ORGANISATION OF THE LOWER CHAMBAL BASIN FOR A PLANNED DEVELOPMENT

The following contains a brief description of the bio-physical and socio-economic conditions of the region.

THE BIO-PHYSICAL ENVIRONMENT:

Extent:

The Lower Chambal Basin extends from 25° - 28° E to 29°-32°E of latitude and 75° - 23° E to 79° - 7° E of longitude. The Vindhyan scarps and the ravines of the Yamuna and Pahuj separate it from the rest of India.

This region may be delimited by the Karsil, Gambhir and Yamuna rivers in the N, the Vindhyan Watershed in the south, the Parbati river in the W and the Pahuj river in E.

GEOLOGY AND GEOMORPHOLOGY:

The Lower Chambal Basin is occupied by the unfossiliferous Upper Vindhyan rocks, which are supposed to be of the Algonkian age. The Upper Vindhyan are divided into Bhandar, Rewa and Kaimur series and all these formations are well represented in the region.

The uppermost division of the Vindhyan is the Bhandar Series, which consists of fine grained, soft, red coloured sandstones with white specks. The Bhandar limestones vary in thickness and quality passing from a good lime-stone to a calcareous shale.
The Bhandar Series is underlain by the Rewa Series, which is mainly arenaceous. It is composed of somewhat coarser sandstones.

The lowermost rocks of the Upper Vindhyan are the Kaimur series, which, too, are arenaceous in nature.

The current bedding is prevalent in all the series showing thereby the deposition in shallow water conditions. The reddish colour of the sandstone and the presence of veins of gypsum indicate dry climate.

The region is sharply bounded by the Vindhyan scarps. Mainly, there are two scarped features, facing towards the East over Bundelkhand and towards the North-West flanking the left bank of the Chambal. A scarped block occupies the Tahsils of Dhulpur and Karauli. The Lower Chambal, occupying a strike valley, cuts across the scarps, and is superimposed on them. Gulling along the Lower Chambal and its tributaries suggests a slight recent rejuvenation.

The superficial alluvial deposits, covering the funnel of the lower Chambal, form an outlying and marginal portion of the Gangetic plains. Presumably, the Chambal and its tributaries have smoothened the old rugged surface of the Peninsular Foreland and have deposited recent alluvium. The prevailing formation is some form of sandy clay. The dominant features of relief are flood plain bluffs and belts of ravines and badlands formed by gully erosion.
Soils:

The topography has played a great role in the soil formation. Reddish brown soils are generally found along the scarplands. These soils are gravelly clays, which are grey to black in colour and are slightly alkaline. Most of the soils of this region are formed by river deposits. These belong mainly to the Indo-Gangetic alluvium. Raichaudhuri and others (1965, pp. 120–22) mention that "The soils of Bhind district and parts of Morena district are pale brown to yellowish-brown with patches of greyish colours. In other parts of Morena district the soils are dark grey brown to dark-brown. The surface texture grades into sandy-loam to loam and clay-loam to clay. The alluviation of finer material is observed and thus, the middle horizons are usually heavier. The pH is neutral to slightly alkaline and the total soluble salts are generally below the harmful limit of 0.2 percent. In a few deteriorated areas around Mehgaon and Gohad, saline and alkaline patches are found with high ground water-table. Carbonates are invariably present usually increasing with depth of the soil and appearing in the form of concretions. The soils are usually poor in nitrogen, organic matter and phosphorus and are fairly rich in potash." In Etawah and Agra districts these soils approach desert conditions with little leaching and considerable accumulation of salts on the surface. Vegetation is predominantly scanty as a consequence of high runoff and soil erosion.

Soil Erosion:

The Chambal and its subsidiaries, at lower basin, have
deposited fertile alluvium on the one hand and have created deep ravines on the other. The severely gullied and ravined land along their courses shows how the uncontrolled water condition coming from the upstream has thrown large areas out of cultivation. One of the greatest problems of this region is the soil erosion. The cultivated area close to various rivers and their tributaries is in constant danger of being washed away. According to a Committee appointed to report on Ravine Reclamation in Madhya Bharat in 1956, Rustamji (1961, p. 3), "The area under Ravine in the three districts of Gwalior, Morena, and Bhind is about 6 lakhs of acres, and about 12% of the total area of the districts and about 20% of the total cultivated area was under ravines according to the Land Use figures available for the year 1950-51". B.R. School of Sociology and Economics, Agra University, Agra, conducted a Land Utilization Survey in Agra district and revealed that "During the past 70 years cultivated area has been reduced from 52.8 to 36.7%, while uncultivated land has increased from 47.2 to 63.3% resulting in serious economic distress."

