basic phone connections and opting for self-internal wiring, and who do not take the instrument from the department.

With increasing private participation, there are a few things that the state government can do to facilitate matters:

- Since bandwidth is dependent on right of way, it could develop a friendly policy for wireless access, which would involve coordination with local governments and make government buildings available for wireless sites.
- On e-governance, GoUP needs to make content available (transparent functioning) and facilitate public access by fostering teleinfo centres in villages and towns.
- To attract software investment, the key is a pleasant urban environment that attracts young educated people. Furthermore, there is a need to facilitate IT education in order to ensure that citizens can participate in this high growth sector.

9.2.2 *Avoid Chaos in Implementation of e-governance*

The Uttar Pradesh government's policy on e-governance implicitly recognises that the state government should become a prime user of Internet and provider of content to people at their doorsteps. As with many commercial businesses, a front-end showcase often masks internal chaos. The aim should be to link and integrate front and back office systems. To do this successfully, the state needs to address two separate issues. First, the focus on treating the 'citizens as customer' requires re-engineering all the bureaucratic processes and taking a long-term, state-wide perspective. This is a challenge not of technology, but of political leadership. Second, there is a need for transparency.

9.2.3 *Make IT a People's Movement*

More than policy activism to increase supply, it is a user oriented action plan of the state government which will help the spread of Internet in the state. The 'e-choupal' (electronic commerce initiative), launched by ITC, is a good example of an attempt to harness a user oriented technology to improve commercial gains by a private company. Under this initiative farmers would be able to get information on local and international prices, enable speedy transactions and ensure price discovery.

A proactive policy is needed that encourages investment in infrastructure for rural areas. Some researchers have found that rural pay phones can be

profitable in localities with as few as 200 people.⁸ To make operations viable an STD facility should be provided on all VPTs. These 'communication centres' need not be run by the government and could be operated on a franchise basis with Internet telephony. Proper administration of subsidies is an important element in providing a reliable service.

10. URBAN WATER

10.1 Overview

Despite abundant surface and groundwater resources the provision of water services in urban Uttar Pradesh has been grossly inadequate. This problem will accentuate with further urbanisation, since per capita water demand will rise. Moreover the poor quality of service provision can lead to health problems, high coping costs and environmental degradation.

The main agency for both urban and rural water supply is the Uttar Pradesh Jal Nigam (UPJN), which is responsible for its own establishment costs whereas the capital costs are financed mainly by GoUP's transfers. Major challenges and key issues include weak local body finances, excessive control by the state government and multiple institutional weaknesses, for example, the lack of a separate regulatory institution, overstaffing and lack of competition.

To ensure sustainable use of water and protect its quality, the state government has to shift focus to management of water and resort to integrated planning. To increase overall efficiency of the sector, long-standing issues relating to irrigation including pricing issues need to be addressed. At the same time, new avenues must be explored to facilitate transfer of water from irrigators to municipalities.

10.2 Recommendations

To meet the challenges of the sector, reforms need to focus on improving service delivery. This would require easing financial constraints facing the sector as well as addressing the institutional and managerial issues identified above. Also, the supply constraints can be eased to the extent that unaccounted for water is reduced and the system is properly operated. To overcome the managerial and institutional deficiencies, the sector needs to be restructured in a manner that

8. Kayani, Rogati and Andrew Dymond, (1997). "Option for Rural Telecommunications Development", *WB Technical Paper 359*, Washington DC.

managers get the autonomy to operate in a commercial environment on a sustained basis. Specifically, the reform strategy must include the following initiatives.

10.2.1 A More Comprehensive View of Water

Generally, the approach to water in India has been guided by a narrow, sectarian viewpoint. This is reflected in separate planning and implementation of projects in various water using sectors such as irrigation, both urban and rural water supply and sanitation, power, etc. To ensure sustainable use of water and protect its quality, the state government has to shift focus to management of water and resort to integrated planning. While urban water accounts for only a small fraction of aggregate water use, irrigation accounts for the bulk. A bizarre situation has arisen where several urban areas are suffering from water stress, while a large part of irrigation water is used inefficiently to produce water-intensive and low-value crops. To increase overall efficiency of the sector, the long-standing issues relating to irrigation including pricing issues need to be addressed. At the same time, new avenues must be explored to facilitate transfer of water from irrigators to municipalities.⁹

10.2.2 Improve Overall Finance

Introduction of reforms in property tax laws (the most significant tax), increase in tax base, imposition of adequate user charges and improvements in revenue collection are required. The First State Finance Commission had made a number of recommendations in each of these areas. If the GoUP is serious about providing financial autonomy to urban local bodies (ULBs), it needs to pursue all the recommendations of the SFC aggressively.

10.2.3 Restructure Relevant Institutions

Restructure Uttar Pradesh Jal Nigam (UPJN)

The potential for competition can be harnessed in the sector by horizontally splitting UPJN into four or five independent utilities. Effective competition may not, however, be possible if these utilities continue to be in the public sector. The aim should therefore be to sell majority stakes in these utilities to private entities within three years or so. Each utility needs to be capable of providing bulk services as well as

distribution services on contract to municipalities.¹⁰ These capabilities are already available with the UPJN. The urban local bodies (ULBs) will get their construction and O&M work done through contracts, which will be awarded on the basis of open, competitive bidding. Bidders will include the successors of the present UPJN as well as other companies.¹¹ This will create incentives for bidders to be cost-efficient, thereby reducing financial burden on municipalities. Further, GoUP needs to transfer resources directly to ULBs, which will give municipalities greater financial control.

Create Autonomous Entities

For service operations to run on commercial principles and with consumer orientation, it is necessary that the service be provided by operationally independent and autonomous entities. The entities can take the form of separate undertakings (municipal enterprises) or a separate company with a licence from ULBs. In all metropolitan councils and other large cities that have well developed municipal administration, strong economic base and large population, ULBs can take full responsibility for their own UWSS services and individually plan their own reforms such as involving the private sector for service provision. They can start by carving out from themselves separate undertakings for water and wastewater services.

In smaller cities that lack economies of scale (in bulk supply and distribution) and the capacity to individually take full responsibility, multi-municipal solutions can be applied.¹² Here, state government support would be critical. The state government could take an initiative to bring a number of municipalities together for developing new bulk supply schemes or involve private sector, depute staff to provide technical assistance and control contracts between towns and service providers.

10.2.4 Encourage Private Sector Participation (PSP)

The private sector is potentially capable of injecting technological, financial and managerial resources, which the public sector may be unable to obtain, because of fiscal and bureaucratic constraints and lack of adequate

9. Water markets create such an avenue. Even though it has been suggested by the Government of India and the World Bank that a beginning be made by selective piloting of water markets in a few specific locations no such initiative has yet been taken.

10. These units will be free to take up other civil contracts as UPJN is at present.

11. Just as UPJN is undertaking projects in other states, companies as well as water boards in other states should be allowed to bid in Uttar Pradesh.

