

No. 107

**COMMUNITY LEARNING, INFORMATION AND
COMMUNICATION RESEARCH PROJECT**

CASE STUDY ON BUILDING CENTRES IN KERALA

Jeremy Collin

March 1999

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Building Centres in Kerala**

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GHK Research and Training
St James Hall
Moore Park Road
London SW6 2JW
Tel: + 44 171 736 8212 Fax: + 44 171 736 0784

CLIC CASE STUDY HUDCO BUILDING CENTRES

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Project Profile.

Name of initiative :	HUDCO Building Centres
Location:	Throughout India. Case study carried out in Kerala with background information from Delhi and Orissa.
Project Initiated by:	HUDCO (Central Government organisation) based on a model developed in Kerala
Issues / Problems Addressed :	The development and dissemination of improved cost-effective building methods.

This case study examines community learning, information and communication facilitated through building centres in Kerala, India. It also draws upon background investigations in Delhi and Orissa. The authors recognise that the institutional arrangements and performance of building centres vary widely across India and that recommendations made for Kerala may not be applicable to the whole of the country.

1.0 BACKGROUND INFORMATION

1.1 Policy Context

The 1991 census showed a shortage of some 23 million housing units in India, more than 90 percent of them in the poor and low-income category. The government declared 'Housing for All' as a priority with a special focus on the housing needs of the poor and deprived.

The National Housing and Habitat Policy of 1988 strongly encouraged the use of low-cost building materials produced from local resources. More recently, the 1998 policy focuses on the need for skill upgradation, training, employment and improved working conditions in housing construction. It also highlights the role of female workers and provides for their induction at supervisory level. The Policy encourages state governments to facilitate the training of construction workers by administering development programmes through Building Centres and other agencies, and promoting the decentralised production of building materials.

Box 1

Key features of the National Housing and Habitat Policy

Role of research, standardisation and technology transfer organisations

- Public awareness and confidence in alternative technologies to be promoted via communication and the construction of high visibility buildings.
- Research to respond to local climatic conditions
- Transfer of proven technologies and materials at grass-root level to be intensified through building centres, both rural and urban.
- Information and training for construction workers so that rural and informal housing benefit from cost-effective technology.

Technology Support and its Transfer

- Technology support to play a continuing vital role, with the primary aim of providing affordable shelter for the poor.
- State PWD's should follow the lead of Central PWD by banning the use of wood and promoting substitutes.

Building centres should be set up on an entrepreneurial model, producing components based on local materials and providing training for construction workers.

Employment Issues in the Building Centre

- To counteract exploitation, women should be given training and induction at supervisory levels, and encouraged to become contractors. All training institutions must enrol women on a preferential basis.
- Building centres should provide decentralised training for men and women, via government schemes.

Source: National Housing and Habitat Policy, 1998.

1.2 Brief History of the Building Centre Movement

The building centre movement began in Kerala with the first centre established in Kollam in 1986. This developed from a combination of circumstances:

- the need to replace many houses destroyed by floods

- the example of low-cost and environmentally-friendly technology developed by Laurie Baker, who is based in Kerala and had earlier established COSTFORD, the Centre of Science and Technology for Rural Development.
- the presence of the local centre of the National Building Organisation, which was also working on technology development.
- an administration positively disposed to establishing a centre to develop and promote affordable technology
- the availability of funds for house building and disaster relief

The Kollam centre focussed initially on direct assistance to the poor through house construction, but gradually developed a broader agenda of promoting cost-effective environmentally-friendly housing technology. The model was seen as a good one and in 1988 the Ministry of Urban Affairs and Employment launched a programme for the establishment of a national network of building centres, with at least one in every district. The programme is implemented through HUDCO.

1.3 Objectives of building centres

The principal objectives of building centres, as defined in HUDCO publications, are:

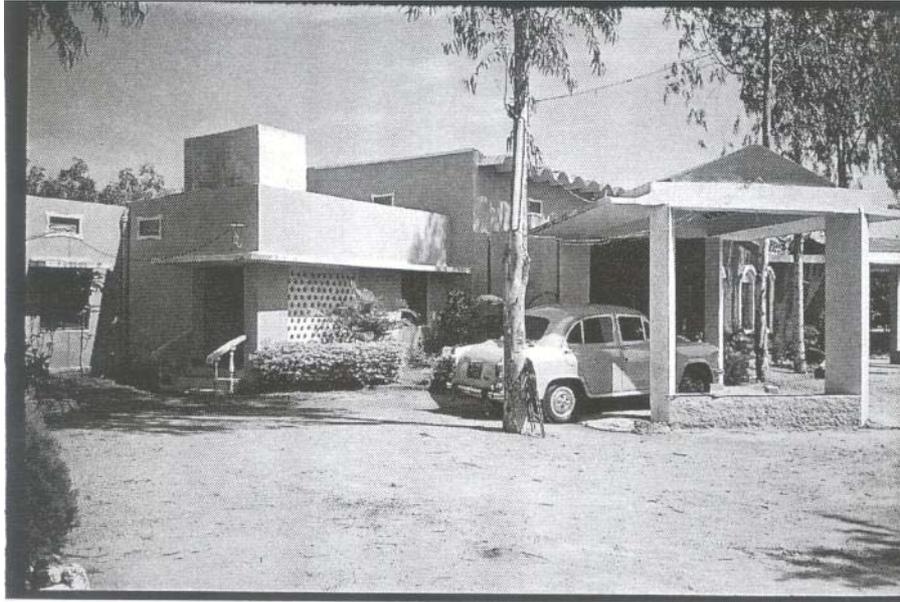
- technology transfer from 'lab' to land;
- skill upgradation and training for artisans in innovative and cost-effective technology options
- production of cost-effective building components using local resources and making these available through local sales outlets
- construction of housing and public buildings using the trained workforce and the components produced by the building centres
- provision of guidance, information and counselling to people on proven, innovative and cost-effective building materials and technology options.

Note that these make no reference to low-income communities. Nevertheless it seems a reasonable proposition that building centres could facilitate learning, information and communication for the poor in relation to affordable house designs, choice of technology and materials, access to services and products, and practical skills.

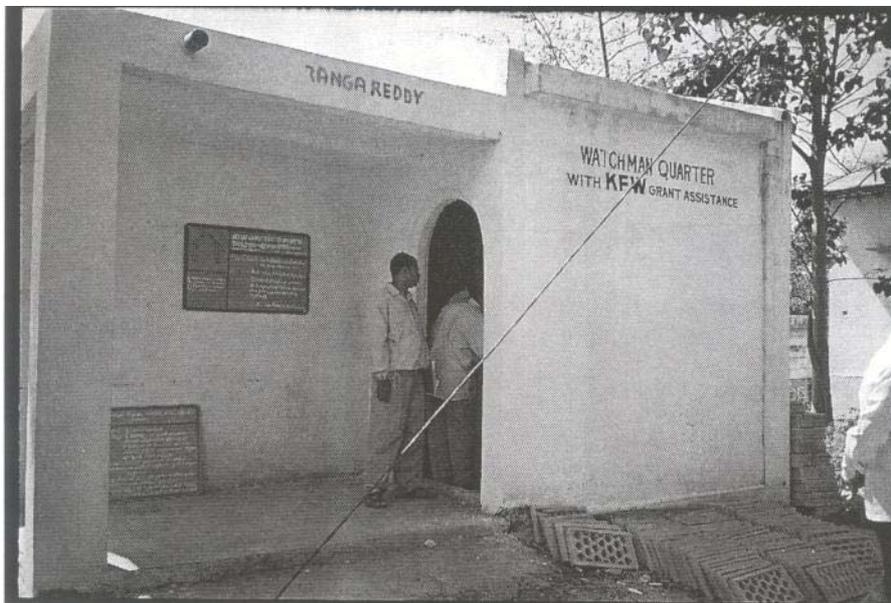
Box 2

Examples of Building Centre Technology

- Concrete door/window frames and lintels
- Use of unplastered brick walls
- Non-conventional brick work (e.g. 'rat-trap bond' which uses far fewer bricks than conventional wall construction)
- Hollow concrete blocks (various sizes)
- Filler roof slabs (concrete slabs with low-quality clay tiles as filling on the underside, which has no load-bearing function)
- Ferrocement components
- Flyash building block



A building centre in Hyderabad



A model house at a Hyderabad building centre

1.4 Administrative arrangements

The original vision was of building centres managed by government agencies but the scope was later extended and today they can be set-up by any of the following:

- Government agencies at district level (DRDA and DUDA)
- Government housing and development agencies at state level
- Research and Development Institutions
- Educational institutions dealing with architecture, engineering or construction
- NGOs, voluntary bodies, CBOs and charitable trusts / societies
- Professionals and entrepreneurs
- Public Works Departments (PWDs)
- Workers' co-operatives / builders' associations

The latest HUDCO figures (see below) show that some form of government agency (usually the district or state administration) controls the great majority of centres (78%). Roughly 20% are run by NGO's, though the number is increasing.

1.5 Financial arrangements

For setting up a building centre, HUDCO provides Government of India grant assistance of Rs 500,000 (about £7,000) which can be used for various specified purposes including training, (see Appendix One). A second grant (from KfW) for land, buildings and hardware may also be awarded if progress is satisfactory, but thereafter the building centre must be self-financing, though some grant aid is available for specified purposes.