The hazard of soil erosion is best revealed in the report of the Commission under E.A. Courthope on the Etawah and Agra ravines of the Chambal and the Yamuna. The Commission reported, mentions Bishan Kapoor (1960, p.1) "In Etawah district there is good evidence that 400 years ago, the land now intersected by innumerable ravines, was level ground. A rough calculation shows that at a minimum estimate, during this period, about 150,000,000 cubic feet of earth have been washed away. This means that for every second of the 400 years, 11 cubic feet of earth have been washed out of
Etawah district." Similar is the report of the Committee on Ravine Reclamation in Madhya Bharat in 1956. It stated, Rustamji (1961, p. 3) quotes, "The task of urgent importance is the protection of existing lands that would otherwise be eaten up by the over-spreading ravines. A rough estimate puts the total peripheral length of the borders of the Chambal system, i.e. Chambal river and its tributaries like Sindh, Asan, Kunwari and Sank at a figure of 1500 miles. If the average depth of the area to be protected on the borders of the Ravine is 2 miles the total area would come to about 1.9 million acres. The area inside the ravines is estimated to be at 6 lakhs of acres." It is, therefore, safely concluded that the protection of the existing lands from the hazard of soil erosion is a great problem of this region.

Climate:

The climate of this region can be characterised as monsoonic for it is dry and hot in summer and mild and frost-free in winter. The temperature rises to its maximum limit previous to the rainy season and falls to its minimum during the cold season. The highest amount of rainfall occurs during the rainy season and a slight rainfall occurs during the winter season. The rainfall is highly variable and droughts and dearths are frequent. The annual rainfall does not exceed 30 inches. Spate (1957, pp. 57-58) mentions, "Areas with, say, 25-35 ins. are worse off than the really arid N.W. (India), since the rainfall is usually, but only precariously, adequate for crops. In such marginal regions agriculture is indeed balanced on a knife-edge; there may be more good years than bad, but a run of
two or three deficit seasons may spell complete disaster, and even a well-to-do peasant may have to sell his draught bullocks." Thus from the agricultural point of view this region falls under semi-desert type of climate.

Natural Vegetation:

The natural vegetation is found on the hilly topography. The forests are usually semi-xerophytic in characteristics with vegetation consisting of mainly thorny bushes type. Open scrub is confined to riverine strips and badlands. Vegetation is scanty in the alluvial deposits and is diminishing continuously under the age-old practice of over-grazing, cropping etc., as a consequence of which soil erosion has produced bad-lands. Grasses are confined to wastelands, hills, pastures and patches of barren lands.

Social And Economic Criteria:

The Lower Chambal Basin as a whole has been the home of dacoits and other anti-social elements since times immemorial. Dholpur, Karauli, Bah, Etawah, Jalaun, Bhind, Morena, Datia, Gwalior and parts of Shivpuri have continued to remain infested with the dacoits. The occurrence of dacoity in these districts has been almost uniformly distributed and social security has been the imperative need of society.

The inhabitants of this region speak common dialects and are knit together by bonds of customs, caste and creed. The web of kinship ties is made stronger by geographic propinquity. This Basin has its own characteristic features, thus possessing a distinct
identity. The people speak many dialects of Hindi. In Bhandar, Datia and parts of Gwalior district Bundeli is generally spoken. In Towarghar a dialect of Western Hindi called Towarghali is the prevailing tongue. In Tahsil Bah of Agra district, people speak Bundeli. In Bharatpur district, mostly Eri Bhasha (Western Hindi) is spoken. But, since, these dialects have a common origin, they differ from one another only very slightly, and hence, they form one common language in uniting them emotionally.