12. It would make sense to introduce a legislation that requires municipalities to choose multi-municipal solutions when they are most efficient. In this respect, the District Area Planning Committees, whose mandate includes integrated development of infrastructure, can be consulted.

incentives. For successful implementation of a PSP option, it is important to ensure that its pre-conditions exist. Pre-conditions include stakeholder support and political commitment, tariff rationalisation, information base about the system and regulatory framework.¹³

The important lessons from the experience of other states are: (a) focus has to be shifted from bulk water supply (currently under government initiative) to improved management of existing distribution systems and (b) management or O&M contracts is the way forward in the short run. Concession-type contracts must follow later when the pre-conditions for their successful implementation are established. The progression toward concession-type contracts would have to be gradual, depending on policy changes and evolution of rational tariff structure. To begin with, Uttar Pradesh can have O&M contracts for all of its sewage treatment plants and sewage pumping stations. After the restructuring of UPJN is complete and the regulatory framework is in place, which could take up to two years, short-term O&M contracts for distribution (including billing and collection) can be given to private parties.¹⁴ An incentive can be built into these contracts by allowing private parties to keep all collection over and above a pre-specified monetary obligation to the municipalities. Over time, as more information about the system is gathered, regulatory system gets strengthened and greater political commitment is mobilised in favour of private participation, long-term concessions can be attempted in distribution as well as bulk supply.

10.2.5 Establish a Regulatory Framework

To attract private capital, it is essential to set up an independent regulatory body (Uttar Pradesh Water Regulatory Commission) quickly, say within a year. The independent regulator would act as a catalyst for reforms by isolating tariff-setting from political influence and by removing arbitrariness in setting service standards. It will also help usher in transparency, accountability and consumer-orientation into the sector. Given the paucity of specialised skills in finance, engineering and accounting necessary to regulate the water service providers at the municipality level, it would be appropriate to establish the commission at the state level. This will be possible if

municipalities delegate their right of regulation to the state regulator. A state level regulator will not only provide economies of scale in regulation, but also safeguard against regulatory capture. The role of the regulator *vis-à-vis* municipalities has to be carefully designed keeping in view the spirit of 74th Amendment. The jurisdiction of the Commission will primarily cover urban water and wastewater, but will also include allocation of water among different uses such as irrigation, power and recreation. Such an approach would help in viewing water as a single resource. The key functions of the regulator would be to:

- Serve as a guarantor of service quality level consistent with a basic standard of living.¹⁵
- Ensure that price charged to water users is based on full costs of water.
- Ensure that service providers do not exploit customers.
- Increase awareness of citizens and get them more closely involved.
- Internalise the externalities associated with adverse effects from wastewater on environment and from poor quality drinking water on health. The regulator needs to work closely with Uttar Pradesh Pollution Control Board, which is responsible for regulating quality of waste water disposal and Health Department (which is responsible for drinking water quality) to ensure that service providers comply with regulatory requirement. Costs of compliance are to be taken into consideration in determining tariff.
- Provide mechanisms for sustainable aggregate water use, which would entail *inter alia* prevention of overexploitation and misallocation of raw water supply.

10.2.6 Adopt an Efficient and Viable Tariff-setting Procedure

Tariff rationalisation is central to water sector reforms. The objective needs to be to treat water as an economic good, by making water demand less independent of water users' willingness to pay for it.¹⁶

13. Service contracts require limited information on an existing system and minimal monitoring capacity, while options such as BOT and concession require high political support, adequate information about the existing system and a strong regulatory framework (Vaidya, 2000).

14. Successors of UPJN will be major contenders.

15. Service quality would include quality of water supplied, quantity and hours of water supplied, timely redress of consumer grievance and waste water disposal as per agreed terms.

16. The failure to treat water (and water services) as an economic good is responsible for circularity between rising demand, inadequate supply and increasing scarcity. When water is demanded at prices below supply costs, consumers do not provide enough revenue to expand water supply systems or improve service quality. Consequently, users feel deprived simply because water demand has been derived substantially independent of their willingness to pay for it.

The basis for tariff-setting as well as the required operational initiatives are given below:

- Pricing needs to be oriented to full-cost recovery. It would be pragmatic to have a gradual approach by attempting progressively larger recovery over years to ensure full recovery of operations and maintenance (O&M) costs at the end of first five years and total cost (O&M plus capital costs) at the end of the next five years.
- To improve efficiency in water use, tariff-setting has to be only on volumetric basis. This would imply that meters need to be installed at all service connections as the currently dominating system of water and wastewater taxes linked to annual rental value of properties are gradually phased out. Charges for wastewater need to be linked to water tariffs.
- Cross-subsidies need to be removed within the shortest possible time span. A practical solution is to freeze industrial and commercial tariffs, which are currently at very high levels, until costs catch up.
- Cost estimation needs to reflect an efficient level of operation to ensure that tariffs that are based on these costs do not reflect inefficiency of service providers. Initially, tariff has to be based on existing level of unaccounted for water (UFW), but over time tariff would reflect progressively reduced UFW, which should result from institutional reforms outlined in the paper.
- Tariffs would be revised every two years to reflect change in costs.

10.2.7 Subsidise Services to Poor

Services to the poor can be substantially improved if subsidies are well targeted. It may not be feasible to provide exclusive service connections to households in slum areas. So, the current system of provision through public stand posts needs to continue, although stand posts need to be metered. There is an urgent need to improve quality of service provision through stand posts and simultaneously, charging the poor an amount that is in line with their willingness to pay. Under such a system, equity considerations can be best met by subsidised uniform (and not increasing block) tariff and access charge. To facilitate revenue collection, consumer groups of three or four persons have to be established. They would be made responsible for collection of revenue from the households benefiting from stand post

water in a particular slum area. Private operators need to be obligated to provide a minimum specified quantity of water through stand posts. Whether they meet their obligation can be verified from the consumer groups. Pilot projects can be initiated in some places and their success would dispel the widespread notion among politicians and bureaucrats that the poor will be underserved if the private sector is the provider.

10.2.8 Reform Accounting System

One of the major stumbling blocks for privatisation of the water sector or for accessing the capital market by ULBs in Uttar Pradesh as in other states is that they follow primitive accounting practices. None of the municipalities has a basic balance sheet. The reporting practice followed by municipalities is on cash accounting basis. Investors, lenders and other users of municipal financial reports, however, look for internationally accepted accrual reporting (i.e., financial reporting according to benefit period) as more indicative of the financial performance. The Accounting System User Manual prepared by the Tamil Nadu government can be a useful guide for introducing accounting reforms in Uttar Pradesh.

10.2.9 Enforce User Charges on Rich Population for Treatment of Wastewater

Wastewater has been a neglected segment and is grossly underinvested. The important point to note is that almost all users of flush toilet and its sewage system are the rich in urban areas. Yet, the sewerage system is subsidised in the name of poor. The rich get subsidies through other means. The rivers, which are polluted primarily by domestic sewage disposal, are cleaned through river action programmes, which are paid through budgetary provisions. The cost of the expensive sewage treatment plants (STPs) is not recovered from the rich. This flaw needs to be remedied. In operational terms, this implies a separation of the accounts of water and wastewater—although the two segments need to be operated by the same entity—and ensure that the wastewater segment generates enough internal resources for the expansion of the sewage system and sewage treatment. As for the poor, a vast majority of whom do not have flush toilets, expanding access to a central sewage system is not the right solution. A sensible approach is to focus on public latrines and low cost sanitation for the poor. Here again, households would be willing to pay user charges provided the hygiene level in these latrines improves.

11. INTEGRATED MANAGEMENT AND DEVELOPMENT OF WATER RESOURCES

11.1 Overview

Despite a strong network of river system by 2050, the state is likely to be faced with a precarious balance of water resources, with estimated availability of 188.3 BCM/Yr as against withdrawal demand of 185.3 BCM/Yr, which includes demand from industry, irrigation and water supply. Efficient use of water resources is therefore, critical for long-term sustainability of the economy. The report of the Working Group on Major and Medium Irrigation Programme for Tenth Five Year Plan, Ministry of Water Resources, Central Water Commission (October, 2001) and Draft Report of the working group on Major and Medium Irrigation for the Tenth Five Year Plan, Irrigation Department (UP) (December, 2001) already contain strategies to develop water resources in the states. However, WAPCOS, after some modification, has indicated the following short- and medium-term strategies grouped as below:

- Improving information, knowledge and capacities.
- Improved management of existing developments and systems.
- Completion of major and medium scheme.
- Improved planning of new development.