Table 1

Numbers of Building Centres by Type

No	Initiating Body	No. of Centres		Comments
		1998	1/99	
1	State / District Administration	300	267	Reducing coverage
2	Housing Agencies	131	125	
3	Research and Development Institutions	2	2	Constant
4	Educational Institutions	34	40	Increasing coverage
5	NGOs, Voluntary Bodies, CBOs & Charitable Trusts / Societies	84	110	
6	Entrepreneurs / Professionals and Developers	5	9	
7	Public Works Departments	2	2	Constant
8	Construction Workers Co-operatives, Contractors / Builders Associations, etc.	2	2	
	TOTAL	560	557	

Overall sources of finance include:

- HUDCO start-up grant
- KfW grant for land and equipment
- HUDCO R&D grant assistance
- HUDCO soft loan for working capital and machinery
- NRY SHASU Training Component (now SJSRY)
- TRYSEM and DWCRS Special Component Assistance funds from State Governments, for training.

2.0 INITIAL INVESTIGATIONS

Initial investigations aimed to develop an understanding of the building centre phenomenon and identify broad patterns of working, through:

- a study of available literature, including various papers produced by HUDCO on the building centre initiative
- discussions with senior HUDCO officials responsible for building centre initiatives.
- visits to typical building centres and informal interviews with their managers.
- a review of the materials and methodologies used in managers' training.

2.1 Cost Reduction

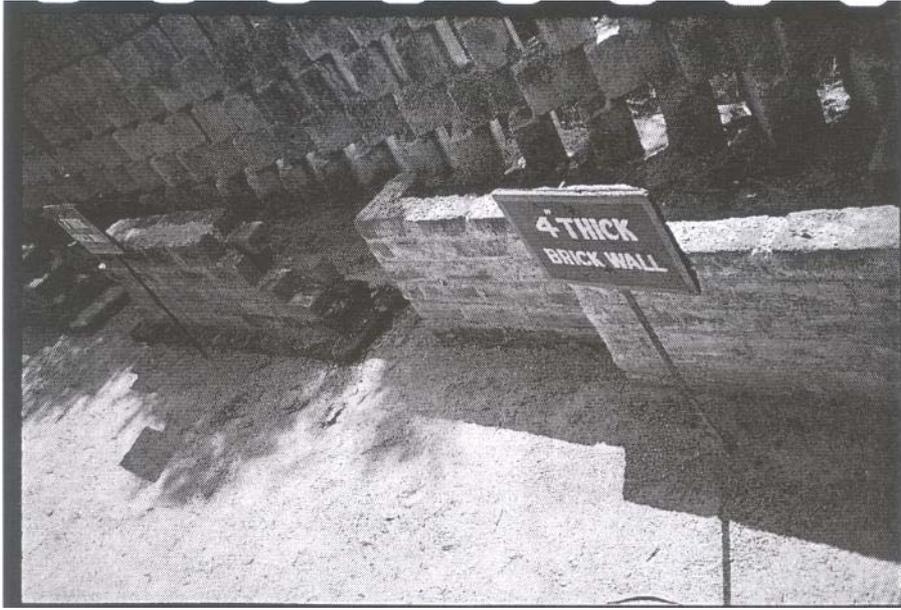
HUDCO literature suggests that building centres achieve a reduction of 15% to 45% against the cost of conventional construction, which is roughly Rs.6,000 / m². Costs in low-income urban areas probably lie somewhere between this and the figure for informal village situations of Rs. 500-1,000/m², but the costs to the poorest - those living in unofficial settlements - certainly lie at the lower end of the scale. It thus appears that:

- building centres are firmly rooted in formal sector approaches
- building centre technology is unlikely to be affordable to the very poor

2.2 Initial visits to Building Centres

Building Centres in Orrisa

Institutional arrangements for building centres in Orrisa are shown below. Note that while the District Urban Development Agency (DUDA) is the nodal agency for the centres, their managers and engineers are staff of the Town Planning Unit and work only part-time at the centre, typically spending two days there per week. This is a



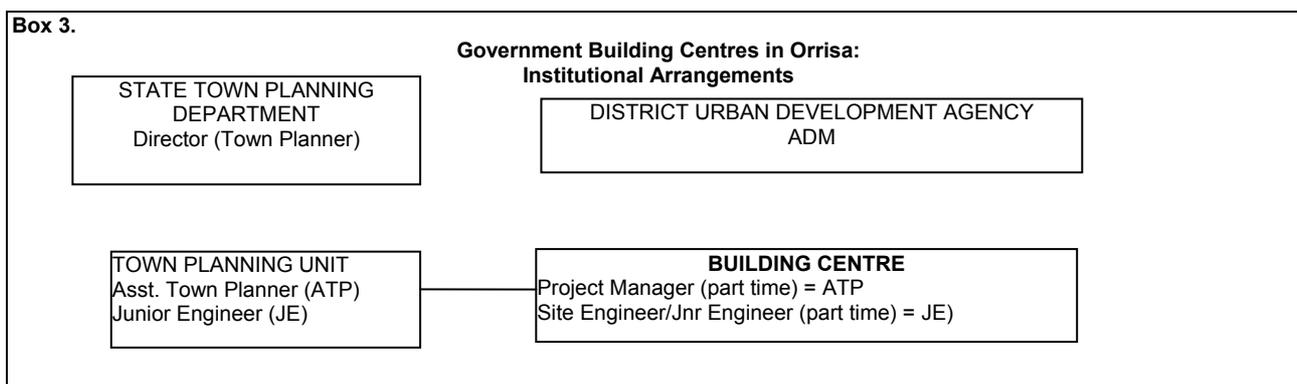
Demonstration materials and building techniques