The inter-community relations are based on the old Hindu Varna System in which the Brahmins and the Thakurs are placed superior to others. The culture is medieval and feudal in nature. There are various clans of brave Rajputs like the Hadas of Sewai Madhopur, Pawars of Sheopur, Sikarwars of Sikarwari, Tomas of Towarghar, Gujar of Gujarhgar (highlands of Morena and Gwalior), Bhadorias of Bhind, Bah and Etawah, Chauhans of Kachwai, Sagir and Mainpuri, the Kachhwahas of the Anan lowland and the Farihars of Sahson and Sandous Parganas of Etawah. These Thakur clans are warriors of world repute. They rebelled against the Pathans, the Moghuls and even the Britishers. They trace their descent from ancestors, who were the ruling families of Delhi, Rajasthan and Central India. They settled in the Lower Chambal Basin just to take refuge, and maintained their guerrilla warfare against their enemies. There are cases of migrations of individuals and families from one lowland to another within the Lower Chambal Basin. These Rajputs are famous for their fierce loyalty and constitute a sort of armour for any outlaw belonging to their own clans. They are still most powerful of the communities residing in the valley. No dacoit gang can
survive and operate in the whole of the Lower Chambal Basin without their sympathy and goodwill.

Other Hindu castes are the Chamars (Leather workers and labourers), Brahmins, Kachhis (agriculturists), Ahirs (grazers and cultivators), Gujars (Graziers and Cultivators), Balais and Koris (Weavers). The most prominent jungle tribes are the Kizars (agriculturists and hunters), Mainas, Kols and Bhils. A minor community of Mohammedans like Sheikhs and Pathans also resides in the basin. All the castes are interdependent economically and otherwise. The caste system is not rigid. People are knit together by a similarity of customs and practices.

The unity and solidarity of the local groups has also produced rivalry and illfeeling between different groups and villages. If a group gets some kind of benefit, the people of another group become extremely jealous of them. For example, if a licence for a gun is granted to some one in a particular group, the people of another group will also try hard to get one. If they failed in their attempts, they would purchase illegal arms to maintain a sort of balance of power. Thus, hostility and hatred on petty affairs are the common features of the Lower Chambal Basin.

The family is an important social and economic unit. It serves not only to satisfy the biological instincts of sex and perpetuation of race, but also functions as an important unit in the quest for food and shelter. It conserves and transmits social customs and traditions, ideals and values to the succeeding generations. In the economic pursuits all the members of the family contribute all they can and the head of the family looks after the material
comforts of all other members. The care of children is another function of the family. Male-children are desired more than female ones because they bring honour to the family. Now the families of the lower castes are fast disintegrating with changing values of life in the modern times.

The village is an important social unit and consists of a number of families. The homesteads are clustered together in a locality. The number of families inhabiting the villages varies considerably from one place to another. The residents of these villages constitute a recognizable local group. The land area of every village is well defined and there are several sizes of villages too. Habitation is clustered in the transitional lowlands. But the water requirements compel people to reside on the river banks also. The majority of such villages are situated either in the heart of the ravines or at spots where the rivers overlook them.

The social organisation is identical throughout the Lower Chambal Basin. Before the Panchayat Act came into force each village had a council of elders, which was presided over by the village headman. But, now-a-days the Gram Panchayats have been formed and each village has its own members to represent it. Even then the older from is still more effective and has a social sanction behind it. The present Gram Panchayats have become spots of trouble and create tension in the people.

The following further studies are necessary for the effective working of the region:
1. Major bio-physical inventories should be made for the effective preparation of development plan.

2. A detailed survey of natural and human resources should be conducted, particularly in the field of agriculture, forest, industry, fishing, tourism etc., and a careful planning must be done to utilize the existing and the new resources.

3. Priority should be given to the construction of roads on the criteria of safety, expropriation and use of land and maintenance costs.

4. There should be an intensive study of the closing down and resettlement of villages from the security and other points of view.

5. A Regional Development Board, a Regional Security Authority and a General Authority over these regional groupings be established. They should be autonomous in their working and responsible for the development and security of the region. Their status, powers, composition, internal structure and cost etc. should be chalked out carefully so that they may not become complex and too ambitious.