11.2 Recommendations

11.2.1 Strategy I—Improve Information Knowledge and Capacities

1. Create a water data centre.
2. Prepare a plan for institutional restructuring.
3. Developing a personnel and HRD policy for water sector.
4. Develop WALMI as an interdisciplinary institute for action research and training.
5. Give a legal basis to PIM through modification and simplification of laws and procedures.
6. Establish and empower local sub-basin wise user committees for intersectoral water use related issues, including water quality maintenance.
7. Prepare a state water plan, through department and consultants, which *inter alia* estimates the basin wise availability and usability of water and develops an integrated use plan.

8. Coordinate amongst basin states for solution of unresolved interstate problems.
9. Draft and enact legislation for groundwater regulation.
10. Draft and enact legislation or lay down executive procedure to regulate development in flood plains.

11.2.2 Strategy II—Improve Management of Existing Development Systems

1. Stress on Command Area Development (CAD) Programme.
2. Prepare performance evaluation studies leading to ERM schemes for all old projects and for few other projects with known unsatisfactory performance. The objective need not be one of restoring the earlier planned hydraulic capacities, but of making the best use of available supplies and systems, through minimum necessary improvements to achieve optimum production. Aspects like water saving, conjunctive use, proportionate distribution automation, setting up of an MIS for the system, etc. need to be included.
3. Strengthen Dam safety organisations.
4. A precedence needs to be built up in which the full maintenance grants, as per norms adopted by the finance commission are made available towards irrigation O&M. While the state has the inherent authority in changing these amounts in its budget exercise, the deviations, the reasons and their likely implications need to be brought out in the budget.
5. Decide on the desirability of setting up an autonomous irrigation management corporation for a large system, which would be empowered to collect and spend revenues from irrigation. If possible, set up one such corporation and plan for its financial viability in phases. Initially, subsidies and capital would have to be arranged by the government, since at current low water rates, the revenues may not be sufficient for O&M activities.
6. Expedite downsizing of maintenance staff through redeployment and VRS.
7. Consider privatisation of irrigation distribution and O&M on a small pilot as an alternative to Water Uses Associations (WUAs) thus using small private entrepreneurs.

8. Transfer maintenance of tertiary system entirely to stakeholders, through PIM.
9. Encourage watershed management and rain water harvesting. Prepare a strategy paper with desired packages for different slopes, different soils and for rainfed areas as also for command areas.
10. Start pilot studies on rainwater harvesting in one large command area, as a part of CAD.
11. Decide on legal, procedural and policy changes necessary for encouraging conjunctive use in command area.
12. Increase water prices, to reflect the scarcity value of water.
13. Users are trained to save water.
14. Management of water quality.
15. Adjusting intersectoral uses to changing situations.
16. Improve availability of electric energy and encourage electrification of tube-wells running on diesel.

11.2.3 Strategy III—Complete Major and Medium Projects

1. The state should get cost estimates of ongoing new schemes and subsequent investment clearance from Planning Commission for correct assessment of spillover and new project costs.
2. Completion of projects that have achieved 90 per cent or more of the ultimate potential be notified and fresh Detailed Project Reports (DPR) be made if there is a requirement for any essential balance works.
3. The projects need to be prioritised for implementation as per detailed guidelines incorporated in the report of the National Commission for Integrated Water Development, which have been endorsed by the Planning Commission Working Group on Major and Medium projects. Having prioritised the schemes competing for the funds, higher priority schemes need to be fully financed before funding of schemes with lower priority ranking is considered. In this way, even with limited funds, some high priority (and highly beneficial) schemes would get completed. This exercise needs to be taken up. The Uttar Pradesh Working Group on major and medium schemes does seem to be based on such an exercise.

4. The government or the Planning Department of the state should take suitable action to enhance the overall plan allocation under this sector to about 10 per cent of the total Plan outlay as against 5 to 7 per cent being provided at present.
5. Allocation under RIDF (NABARD) and AIBP should be substantially enhanced to ensure resource mobilisation for the plan implementation as decided by the Working Group. However: (a) The performance of water sector depends not only on the availability of finances but on other reform measures. Preference for higher funding through AIBP should be linked to sectoral reforms. (b) A more efficient process to ensure a quick or automatic transmission of the RIDF/AIBP to the project authorities as also of a stronger monitoring system which links funding to proper execution, needs to be put into place.
6. Schemes which have been under construction for a long period (say Fifth Plan and earlier schemes) need to be reviewed afresh. If the schemes have developed somewhat insurmountable constraints, or if they have become unattractive, these could be downsized and reshaped to give some early benefits with reduced cost. In any case, attempts could be made for break up in phases so that the benefits can start flowing early and in phases.

11.2.4 Strategy IV—Improve Planning of New Development

1. Groundwater Development strategy
 - In general, exploration of deep seated ground water through deep tube wells (which were publicly owned) has received a setback since the government is withdrawing from this function.
 - At a few places, water quality or geo-hydrology may be such as to make the use of deeper ground water for irrigation more attractive than the exploration of upper layers through private shallow tube wells.
 - Studies need to be done to locate such areas and to develop a strategy for exploiting and developing the deeper waters, in regard to ownership, financing, etc.
2. The preparation of the state water plan, and its subsequent detailing needs to be done in order to allocate sources and schemes (of all sizes) to various sectors like domestic and industrial users, irrigation, etc. Larger projects would have to be

- multipurpose, but with well documented use-wise allocations.
3. Preparation of detailed sub-basin master plans for all uses is a prerequisite for development. Reuse of effluents needs to be a part of the plan.
 4. New development projects need to integrate the use of local rainwater, surface water and groundwaters. Guideline for conjunctive surface and groundwater are available, but these, in regard to integration of rainwater harvesting with other developments, need to be drafted. These need to consider aspects like land slope, soils and crops.
 5. New irrigation development needs to provide for a balance between lifts from head pond/reservoir, lift from canal, etc. and long distance gravity conveyance. Both the economics of lifting as against gravity conveyance, and the social desirability of giving benefits to marginally higher lands near the water source need to be considered. Guidelines and procedures need to be developed.
 6. Similarly, new water developments for irrigation need to integrate the existing micro, minor and medium projects in the command, for optimal use. Minor tanks, etc. could be fed from canals to enhance their utility. Some minor tanks, open wells, etc. can be used as off-line storage, which allow the use of sprinklers and drips even when the major canal distribution system is in the off mode during a rotation. Guidelines and procedures need to be drafted for this.
 7. Integration of various types of water uses in an area such as a sub-basin requires preparation of a detailed master plan, based on projected demands of domestic and industrial water as also of irrigation. The plan needs to indicate how each type of demand would be met, and how the priority for water supply gets reflected by allocating the reliably available and better quality water for this purpose. It will consider groundwater utilisation and the additional withdrawals and enhanced recharge to groundwater. Maintenance of groundwater levels and maintenance of low flows need to be provided for. Preparation of such outline plans for three or four pilot areas in different agro-climatic/topographical regions need to be taken up to develop more experience.
 8. Integrating the concept of water for nature in new development:
 - Prepare guidelines for deciding the minimum low flows which need to be maintained in rivers from ecological considerations (maintenance of natural fish and aquatic life, etc).
 - Prepare information about the types of fishes native to various river reaches and the special considerations required for the sustenance of each type.
 - Evolve, test and standardise fish ladders, fish locks, etc. suitable for each type of fish.
 - Evolve a procedure for reserving a part of the storage in a reservoir for water quality management during periods of distress.