notable constraint on the functioning of the centres. Investigations also revealed that:

- the main activities are government contracting (especially schemes for the poor) and private commissions from companies and middle- to high-income clients.
- operations are constrained by conventional government rules. For example, cost-effective technologies are not incorporated into specifications of government agencies

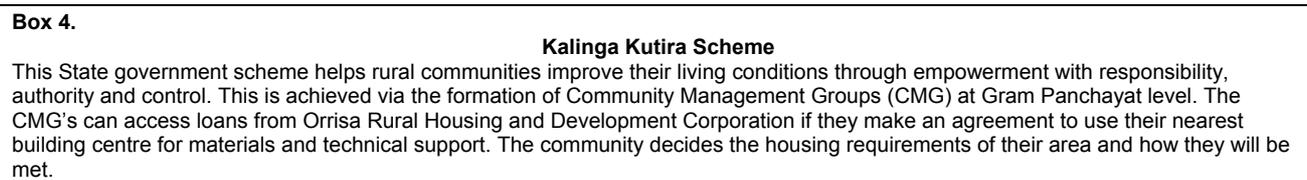
- *there is no explicit consideration of how the centres might interact with the community*
- building centres do no promotional/dissemination work
- location is decided by land availability rather than access to the community

Profiles of three Orrisa building centres are given in Appendix Two.



Notwithstanding the above, there is an innovative scheme called Kalinga Katura (meaning rural housing) which gives the building centre a direct

role in advising and supporting the community. Unfortunately, this is only operating under a few centres at present.



Building Centres in Delhi

Two NGOs-run building centres were visited in Delhi (see Appendix Three for profiles). These centres provide consultancy services design and construction and provide on-the-job training in production and construction. They construct low-income housing for NGOs, voluntary organisations or government agencies and middle- to high-income housing for private clients. However, while many of the schemes are aimed at the poor, there is very little interaction with the community - the centres generally deal with government departments, voluntary agencies and NGO's.

Delhi building centres undertake promotional work and dissemination through campaigns, construction-related exhibitions, published articles and information brochures.

2.3 Review of Training Materials and Methodology

Under HUDCO rules, a project manager should be a graduate or diploma holder with two years' experience in architecture, civil engineering or any other discipline having a sense of enterprise and

involvement in building skills. It is appropriate to review the training given to these managers as it

could affect the type learning and information processes, which they subsequently oversee.

Managers' training programmes are held at the Human Settlement Management Institute (HSMI), Delhi and at the HUDCO Southern Zonal Office in Chennai. Training courses typically last two weeks and appear to follow a set pattern that is not amended much from course to course (see Appendix Four). They are officially termed 'Workshops on Capacity Building for Project Managers of Building Centres' and HUDCO has so far trained over 400, plus 200 Master Masons. The stated objectives of the training are to:

- provide an overview of building centre history and organisational details
- present a range of non-conventional technologies and criteria for their use
- facilitate problem-sharing in the day-to-day operation of building centres.

The training is given by officials of HUDCO, HSMI and Habitat Polytech (a technical training institute); government scientists; private

consultants (architects and engineers); and professionals from resourceful building centres.

Trainees are provided with nearly two thousand pages of reading material in ten volumes, covering primarily management (history of the movement, reports, model arrangements for establishing a centre, financial guidelines, details of government support, etc.) and technical information (designs, specifications, techniques, costings etc.).

Regarding communication and learning, one section of the material is entitled 'propagation efforts' but does not explore approaches to 'selling' building centre technology. Instead, it consists of a paper on the building technology exposition and housing guidance centre in Chennai. This lists the centre's products but does not discuss outreach or other promotional techniques.

Another paper is entitled 'Cost Effective Building Technologies - Technology Transfer, Dissemination and Extension'. In fact, it contains only one section on transfer and dissemination of knowledge, which recommends the following:

- Establishment of 'Building Technology Exposition and Housing Guidance Centres' in all state capitals and, eventually, all important cities.
- Changing the curriculum of architectural and engineering courses to include appropriate building materials and technologies.
- Modification of manuals, codes and standards to include reference to appropriate materials and technologies.
- Use of audio-visual aids to provide information to the public on appropriate materials and technologies

The methods used for training are lectures and audio-visual presentations on managerial and technological topics, group exercises and discussions, visits to building centers and the sharing of experiences.

