VI

CONCLUSION

Conclusions

One of the most noteworthy qualities of indigenous building processes is their direct harmony and inter-relationship to the socioeconomic structures of the community. This quality is displayed in the indigenous buildings of the Caspian region.

The nomadic or semi-nomadic herdsmen build temporary or semi-permanent shelters. Some, such as the Turkoman öy (yurt or tents) or the Talesh kumeh covered with a woven goat hair cloth, are transportable and are designed to be carried by pack animals during the migrations. In the settled rice growing communities, quite substantial shelters are constructed in phases, using local timbers, clay and thatch produced from rice stems. Building is an ongoing process in which both the family and the community actively participate. For example, in the thatching process in the Fouman area* the family, relatives and neighbours collaborate in the process of covering with rice thatch the roof of the house. The house owner provides the meals of the working party and is expected to return the favour by co-operating in the thatching of his neighbours' houses.

Today however, as the rural population are becoming increasingly absorbed into the cash economy and are becoming wage labourers, regarding their own labour in terms of a wage, they cease to participate actively in their own housing processes. Building thus becomes a specialized activity and is left to the masons, carpenters, metal workers, roofers, etc. Even in some farming communities, the slack agricultural periods during which traditionally much of the building work took place, is spent working in a city, probably as labourers on construction sites, while a local builder/contractor constructs much of the new housing within

* see Fouman section Regionalization: villages of Dogoor and Heydaralat.

the village. This housing method dictates its own technology and materials. Such exogenous materials as sheet metal roof coverings require specialist skills* and cannot be worked by the villagers, as in the case of thatch or shingles. Furthermore, these materials need to be purchased from the town or the city and are not a by-product of local agriculture such as rice thatch, nor naturally available like timber, clay, stones, etc.

In other words, one can list the economic, climatic and social disadvantages of the "modern" rural building methods now replacing the indigenous, as follows. In economic terms, both the labour and materials components of the "modern" house have to be purchased during the time of construction, which is normally carried out in a single phase. This requires a large initial capital investment during a short building period and is alien to the mode of economy of the rural population, exerting unnecessary pressure upon them to aquire loans, etc. Furthermore, the materials such as cement, steel beams, sheet metal roof coverings, etc. that have to be purchased from the towns, drains the savings of the rural population, causing a reverse cash flow which should correctly be a balance between town and village.

Conversely, the indigenous house grows in accordance with the economy of the household. It is built in phases over several years and is expanded when the financial conditions of the house owner allows for small periodic investments in his housing. In addition, the indigenous house uses materials that are locally available at minimal cost, which is usually the cost of labour in preparing the material for use. This retains the rural capital within the community. Invariably the indigenous materials are climatically more suited to their environment than the modern

---

* e.g. "halabzan" sheet metal roofer.

replacements. This aspect has been covered in the discussion on climate* but the example of sheet metal roofs' and concrete blocks' poor thermal performance compared to timber and clay, serve to briefly illustrate this point. This poor thermal capacity and poor insulation of modern materials reduces comfort and adds to the energy costs for heating and cooling the house artificially.

The much reduced degree of participation of the user in his housing process, has resulted in socially less viable housing. The present day housing methods, as mentioned previously, impose their own technology and forms. The technology reduces community links by eliminating neighbourhood participation in housing and the resulting forms often disregard the living patterns of the rural population. The user's choice in determining the form and spaces of his house are greatly limited to the building vocabulary of the builder/contractor, and the final result is a shelter alien to the social, environmental and economic conditions of the occupants.

Certain advantages are, however, associated with these new housing methods which propagate their popularity. There is a common belief that modern materials such as concrete blocks, sheet metal roofs, etc., are more durable and long lasting than their traditional counterparts. There is also considerable prestige value attached to houses built with these materials; the value of such houses are higher in the property market. This higher value is to some extent a reflection of the wider market available for these houses mainly due to prestige reasons. Although it is true that most traditional building materials require more frequent maintenance than the modern equivalents, the durability of the latter is reduced due to poor utilization and the high

---

* see climate section

of technical ability in working with the modern materials. Often in an attempt to reduce cost or to increase profits, the manufacturers for rural markets use poor quality materials or, as in the case of concrete blocks* , use low strength mixes. Sometimes these materials are used in conditions to which they are not suited and thus cannot function correctly or be durable in those conditions.