12. HUMAN DEVELOPMENT

12.1 Overview

Despite steady improvements in the status of education and health of the population over the last several decades, the level of social development in the state and the persistent inequalities based on socio-economic status continue to be a cause of significant concern. Improvements in health and education have important implications for the supply and demand of labour. Indian evidence shows that the offer price for labour improves with the health and educational attainments of the labour force. On the other hand, the lack of education leads to greater vulnerability in labour markets. Large differentials in human resource endowments between social groups and gender have, by depressing the returns to labour of socially disadvantaged groups, women, and children, been an important cause of high relative inequalities and endemic poverty among these groups and women. In India, where educational access has traditionally been confined to upper caste males, the spread of education among socially disadvantaged groups and women has extremely significant implications for the economic progress of these groups.

Apart from the instrumentalist roles of education and good health in raising incomes and growth, and biasing these towards the poor, good health and education are also intrinsically important, in that they improve people's capabilities. Women's education and health, for instance, impact on improvements in gender equality and gender relations and women's empowerment. The spread of education among the poorer groups and women has a

significant influence on participation in the democratic processes and in influencing the priorities of development in accordance with the principles of sustainable development and local needs.

12.2 Recommendations

12.2.1 Health

The state government has laid down a number of health related goals in its population policy. These include adherence to strict time bound objectives in improving antenatal care (ANC) coverage, increasing the proportion of births attended to by trained personnel, reduction of anaemia among mothers, reduction in maternal mortality rate (MMR), increasing child vaccination rates, reduction in infant mortality rate (IMR) and child mortality rate (CMR), reduction in child malnutrition, and in diarrhoea and anti-respiratory infection (ARI) cases, and improvement in Vitamin A coverage. A number of reforms are already under way in the health sector, which address institutional, managerial, professional and financial issues. Some of the issues which need to be underscored and are crucial to improved health outcomes in the state are discussed below:

Adopt a Holistic Approach to Health Goals

Health goals should be dovetailed with goals set in areas of environmental sanitation, drinking water, elimination of maternal and child malnutrition, education and health awareness. Safe drinking water, availability of latrines, drainage and sewage systems and waste disposal should be a priority. The quality of drinking water should be regularly monitored by health boards and the findings publicised through radio and newspapers.

Significant variations in the health outcomes across the state call for a decentralised approach to health management based again upon on a holistic approach as followed in Kerala and Karnataka. Such an approach should rely upon district-level epidemiological surveillance, computerised MIS, flexibility in meeting gaps in requirements locally, and greater control over health related decisions and health care institutions by people's committees linked to the representative institutions at the local level (such as village health committees, district health boards, etc.).

Work with a Database Surveillance Plan and Monitorable Standards

Using inputs from micro-level planning at local levels and people health committees, strengthened by

epidemiological surveillance and MIS, district health plans may be prepared. These plans should identify needs and requirement gaps, from the primary health care level upwards and should set clear goals which are linked to key health outcomes. The performance of the functionaries in the health-related sectors should be periodically assessed in terms of the achievement of these goals.

A set of easily monitorable standards in basic services and health care should be identified at each level with the help of the state government and should be linked to the people's charter in health and basic services. The standards and the charter should create clear entitlements and accountability.

Identify the Exact Nature of Gaps and Fill them Appropriately

The requirement and gaps in the health care system are normally related to health personnel, medical inputs, equipment and institutional reform and change. The health plans should be able to indicate non-resource based changes which can lead to improved utilisation and better performance from existing resources. At the same time, health plans should be able to identify critical resource gaps which also contribute to sub-optimal performance through shortages, etc.

Increase Expenditure Allocation for Health Care

In comparison with other states, Uttar Pradesh's per capita allocation for health, family welfare, water and sanitation is low. Expenditures may have to be raised at the state and district level to ensure better performance. Even to approach at the current national average, Uttar Pradesh's expenditure on health and related sectors would need to be more than doubled from its current level of about one per cent. Raising user charges for those able to afford it, permission for fee retention at the unit level, and laying down of service standards are moves in the right direction, but identification of the eligible poor and provision of quality services will remain major issues requiring close monitoring.

Encourage Public Private Participation

There are now some instances even in preventive health (such as IPOV and the measles vaccine) where the private-public collaboration has worked well. Public hospitals routinely resort to using diagnostic facilities provided by the private sector and in some of the programmes, private doctors are being contracted to provide certain services in rural areas. Health planning

should explore the possibility of increasing private sector participation in rural health care. At the same time, a comprehensive scheme should be drawn up, with appropriate incentives, to draw doctors into public health services in rural areas.

Adopt Innovative Schemes to Reduce Financial Burden

In order to reduce the financial burden of hospitalisation, a two-pronged strategy can be adopted. First, improving services in the public sector (and keeping these affordable) and second, encouraging forms of health insurance for poor and non-poor households. In the case of the poor, schemes of health insurance can be envisaged in which insurance premiums are paid from the funds available for anti-poverty programmes.

12.2.2 Education

Uttar Pradesh has made significant progress in the field of education during the last decade. Literacy has increased at a faster rate than ever before. Many more children are in school today than was the case a decade ago. The gap between boys and girls and between socially deprived groups and others has narrowed over the decade. Male and overall literacy in the educationally backward districts has improved at a faster rate than overall rates. But at the same time, several challenges remain to be overcome.

- About 30 per cent of rural children and 15 per cent of the urban children were still out of school by the end of the 1990s.
- Many schools still lack basic minimum infrastructure and teachers.
- The overall quality of education in the state at each level of education remains low in terms of content, teaching methods, etc.
- The system is afflicted by low accountability of the administration and teaching staff, affecting performance and overall efficiency.
- Dropout and repetition levels, and the average number of years taken to complete an educational cycle are high, while the utilisation of assets, performance and accountability of teachers, administrators and other components of the educational system is low.
- Per capita and per student public resources allocated to education in the state continue to be

very low and have serious implications for access, adequacy and quality of the system.

In order to counter these inadequacies, the government has taken several initiatives in recent years, which include: (1) bringing socially-deprived children into the educational mainstream and improving their retention and learning; (2) ensuring improved quality of education through better teacher motivation and training, focus on curricula, classroom processes, etc.; and (3) ensuring better planning, improved educational infrastructure and better delivery through greater decentralisation and more responsibilities/powers to Village Education Committees (VEC). The following issues relating to VECs need to be addressed:

Devolve the Administrative Control

In the sphere of decentralisation, some progress has been achieved in the rural sector, where VECs have been given some powers and considerable responsibility. But the principal power still continues to reside with the educational administration at the block and higher levels. There is no further move on the anvil to devolve the administrative control of educational institutions any further. There is, in our view, a mismatch between the powers and responsibilities of the VECs and higher committees at the block and district level, have, in any case, very limited roles. Having brought an increasing number of parents and children to the doors of the school, it is important that they step and stay in as direct stakeholders, and that the teaching-learning process expand and improve in step with the increased enrolments.

Encourage Community Participation

The state has adopted a number of innovative approaches to bring children from socio-economically deprived groups into the mainstream educational process. The 20-25 per cent children who remain out of school belong to poorer sections of society, in which children's wage contributions are often central to the household subsistence strategies. Initiatives to bring these children into school may require strong community participation, local institutional support and commitment of resources.