Comments on Managers' Training

1. The material issued to trainees (which is colossal) seems to regard learning and communication as a one-way process in which building centres transfer knowledge to the people, rather than researching needs and entering into dialogue.
2. There is an assumption is that people will come to building centres and no recognition of the need to 'go to the people'.
3. Communication skills and approaches to extension work are not covered - possibly due to the above assumption.

3.0 KERALA BUILDING CENTRES

3.1 Background

The first *Nirmithi Kendra* (building centre) in India, at Kollam, focussed initially on direct assistance to poor people through house construction. Activities have broadened considerably since then and there are now 28 centres in Kerala, of three types: state, district and NGO. The state building centre is based in the capital, Trivandrum and has eight sub-centres in other towns, all of them in polytechnics. Contrary to expectation, the state centre does not act as co-ordinator for other centres in the state, and attempts to do this have been resisted at district level. Consequently, state and district centres operate similar, parallel programmes, and while HUDCO occasionally calls the managers for meetings, the centres do not otherwise function as a co-ordinated network.

District centres are discussed in detail below. NGO-run centres are a newer phenomenon, with four sanctioned in 1998. The NGO's involved are, however, well-established in working with low-income communities.

Box 5

Kerala Building Centres by Type	
Total districts in Kerala:	14
Building Centres:	
State	9
District	14
NGO	5
Total:	28

3.2 Building Design and Technology

Though heavily influenced by Laurie Baker, Kerala building centres emphasise the use of concrete and do not commonly use mud or other natural building materials. While the use of concrete door and window frames avoids the financial and environmental costs associated with timber, the reluctance to use natural materials for other components appears to be a response to both formal standards and clients' preferences.

Box 6.

Nirmithi Kendra Technology

Most building centres in Kerala produce concrete blocks (three sizes), and reinforced concrete door and window frames. Buildings are typically constructed with roofs made from concrete filler slabs, walls from unplastered brick (using 'rat-trap bond' which provides an economical cavity wall construction) and concrete floors, window frames and doorframes. The use of glass is minimised and much of the light and ventilation is provided by attractively designed *jalis* (patterned openings in the brickwork).

Costs

Buildings constructed by Nirmithi Kendras are said to be roughly 30% cheaper than they would be if built by PWD. This, plus simple contracting procedures and the waiving of tender procedures where building centres are used make them an attractive proposition to government even if the latter have no interest in the technology.

3.3 Research Methodology

Seven building centres were visited: five district and two NGO, as listed below. In each case the manager and/or other technical staff were interviewed via a semi-structured questionnaire and informal discussion, with a focus on the nature and extent of the centres' interaction with low-income communities, training and information services and the potential for developing a more community-oriented focus.

One deputy collector was also interviewed, and field visits were made to several completed schemes, both housing and institutional.

Since district building centres are more common than the NGO type, both in Kerala and nationwide, attention was given primarily to the former, with NGO's providing a source of alternative models.

Table Two

Kerala Building Centres Visited	
<i>District Centres</i>	<i>NGO Centres</i>
Trivandrum	COSTFORD (Thrissur)
Kollam	Mitra Niketan
Allepey	
Cochin	
Thrissur	

3.4 District Building Centres

District building centres in Kerala share a number of common features:

a) Institutional Arrangements

The centres are closely controlled by their local administration with the Collector acting as chairman of the Executive Committee and the Member Secretary (usually the Deputy Collector or Revenue Development Officer) signing all cheques above a specified amount which may be as low as Rs. 5,000. Though the centres are under direct government control they are officially independent and are registered as societies.

Despite their close links with the local administration, district building centres tend to have a more innovative approach to their work than is found in government departments.

b) Staffing

Most technical staff – generally civil engineers – are recruited direct from college and use the job as a way of getting good experience for their future career, though some stay for many years and may eventually become managers. The centres therefore have a high proportion of young professional staff, with many female engineers.

Staff are not government employees and work on fixed contracts without pensions or other benefits associated with government service. (Thrissur is the exception in that a bonus scheme has been introduced). The chairman and secretary do not receive any additional remuneration for their work for the centre.

c) Funding

After initial start-up funding the centres receive no grant aid towards their running costs. The majority of their income from government contracts for the construction of institutional buildings or housing. The principal sources of income are:

1. Members of Parliament Local Areas Development Scheme (MPLADS)

Under this scheme each MP is allocated 2 crores per annum to be spent on local development projects. It is administered via the district collector and typically is used for the construction of institutional buildings such as schools and hospitals; some housing for low-income groups may also be provided, mostly via the *Department for the Scheduled Castes and Schedules Tribes ('SC/ST')*. Many of the contracts are given to building centres, making this fund the main source of building centre income.