In this study we have attempted to demonstrate the potentials and shortcomings of indigenous building materials, methods and techniques, and as far as possible have presented proposals for their development to meet today's shelter needs. It is our belief that indigenous building methods inherently contain a great deal of potential and their shortcomings can be overcome without substantially reducing their economic, social and environmental benefits. Thus rejecting indigenous methods for their shortcomings, and ignoring their advantages which are a result of their long history of empirical development, is clearly detrimental especially to rural communities. The timber building technology practised throughout the Caspian region has far reaching horizons for development. Through controlled forestation programmes this important natural, replenishable resource can be developed to fulfil the requirements of the construction industry as well as other productive industries using timber as a raw material. This will considerably reduce the need for the importation of other building materials, such as steel, and will create a major source of income and employment in the region. Timber construction technology can be developed to meet house building needs as well as the requirements of public building projects where even long spanning constructional elements* are needed. The clay roof tiles that were produced in many parts of the Caspian but are now only made in the sub-

---

* see concrete block in materials and technology section.
*

ara-Lisar coastal strip, constitute another field for future expansion and development. In this report the clay roof tile industry, as an example of indigenous building materials production, has been discussed in detail and proposals have been made regarding the possible changes necessary to utilize its maximum potential and efficiency.

In short, the development of indigenous building methods and materials can greatly assist the process of self-reliance, create employment opportunities, develop the economy as well as provide an appropriate built environment. In order to achieve this goal, studies of this nature need to be carried out to assess the strengths and weaknesses of the indigenous methods, and to indicate the directions for further studies, experiments and practical implementation. For example, in the Caspian context experimentation into timber preservation, fire proofing, insect and fungi protection or organic materials can eliminate many shortcomings of the indigenous buildings. Similarly, the varieties of wall renders used in the region could be tested and improved so that their durability in the local climatic conditions are increased. In such experiments the capability of locally available materials in improving the existing techniques should be assessed, and where possible utilized.

Rural Services

Even though the Caspian region is considered one of the most developed regions of Iran, rural facilities and services fall far short of demands and national goals. A 1973 government study indicated major shortages in rural facilities in Gilan and Mazandaran.

Shortages of 5 Major Rural Facilities in Gilan & Mazandaran (regional percentages, March 1973)*

	Gilan		Mazandaran	
Services	Level in 1973	Shortages	Level in 1973	Shortages
Hammams	8.49	91.51	27.70	72.30
Schools	30.85	69.15	22.29	77.71
Water	5.26	94.74	3.04	96.96
Electricity	1.68	98.32	1.63	98.37
Roads	50.36	49.64	49.23	50.77

i.e., when Gilan constructs 91.51% more hammams it will have completed all the province's requirements for hammams.

Although it can be assumed that development programmes in the last six years have moved toward meeting these shortages, large discrepancies still exist. Even when rural people are fortunate enough to receive service facilities, they are often left with prototype buildings designed in a central office, inappropriate to local conditions and in which they have had no role in either planning or building. Additionally, this leads to future problems of maintenance since local people rarely have aquired skills necessary for maintenance of these exogenous materials; nor do they have the incentive to care for these services in the manner that a local community-built service would have induced. The increasing dependence on external facors noted above in the modernization of the housing process is reinforced by government policy in the provision of services. Official policy requires the employment of contractors, normally city based, and industrialized materials.

---

* Behrouz, Iran Almanac 1975, p.417.

It is felt by the authors that the key people through whom the development of the built environment must be directed are the village builders. It is the local builders who have traditionally been responsible for most domestic building in rural areas. The village builders can be highly skilled professionals or merely agriculturalists who work during slack seasons assisting local people to carry out the more complicated aspects of house construction. In either case, they are often the designers and agents through which changes are introduced into the local vernacular. For this reason they can be seen to play an important role in the development process, and improvements to local building can be most easily introduced to the community through them. It is through these local builders that most of the research of this report was carried out.

Workshops should be set up with local builders to develop and implement the ideas presented in this report. Such workshops, being educational and having a research base, can carry through the experiments proposed as the next phase of study and as well equip builders with immediate skills necessary to meet demands for local services. Not only technical skills should be improved, but organizational ones as well. Local builders should be equipped to contract projects so that building profits are not lost to the city. Groups of builders could pool their labour and skill to form co-operative organizations to contract official projects. Similarly, building materials industries could be organized as production co-operatives to ensure that capital spent locally remains in the local area, generating new employment opportunities and economic development.