The role of the non-governmental and private sector in elementary education has been widely discussed. It is a positive step that the state policy has given due recognition to private participation.

Increase Financial Allocation and Generate Alternative Resources

Each of the various estimates of the additional costs of reaching Universal Elementary Education in the state suggest that at the very minimum, additional resources equivalent to about 0.7 per cent of GSDP will be needed annually, on an average, if the state is to meet literacy goal within the time frame and the minimum norms accepted by the *Sarva Shiksha Abhiyan* (SSA). The state government has only been able to maintain the share of basic education in GSDP over the last decade. However, resource flows from the Centre and the external agencies have already been augmented to some extent. Under the SSA, the Centre has committed itself to meeting 50 per cent of the needed resources in the Tenth Plan, with the burden of financing gradually being assumed by the state. In view of the resource requirement, and the commitments of the Centre, we suggest that the state work out its own financial requirements and commitment to the education sector as a whole over a period of 15 years.

It is important to ensure that educational projects are internally sustainable. Towards this end, the issue of financing education through alternative channels needs to be seen and addressed in a wider context.

With respect to secondary and higher levels of education, the government has now accepted the argument that a greater proportion of responsibility of financing these sectors should come from the private and household sectors. However, given the centrality of secondary, technical and higher levels of education in the state, the impact of low funding and overall poor infrastructure (in both private and government institutions) and pervasive market failure (manifested in poor enrolments of girls and students belonging to socially-deprived groups, and regional disparities in the growth of institutions) have not been given due significance. These shortcomings imply the need for greater funding of these levels of education, and a package of measures to make such education more accessible to students from weaker sections, while also giving scope to the private sector.

Provide Free Education in Actual Sense

Another core issue here is the state's commitment to provide free elementary education to all children up to 14 years. This must remain undiluted and free education must not simply be interpreted as free tuition. Households incur substantial direct costs in sending children to government schools, and it is the obligation of the state to assess and offset such costs.

13. GOVERNANCE

13.1 Overview

The correlation between governance and economic development hardly needs any emphasis. Various studies highlight the importance of the relationship between governance and economic development. Good governance is said to have a positive impact on economic growth and development while corruption is said to lead to lower investment and economic growth. Uttar Pradesh's performance with respect to the various aspects of development lags considerably behind the all-India average. Governance is an important issue, which needs to be examined due to its direct effects on improving the efficiency of investment policies and programmes.

The demand for services by government officials is large compared to the supply. As a result, the market price of these services is fairly high which allows the concerned government authorities to be corrupt and extract a large amount of money for their services.

According to the Uttar Pradesh Police website, records show that the crime rate in Uttar Pradesh was consistently below the all-India average in all years from 1993 to 1997. The worrying feature is the high incidence of political crimes, crimes against women, caste-based crimes and riots.

The tax revenue decentralisation index for Uttar Pradesh is the lowest among all the states, both in 1992-93 and 1997-98, suggesting that fiscal decentralisation has been very limited in comparison to other states. It has declined from 0.71 in 1992-93 to 0.57 in 1997-98, suggesting that post-73rd Amendment developments have not resulted in effective fiscal decentralisation.

Uttar Pradesh is the fourth worst state in terms of the headcount index of poverty, the second worst state in terms of male life expectancy and the third worst state in terms of female life expectancy, infant mortality and literacy, although there have been visible improvements in poverty alleviation during the nineties.

Some strategies to improve these aspects are discussed below:

13.2 Recommendations

13.2.1 Corruption

- a) The size and functioning of anti-corruption organisations in the state needs to be monitored for adequacy and continuity.

- b) The progress of corruption cases should be determined by an independent jury (comprising members of the public) or a central organisation such as the CBI.
- c) The entry of women into local politics has seemingly checked the increase in corruption. Further participation of women in politics should be encouraged. This can be done by targeting women for political education.
- d) The trend in the needless proliferation of government departments should be checked.
- e) Measures to increase transparency and accountability can go a long way in checking corruption. Some measures for attaining this objective are:
 - (i) introduction of a citizen's charter for each department and office,
 - (ii) computerisation in all government offices with significant public interface,
 - (iii) introduction of competitive bidding for all contracts with the government, and
 - (iv) publication of reports of state-sponsored commissions and key policy papers.
- f) The susceptibility of bureaucrats to the whims and fancies of politicians should be reduced. This can be done by protecting bureaucrats from arbitrariness in matters of appointments, postings and transfers. In order to attain this objective, the following measures have been recommended:
 - (i) calculate and publicise the average tenure of all government officials grouped by seniority,
 - (ii) build a consensus for stable tenure, and
 - (iii) establish general principles for postings, transfers and appointments and make them public.
- g) Measures should be taken to reduce the amount of discretion in the hands of government officials.
- h) Measures to check corruption can only be successful if we have exact knowledge about the nature, incidence and the extent of corruption. Presently such information is scarce for Uttar Pradesh. At the same time, the information available is not accessible to the general public.

Transparency International has launched an index known as the Corruption Perception Index (CPI) for

around 90 countries. This index has been computed on the basis of 14 surveys from 7 independent institutions. The surveys reflect the perceptions of business people, analysts, academics and the general public. The Transparency International methodology can be easily replicated in Uttar Pradesh to form an idea about the quantitative incidence of corruption.

13.2.2 Crime and Law and Order

Though there has been a fall in the incidences of caste-based crimes in Uttar Pradesh, it can still follow the measures undertaken by the state cabinet in Andhra Pradesh to undo the injustice to *Dalits* in the state, which is based upon the recommendations of the Justice Punnayya Commission. The following measures have been undertaken:

- a) One police officer not below the rank of sub-inspector has been deputed to each village where the *Dalits* face caste discrimination. The police officer will visit the *dalitwada* once a week on a fixed day along with the *mandal* revenue officer, *mandal* development officer, *sarpanch*, self-help groups and a representative of the social welfare department. The police officials will take the SCs to temples, direct the hotel keepers to remove the separate glass system in the hotels and provide access to wells.
- b) A *Dalit* protection cell has been set up headed by the Director General of Police to ensure better compliance among policemen. Police officers should register cases of atrocities against *Dalits* immediately. The collector or Superintendent of Police should visit the place within 24 hours of occurrence of the atrocity, ensure that an FIR is registered and provide relief in cash or kind.

13.2.3 Decentralisation

- a) Since fiscal decentralisation has not been effective, steps must be taken to increase the powers of *Panchayati Raj* Institutions (PRIs) with regard to collection of revenue and its disbursement.
- b) Another aspect which needs to be investigated is the decentralisation of line departments of the state government. We do not have any reliable quantitative data in this regard but discussions with experts seems to indicate that these line departments are still very centralised.
- c) The understanding of decentralisation has not seeped into the minds of those who run the

administration and the general public. The issue has become more complicated by the issuance of too many circulars regarding decentralisation. The views and recommendations advanced by these circulars have kept changing and no stable stand on the desired nature and extent of decentralisation has emerged. Clearly, this is something which needs to be corrected. The government should take a long and hard look at the issues relating to decentralisation and formulate a stable policy which can be implemented over the next 10 years.

- d) Transfers to the different tiers of PRIs need to be harmonised with their spending responsibilities.
- e) The state government should ensure that the overall system of government finances imposes 'hard budget constraints' on local decision makers so as to make them fully accountable for their decisions.
- f) With regard to the multi-tiered rural local bodies, the central issue is to decide which services are to be provided and monitored at each level. It would be sensible to use the experience of success stories in this regard. The success of the District Education Programme shows that district level bodies are best placed for the responsibility of managing primary and upper-primary education. Similarly, experience suggests that the block level local body could perhaps assume greater responsibility for the effective delivery of promotive health care.