2. Kerala People's Planning Campaign

Following the 74th amendment, funds are held by panchayats for local development and some construction contracts are given to Nirmithi Kendras. These may include housing for low-income communities.

3. Private Contracts

Some centres also undertake 'housing guidance', meaning contracts to design and/or build houses for private clients, usually of middle- to high-income. This activity has, however, become less common recently due to lack of capacity and the fear of penalties for over-running on time or costs. (Unlike informal operators, the centres make written contracts for work and can therefore be held to account by clients).

4. Training. ('SCA to SCP' scheme)

Centres occasionally train masons, carpenters and other artisans using grants from government schemes, particularly those from the SC/ST department. Very little training is currently done, however, due to a lack of trainees. Courses last up to six months and the Government of India provides a fixed stipend for trainees which can be as low as Rs. 50 per day - less than an unskilled labourer would earn. As a result, very few people come forward despite advertisements in local newspapers and nominations from panchayat level.

Centres charge fees of 5-10% for construction projects and typically have an operating surplus in the range of 5-20 lakhs, which is usually kept in fixed deposits though some use it as working capital. Many centres do not use it, however, claiming they have no guidelines on how it may be spent. None of the centres visited use it to supplement training stipends.

It is not clear whether many centres make a profit on product sales as much of the production is used in the centre's own contracts.

3.5 NGO Building Centres

With only five NGO-run centres in Kerala, most of them new, there is no definitive model for their structure or activity. The two visited for this study were, however, managed by long-established NGO's with a history of technical, financial and organisational assistance to poor communities.

3.6 Examples

Below and overleaf are profiles of two district centres and one managed by an NGO. Details of the other centres visited are given in Appendix Six.

Box 7

Trivandrum District Nirmithi Kendra

History and Location

The centre was established in 1989 and was originally more than ten kilometres from the town. That site is now the production centre, with the office in town in a quiet backstreet in a suburban area. The site is shared with the Deputy Collector Vigilance.

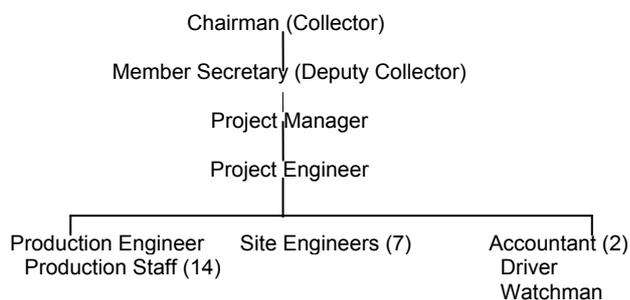
Centre Priorities

Technical staff see the centre's purpose as training in appropriate technology, and charity works.

Management Arrangements

As with all district building centres the Collector is Chairman of the Executive Committee, with the Deputy Collector as Member Secretary. The manager and most of the technical staff are civil engineers and were recruited straight from college.

Staffing



Finance

The collector and secretary meet the centre manager weekly to deal with financial affairs, authorise activities, sign cheques etc. The centre has a surplus of approximately Rs. 20 lakhs which is kept in fixed deposits; no use for it has been identified

Community Learning and Information

Despite the stated aims, the centre has little or no contact with people from low-income communities. If government housing projects are undertaken the centre deals only with the department concerned, not with the beneficiaries. People are free to approach the centre for personal technical advice and this does sometimes happen, but rarely are they from low-income communities and the centre has no leaflets, manuals etc. to give them though copies of standard house plans may be offered. No staff are deployed in advisory, training or outreach positions.

Range of Activities

<i>Government Contracts</i>	The construction of buildings under MPLADS constitutes approximately 60% of the centre's construction work. This includes some housing for people of the scheduled castes and tribes, ('SC/ST') but most contracts are for institutional buildings such as schools and clinics. At the time of visiting the centre had 19 projects underway, employing approximately 200 people.
<i>Housing Guidance</i>	Private clients account for about 40% of construction work. In the last five years the centre has completed 52 private homes and anticipates about 20 more in the current year, for which they charge a 5% fee. These houses cost Rs. 1-5 lakhs (low-income houses would cost less than Rs.1 lakh)
<i>Production</i>	The range of products includes hollow concrete blocks (three sizes), stabilised mud blocks and reinforced concrete window and door frames. Despite the obscure location of the production unit, staff say they have plenty of customers, with more products sold to private buyers than are used in the centre's own contracts.
<i>Training</i>	The last training programme was run two years ago, when a six-month course in construction works was provided for 30 engineers. No training has been done since then and while it is hoped to do some during 1999, the fixed stipend is deterring applicants. Staff say they are not free to use their operating surplus (controlled by the Collector) to increase the stipend.
<i>Promotion</i>	The centre does no promotional activity (e.g. exhibitions, advertisements) to encourage the use of cost-effective technology.