13.2.4 Delineation between Private and Public Provision

Our analysis seems to indicate that the size of the government sector engaged in the production of public goods is too large.

13.2.5 Poverty Alleviation Programmes

The general conclusion that seems to emerge is that measures should be taken to simplify income criteria for the selection of beneficiaries, check corruption and ensure that the funds allotted are actually utilised.

14. ENVIRONMENT

14.1 Overview

A number of factors such as population, consumption of natural resources and applications of new technology can cause changes in the physical environment,

particularly climate, soils, water availability and biodiversity. The state lacks environmental management for sustainable development.

- Values of suspended particulate matter (SPM) concentrations exceed the standard limits for some urban centres of Uttar Pradesh.
- Within the water environment, it has been observed that surface water quality in most of the locations exceeds the specified norms for drinking water, but the water is being used for drinking after treatment.
- Under the biological environment, the districts in eastern Uttar Pradesh—Chandauli, Mirzapur and Sonbhadra—are rich in flora and fauna. But the whole forest area is facing the problem of severe damage caused by unrestrictive and destructive lopping of valuable species.
- According to available secondary data, it has been observed that noise levels exceed the standard limits set by CPCB in Kanpur, Lucknow, Varanasi and Agra, mainly in residential, commercial and silence areas.

14.2 Recommendations

Strategies for the sustainable development of Uttar Pradesh with respect to degradation of air, water, and ecosystems are as follows:

1. The problems pertaining to traffic, transport and vehicular pollution may be overcome by removal of encroachments along the roads, particularly in old city areas.
2. Banning slow moving vehicles during busy hours in congested areas, introducing mass rapid transit systems and creating public awareness and sensitivity to minimise pollution.
3. Special emphasis may be given to improve the geometries and conditions of the roads and traffic management to permit free flow of the vehicles. Regulating heavy tonnage vehicles and slow moving vehicles during peak hours, making certain roads one-way, and providing suitable parking spaces may be helpful.
4. Restriction on registration of tempos without scrubbers may be continued.
5. Green belts around industrial areas are necessary to reduce air pollution in these areas. Specifically, trees are very useful in reducing air pollution

- caused due to dry fly-ash and coal dust from coal handling systems.
6. The use of LPG should be encouraged, instead of domestic fuels like wood and coal which are significant contributing factors in increasing SPM concentration.
 7. The industries should treat their effluents to conform to specified requirements. Common effluent treatment plants should be installed in organised industrial areas. Strict vigilance is needed to enforce the provisions of various environmental laws.
 8. Drains and *nallahs* carrying untreated industrial effluents and domestic wastes should be diverted from the river channels, waste should be properly treated and then allowed to flow to water bodies.
 9. Cattle wading should be restricted as it leads to deterioration of water quality.
 10. Religious activities like offering flowers, milk, sweets, etc. into the river water should be controlled as it increases the pollution load on water bodies.
 11. Open defecation in river catchment areas should be strictly prohibited.
 12. Dumping of dead animals, human dead bodies in the water body should be restricted.
 13. Washing clothes on the banks of water bodies should be strictly banned because it not only causes organic, inorganic and biological contamination but also increases the detergent content of water. This hampers oxygen diffusion rate in the river water, affecting the self-purification capacity as well as other biological activities.
 14. Fishing activity should be regulated to maintain the ecological balance of aquatic ecosystem.
 15. There should be proper administrative machinery for enforcing legal provisions regarding water pollution, without harming the growth and productivity of industries in general.
 16. Suitable laws, standards and practices should be framed to regulate the discharge of undesirable flow of water in water bodies. These regulations should be modified from time to time in order to accommodate changing requirements and technological advancements.
 17. All the specific locations indicated in Chapter 14, Volume-II (section 14.3) should be immediately declared unsafe areas by the local authorities and supplied with alternative sources of drinking water.
 18. Well-established natural forests need full protection to ensure soil fertility and productivity in forest areas.
 19. Development has to be planned on the basis of watershed management on a sustainable basis so that the area can be kept alive with regenerating and well-managed forests. These habitats can also sustain healthy wildlife.
 20. Human development strategies covering settlement needs should be synchronised with the conservation strategies used in forest areas.
 21. Illegal and unrestricted felling of trees, hunting of animals, enhanced animal grazing in forest land, collection of firewood from the forest floor, overexploitation of medicinal plants, etc. should be strictly prohibited.
 22. Protection of wildlife and the development of its habitats, like national parks, bio-reserves, sanctuaries.
 23. Restoration of degraded and eroded lands by afforestation, agro-forestry, improved pastures, use of a combination of bio and chemical fertilisers, ecologically compatible farming systems, etc. should be promoted.
 24. Noise generating sources such as loud speakers at religious places, marriages, commercial advertisements and use of pressure horns on the roads should be restricted.
 25. Use of vibration isolators, dampening material, etc. in sound generating machines with proper maintenance should be enforced particularly for places like pumping stations, factories, etc. located in residential areas.
 26. Generators should be strictly provided with acoustic hoods and acoustic walls as per Central Pollution Control Board (CPCB) standards.
 27. Special care needs to be taken in case of sensitive areas like hospitals, courts, etc. For this purpose, the enforcement of preventive measures needs to be supported by education.
 28. Decongestion of commercial areas is a priority. Possible strategies include: laning of roads,

restricting certain categories of vehicles during peak hours, providing and enforcing proper parking of vehicles, etc.

29. Mass awareness programmes should be conducted through the media in order to highlight the negative effects of air, water and noise pollution.

15. STATE PUBLIC SECTOR UNDERTAKINGS

15.1 Overview

Uttar Pradesh has 41 PSUs, majority of which lie in the transportation, sugar, financial and infrastructure sectors. These PSUs incurred a loss of Rs. 1193.48 crore in the FY 2002-03. Of these, 19 companies earned a profit of Rs. 226.51 crore and 22 incurred a loss of Rs. 1419.99 crore. The performance of profitable ventures is thus overshadowed by the financial situation of the loss-making enterprises.

Accumulated losses of the state's PSUs amounted to a total of Rs. 9672.81 crore in the FY 2002-03. These losses exceed the paid-up capital and free reserves of the state's enterprises. The accumulated term loans from the state government is of the order of Rs. 4750.70 crore amounting to an estimated 42 per cent of the total PSU outstanding debt, which adversely affects the fiscal position of the state. Working capital loans from the state was estimated to be another Rs. 12.40 crore as on March 31, 2003.

Majority of the PSUs are small to medium-sized companies and they have become unviable in the prevailing competitive environment. There are 20 companies with an investment of Rs. 5 lakh or less and there are 16 companies with a turnover less than Rs. 5 crore. There are only 13 companies with an investment of more than Rs. 100 crore and 14 companies with the same turnover. The PSUs are highly inefficient and a huge financial burden on the state.

Based on the case studies of Uttar Pradesh State Bridge Corporation Limited (UPSBCL), Uttar Pradesh State Sugar Corporation Limited (UPSSCL), Pradeshiya Industrial and Investment Corporation of Uttar Pradesh Limited (PICUP), Uttar Pradesh Rajkiya Nirman Nigam Limited (UPRNNL), Uttar Pradesh State Cement Corporation Limited (UPSCCL), Uttar Pradesh State Textile Corporation Limited (UPSTCL), it is evident that attempts at privatisation have failed.

15.2 Recommendations

Reforms in terms of privatisation are important to sustain the fiscal position of the state government. However, in order to succeed in such an effort, it is important to have clarity of objective, and an organised approach with political will. Specifically, the following strategy is suggested:

- (i) **Master Plan:** A master plan involves listing the strategic objectives of privatisation, the broad policy framework for privatisation, procedures for selection and implementation and an assignment of priorities among the projects to be privatised. The master plan should be supported by a rolling action plan on a two-year basis, incorporating a list of PSUs identified to be privatised, a sales plan, a public policy plan and a communication plan on a transaction-wise basis.
- (ii) **Objectives:** The aims and objectives of the privatisation programme need to be defined clearly ensuring public support and participation including socio-economic goals. By earmarking in an open and transparent manner, the proceeds from privatisation for infrastructure development and provision of labour safety nets, the government will be able to garner widespread support for the programme.
- (iii) **Transparency:** A well designed media campaign by the state government will educate the stakeholders on the benefits of privatisation. The government needs to develop a communication plan with the advisors before it starts the sale process. The plan should be designed to build public support for privatisation and teach the public about the features of the privatisation that require public participation. This would help in avoiding charges of corruption and controversy. The basis of the valuation, the draft bid document and the shareholders' agreement being entered into between the state government and the buyer should be made available to the public at the time of inviting interest. This transparency will lead to a more general and broader acceptance of privatisation and garner support for the government's proposals for the more difficult aspects of the programme.
- (iv) **Employee Interest:** The government should take steps to ensure that not only are the

severance and retirement benefits adequate and just, but that proper thought has been deployed in designing and funding special programmes for retraining and redeployment support, employee share ownership schemes are implemented and mechanisms to ensure labour consultation and participation exist.

(v) **Institutional Structure and Staffing:**

International experience has indicated that institutional framework and organisational structure have played a key role in determining the success or failure of the privatisation programme adopted by the state. Transparency and speed in privatising are best achieved by centralising policy responsibilities for privatisation in a strong nodal point. Most successful privatising countries have therefore found it better to have one centralised implementation agency (IA) for executing the implementation of the programme. Further, for the implementation agency to be successful, it should operate under clear guidelines with a wide mandate to design and implement all aspects of the government's privatisation programme. The success of a privatisation programme will also depend on the quality of the people (both government and outside experts) in charge of its preparation, implementation, oversight, and on the incentives given so that they have to do the job well. Special attention needs to be paid to the recruitment and remuneration of the staff responsible for drawing up and implementing the privatisation programme.

16. STATE FINANCES

16.1 Overview

The finances of Undivided Uttar Pradesh (UUD) showed a marked deterioration in revenue and fiscal deficits relative to growth in GSDP towards the end of the nineties. The quality and content of fiscal deficit has worsened considerably, with the ratio of revenue deficit to fiscal deficit rising from 40 per cent in 1990-91 to more than 53 per cent in 2004-05 (BE).

The central problem in Uttar Pradesh's state finances is accumulation of liabilities relative to GSDP. This itself is the result of large primary deficits and increasing interest payments. The accumulated liabilities have resulted in a vicious circle, where fiscal

imbalance and higher debt accumulations leads to larger fiscal imbalance. The Uttar Pradesh Government enacted a Fiscal Responsibility and Budget Management Act (FRBM) in 2004 with a view to controlling the growth in debt and eliminating revenue deficit. However, own revenue performance is the key to effective reduction in fiscal imbalance and for honouring the enacted FRBM.

Revenues: Indifferent Performance

The buoyancy of own tax revenues is close to 1. Relative to other NSC states, the tax to GSDP ratio in UUP shows scope for augmentation. With sales tax constituting the core of state taxes, there was a marked growth in revenues in the recent past, following the introduction of uniform floor rates in 2000-01. Services and agriculture are undertaxed.

Sales tax predominates the profile of tax revenues, its relative importance has increased while that of state excise duties has gone down.

Rate revisions led to gains in the royalties on minerals in recent years, but revenue from forests declined sharply in relative terms. With most forests falling on the side of Uttaranchal, forestry would no more be a significant source of non-tax revenue for Uttar Pradesh.

Resource transfers from the Centre to UUP fell significantly both because transfers relative to GDP fell for all states, and also the share of UUP in the transfer to states fell during the nineties. There has been some improvement in recent years.

Expenditures: Increasing Committed Liabilities

- Interest payments and pensions are growing much faster than GSDP and revenues.
- The burden of adjustment of falling revenue receipts fell significantly on capital expenditures, which have steadily declined relative to GSDP. Most of this decline was in capital outlay.
- Plan expenditures are characterised by high revenue intensity. The burden of adjustment of falling revenue receipts hit capital expenditures heavily, which have steadily fallen relative to GSDP.
- According to recent estimates for 1998-99, unrecovered costs, i.e. subsidies implicit in the public provision of private goods/services in social and economic sectors, amounted to about 10 per cent of GSDP.

16.2 Recommendations

A base scenario of the UUP, along with one for the divided Uttar Pradesh serves to bring out the impact of fiscal reforms in focus. The fiscal situation of the state, especially of the new Uttar Pradesh, calls for multi-dimensional reforms. A 15-fold strategy of fiscal reforms relating to five areas of intervention is suggested for achieving Uttar Pradesh's Fiscal Responsibility and Budget Management Act (FRBMA) targets and strengthening the growth pulse of the state economy.

16.2.1 Objectives and Overall Strategies

(i) Fiscal Support to Growth through Investment in Infrastructure and Human Development

Investment in sectors like health, education and infrastructure will strengthen growth and attract investment from outside, which in turn will increase the revenues accruing to the government. Expenditure has to be restructured such that both capital and revenue expenditures are increased. Revenue expenditure on health and education taken together should increase at least by one percentage point of GSDP, taking the revenue expenditure on these two sectors to well above 4.0 per cent of GSDP by 2008-09. Care should be taken to emphasise augmentation of non-salary expenditure in these sectors.

(ii) Fiscal Support to Poverty Alleviation

Uttar Pradesh accounts for the largest number of poor in the country, about 31 per cent of the total number of rural and urban poor. This is far higher than the share of population of the combined state in total population. Apart from the benefits of growth on poverty alleviation, direct fiscal intervention, consisting of state-level employment generation schemes and capacity building in rural and urban areas is needed through education and health.

16.2.2 Revenue Augmentation

(iii) Distortion Minimising Augmentation of Tax Revenues

The government should prepare for implementing VAT, which should be revenue-neutral in the short-run and revenue-augmenting (with respect to GSDP) in the longer run. The following key tasks need to be addressed:

- a) Implementation of VAT replacing existing sales taxes.

- b) Determining the revenue impact of the proposed structure of state VAT rates of 4 and 12.5 per cent suggested by the Empowered Committee.

- c) Revamping tax administration through simplification of forms and procedures.

- d) Comprehensive computerisation of tax administration.

(iv) User Charges and Non-tax Revenues

To garner additional revenues through non-tax sources, fees for a variety of general administrative services, and various user charges for publicly provided services should be brought under a reform regime. Six areas need focused attention: education, health, agriculture, irrigation, power, and transport. An autonomous body in the nature of a user charges commission should be set up to determine the principles according to which user charges should be linked to costs. This body should also protect the interest of consumers by monitoring quality of services and suggesting ways and means for reducing inefficiencies in the governmental provision of private goods/services.