Box 8**Kollam District Nirmithi Kendra****History and Location**

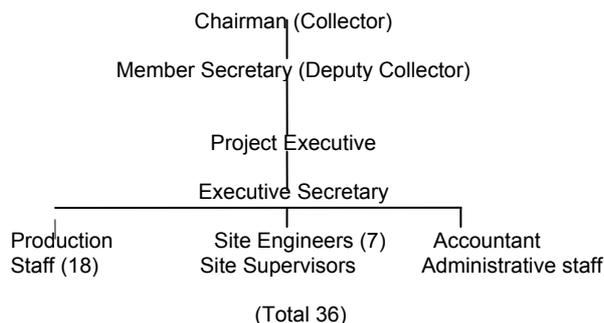
Established in 1986, this was the first building centre in India and was inaugurated by the President. It is located on former Development Authority land in a residential area not far from the town centre, which is being paid for in instalments. Both the office and production centre are located on the same site.

Centre Priorities

The manager defines the centre as 'a seminal agency to generate, propagate and innovate the ideas of low-cost housing technology. In addition...it serves as a house of information and a data bank on housing which bring the fruits of research from lab to land.' Reducing the cost of housing is thus a priority.

Management Arrangements

The manager in this case is a retired government engineer and has been with the centre for two years, having taken over after the death of the previous manager who had joined the centre straight from college. The manager sees the centre as a quasi-government concern.

Staffing**Finance**

All cheques over Rs. 5,000 are signed jointly by the Secretary and a staff member. The centre has a small surplus, some of which has been used to construct a retaining wall on the river bank bordering the site. About Rs. 6 lakhs are kept in fixed deposits as reserves. There have been problems with financial management which the manager is trying to resolve. Some projects have been running at a loss.

Community Learning and Information

Though some housing has been built for low-income communities, there was no consultation with residents prior to construction and the centre generally has no direct contact with the community. As with most building centres, the staff interact with government departments, not with beneficiaries, and there are no links with local NGO's or CBO's. The manager agrees that the centre does not focus on low-income communities but argues that there are no funds for such work. People can approach the centre for technical advice but this is not actively encouraged; no leaflets or manuals are provided and no staff are deployed in advisory positions. The manager feels the location is easily accessible for people on foot.

Range of Activities	Construction of buildings under MPLADS is the centre's main activity though for large buildings such as schools or hospitals it does not always use low-cost technology.
<i>Government Contracts</i>	Some work also comes from the panchayats. At the time of visiting the centre had 45 ongoing contracts and no other work. The total value of the contracts was Rs. 1.28 crores. The centre takes 10% profit per contract. Government contracts have included low-cost housing for fishing communities.
<i>Housing Guidance</i>	The centre does not take on any private contracts for house-building, apparently due to lack of capacity.
<i>Production</i>	Most customers are private buyers of middle-income. The centre produces three sizes of hollow concrete block, plus RCC door and window frames.
<i>Training</i>	Many masons and carpenters have been trained in the past but no training has been provided for the last two years and none is planned at present apart from computer training for SC/ST people, for which government funds are available. Previous trainees left the centre on completion of their course to work elsewhere.
<i>Promotion</i>	The centre does not do any promotional activity.

Box 9**Costford, Thrissur**

Though its building centre is new, the NGO Costford has been active in the field of housing for the poor since 1980 – long before the advent of building centres. It was established by Laurie Baker, who is still its Chairman.

It is worth explaining how the NGO itself works, rather than just the building centre, since it offers an alternative approach to that of district centres.

Priorities

Costford aims to serve the poorest section of the community and housing is only one of a wide range of services offered, covering everything from fisheries to sociology. It has sub-centres in every district in Kerala and roughly 250 projects underway.

Unlike district building centres, Costford promotes both cost-effective and *energy-efficient* construction and tries to limit the use of concrete due to the energy and environmental cost of producing cement and collecting sand.

Activities and Approach

Costford's approach focusses on social mobilisation and begins with needs assessment: if people identify housing as a priority, Costford tries to help them. From their experience they have identified three major housing problems:

- Tenure rights for land
- Lack of knowledge of cost-effective construction and technology
- Lack of access to credit

Approximately 50,000 housing units are needed for people below the poverty line. These include people who are landless and houseless, houseless only, or who have a house which needs renovation or improvement. The government provides only 3,000 units a year to meet this demand. Costford responds to these needs as follows:

Social Mobilisation

For all Costford projects the main strategy is based on promotion of self-help groups (SHG) of poor women. These promote thrift and savings.

Housing Credit

To help meet housing demand Costford has formed a society through the panchayats known as *Thrissur Swabhimana Parpidda Samithi* (Thrissur Self-help Housing Committee) through which people nominated by the gram panchayats can access a loan for a new house. Each gram panchayat nominates 100-1,000 households per year [and provides the land?]