The User Charges Commission should be an autonomous body so that it can examine both the costs of providing services and the quality of services and then fix the rates and user charges accordingly. It should revise these charges periodically.

16.2.3 Expenditure Reforms

(v) Pension Reforms

Pensions constitute an ever-increasing fiscal liability. Pension reforms should be initiated to bring budgetary costs under control. In the context of pensions, new initiatives are needed. First, a Funded Pension Scheme with contributions from the employee, in the case of all new employees, should be instituted. Second, the formula for commutation of a portion of pension entitlement should be revised taking into account the change in the interest rate from the period when the formula was originally worked out.

(vi) Salary (Government Employment) Reforms

Salary related reforms, including reforms in government employment strategies, should constitute the core of fiscal reforms. In order to contain the growth of the salary bill, all posts that are presently vacant should be reviewed and a significant number of them

should be abolished. In addition, a survey should identify department-wise surplus staff. Further, only a fraction of positions should be filled up on the superannuation of employees. Reforms in management of government employment are critical to restoring Uttar Pradesh's state finances. These reforms not only curb the growth of employment in the government sector but also ensure productive redeployment. More generally, all posts identified in the Tenth Plan should be filled up with such redeployable staff. Vacancies that arise due to retirement of staff from non-plan or continuing plan schemes should also be filled from this pool. Attempts should be made to arrange for adequate retraining of these staff so that their redeployability increases. Those who are willing and able can also be directed towards teaching, and health administration jobs.

(vii) Subsidy Reforms

Subsidy reforms should lead to reduction in volumes, lower costs, greater transparency and better targeting. The subsidy regime should be limited, transparent, and properly targeted. The state government should explicitly show its subsidies in the budget, so that their volumes and continued validity may be discussed each year in the legislature. In a few areas like health and education, where subsidies are justified because of large externalities, the government should rationalise the subsidy structure, so that subsidies are given to the economically weaker sections. Subsidies should have a specific time span, after which their utility should be reassessed, and the duration revised. They should be withdrawn in stages. Subsidy reforms should be approached from both the expenditure and revenue sides. On the expenditure side, reducing costs of providing services by reducing operational inefficiency could reduce subsidies without affecting service levels. On the receipts side, one has to target higher recovery rates by linking prices (user charges) to costs. Input-linked user charges, partial privatisation of generation and distribution (in electricity), proper metering, setting up bodies for autonomous tariff revisions in power and transport, fees for health and education, should lead to better cost recoveries, and lower implicit subsidies.

(viii) New Plan Strategy

The planning strategy should emphasise not on the plan size but its productivity. Projects should be selected on the basis of cost-benefit analysis; and potential contribution to output and non-government

employment opportunities. The practice of determining the plan size first, and then finding projects or schemes for the plan size as an after-thought, must be reversed. Plan size should not be determined by the capacity of the state to borrow. Rather, it should be determined by the selection of such projects as can produce a rate of return higher than the cost of borrowing.

(ix) Capital Expenditure Augmentation

Capital expenditure relative to GSDP should be augmented, focusing on infrastructure, especially roads and bridges, power, and information technology. Capital expenditure relative to GSDP should be increased by at least one percentage point of GSDP. This should essentially be used for infrastructure capital outlays, covering power, roads and bridges, and information technology, especially communications and large bandwidth networks. Investment in infrastructure will lead to a higher GSDP growth.

16.2.4 Fiscal Discipline and Budget Management

(x) Targeted Deficits

Management of deficits (revenue and fiscal) in annual budgets should be according to predetermined medium-term targets as prescribed by Uttar Pradesh's FRBMA. The FRBMA has already prescribed targets for 2008-09. It is essential to follow a path of annual adjustments so as to meet these targets. As fiscal deficit is reduced along a targeted path, and as interest rates have already been lowered on central loans, small savings, provident funds, etc., and as the market rates are also going down, it is expected that interest payments relative to GSDP would go down. This would facilitate adjustment for achieving FRBMA targets.

(xi) Management of Debt

A lowering of the debt-GDP ratio would help achieve reduction in revenue deficits by reducing interest payment liability. The FRBMA has also provided for curbing the issuance of guarantees, whose limits should be fixed relative to GSDP. Further, the debt-GSDP ratio should be put on a path of successive reduction year after year, until it reaches a sustainable level in the context of the achievable growth rate and the prevalent interest rate. The high-cost debt incurred in the late nineties may be prematurely retired using fresh borrowing at lower costs. The debt-swap scheme offered by the Central government has been useful in this regard. New borrowing agreements should provide for a 'put' option or flexible interest rates.

(xii) Budgeting Reforms

Budgeting reforms would augment efficacy of the fiscal intervention. The state should undertake these reforms with a view to imparting greater transparency and control. Important elements of budgeting reforms should include the following:

- Formulation of a medium-term fiscal policy which should be presented to the legislature along with the budget.
- A separate schedule indicating major head-wise number of employees, and salaries and allowances. This has already been initiated.
- Separate schedules on pensions and terminal benefit outflows, along with a headcount of pensioners.
- A major head-wise schedule of subsidies, making as many subsidies explicit as possible.
- A schedule of year-wise and project-wise outstanding guarantees, on which the state government has already begun work.
- Computerisation of budgeting methodology and procedures; quarterly flows of receipts and expenditures also to be announced and monitored.
- Statement on the deviations between actual and budget estimates, and an analysis of factors explaining the deviations, continuous improvement in estimation methodology.

16.2.5 Public Sector Reforms**(xiii) Power Sector Reforms**

Since power is a key component of infrastructure, Uttar Pradesh must attract private sector players in all three fields, *viz.*, generation, transmission, and distribution in the light of the new and recently announced electricity policy by the Central government. The private sector can play an effective role at least in generation and distribution in the first instance.

The Expert Group recommended paring off the dues after verification and a one-time settlement of arrears through a scheme of writing off 50 per cent of the interest/surcharge arrears and securitising the balance interest and principal in long-term bonds. The SEB's

need to enter into an agreement with CPSUs to ensure regular power purchases.

(xiv) Reforming Other SLPEs

Government should undertake a comprehensive disinvestment programme in respect of SLPE's other than power, particularly when these are unproductive. Keeping in view the investments made by the state government over the years in its SLPEs, their lacklustre performance has become the biggest fiscal liability on state finances. The government must initiate a comprehensive disinvestment and privatisation programme for SLPEs. Those that are beyond redemption and where there are no takers should be closed down. The interest of employees should be protected by a VRS, which should largely be financed by sale of assets, including land, wherever feasible. A Disinvestment Committee under the Chief Minister should be set up to expedite the process.

16.2.6 Monitoring Process of Reforms and Mid-course Corrections

Once reforms are decided upon and undertaken, a monitoring mechanism should be in place to review their progress. As soon as deviations from the expected reforms path are observed, policy corrections should be introduced immediately. An essential feature of reforms is that revenue deficit, as a percentage of revenue receipts, should decline by a margin of five percentage points or more each successive year. If this looks like slipping in a year, a corrective measure should be taken in the light of the relative efficacy of different policy measures in effecting revenue deficit. Fiscal slippage could be due to external circumstances beyond the control of the state government and due to inadequate reform measures. The expenditure side is largely under the control of the government except for interest payments and pensions. Harder action on the expenditure side could take the form of complete freezing of new recruitment, compulsory retirement of surplus staff, freezing of dearness allowance (DA) at current levels, freezing of grants to aided institutions at current levels, reduction in growth rate of non-salary expenditure, and reduction in subsidies. In all these cases, action has already been contemplated in the reform scenario.