Each beneficiary is allocated a sum of Rs. 10,000 which is deposited in a commercial bank along with the title deeds of the land and enables a grant of a loan of Rs. 35,000 repayable over 14 years, which is administered through women's self-help groups. The loan is sufficient to fund a house of 220 sq. ft. (20m²), built by Costford.

Building on this approach, a people's housing finance institution has been proposed, similar to the Grameen Bank in Bangladesh. This would arise from a partnership between commercial and co-operative banks, government, the private sector and NGO's.

Building Technology and Design

Costford's approach to house-building is to

- identify traditional architecture
- interpret it
- innovate only if necessary

Women's SHG are very much involved in developing house designs [shg's?] and one innovation has been with the kitchen. The local tradition was for a very primitive and smoky kitchen plus separate drawing/dining rooms. All three have been combined to make a room where men and women can meet, rather than separating male and female space.

Technical upgradation is customised to each location.

Contracts and Consultancy

Like district building centres, Costford executes some contracts for government and private clients, but only as a means of promotion and fund-raising for its community services.

Promotion

Costford also construct demonstration buildings for promotion of their technology and designs, and publish manuals and other literature on low-cost, environmentally friendly construction. The chairman believes there has been some impact on the informal sector; a number of artisans now use Costford designs, at least in part, for example by incorporating arches which were very popular in the days before concrete.

Training

Apparently many architects and engineers would like training from Costford in cost-effective technology, but the NGO cannot access government funds for this; they are given instead to the district centre.

Building Centre Activities

The new building centre will focus on production and training using HUDCO start up funds. Much of the activity will be at block-level sub-centres. In the chairman's view, a successful centre is one which is effective in organising the community and demonstrating technology.

4.0 ANALYSIS

These case studies suggest that there is very little community-oriented work at most district building centres in Kerala. Specifically:

- staff rarely have any contact with people from low-income communities
- their main activity is the construction of government buildings
- houses, where built, are mostly for middle- to high-income clients
- training is rarely given [and there is no learning *from* the community]
- there is no promotional work or outreach to the community
- housing advice, if provided at all, is ad hoc and peripheral to the centres' work

Even where opportunities for community liaison exist, they are not always taken.

Box 10

Housing for a Fishing Community

A few years ago Kollam building centre constructed a small colony of houses for a fishing community, under a contract from the SC/ST department. The contract set the cost per house at roughly Rs. 35,000 and the design was also fixed with each house having one bedroom, one multi-purpose room and one kitchen, but no toilet or verandah. The completed houses were all pucca with filler slab roofs, unplastered brick walls and concrete door/window frames. The residents had previously lived in simple thatched huts of a similar size.

The building centre did not meet the residents prior to construction. One occupier said that had she been consulted she would have asked for a verandah, as much work and socialising is done outside; the location of some of the doors could also have been improved. These were minor points, though, and generally she was happy with her house.

The picture is not entirely negative, however, as there are some notable exceptions to the rule see 4.2 below.

4.1 Constraints on District Building Centre Services.

It would be misleading to suggest that the lack of services for the poor at district building centres is due to a lack of staff commitment. The centres are in fact unable to focus on low-income communities, for many reasons:

1. HUDCO do not require building centres to provide services to the poor. The Action Plan Manual for building centres makes no mention of the subject and this is not, apparently, what building centres are for. Section 15, headed 'What Makes a Kendra Successful' does not talk of success in reducing costs to low-income communities, but says that successful centres will become involved in prestigious housing and building developments at state level.
2. Even in centres which claim a bias towards 'the common man' there is a mismatch between stated aims and practice. They cannot in reality decide their own priorities and workplans; they simply execute contracts handed to them by government and the extent

of their work with the poor is entirely dependent on the interests of the Collector. Many do not focus on housing at all, and some do not even use cost-effective technology for large buildings.

3. The requirement to be self-financing makes work with low-income communities difficult as there is little scope for profit. The target customers of the building centres are institutions and people with buying power.
4. Siting the centres in middle- to high-income areas close to the Collectorate does not encourage links with the poor. Apart from geographical reasons there may be a psychological barrier: people may be aware of a building centre, but not feel entitled to use it. This could be a major constraint in cities with large slums.
5. Outreach and promotion is not part of building centre culture; there is an implicit assumption that people will come to them. This is hardly surprising given that most contracts arise not from marketing but from a special relationship with the Collector.
6. The organisational structure of the centres is entirely hardware-oriented. Apart from administrative positions, all staff are assigned to production or construction work and none are trained or deployed in community-oriented positions. HUDCO's training course for managers ignores this area of work (see 3.3 above.)
7. Most centres function as contractors whose sole function is to satisfy the client - usually a government department. It is only where centres voluntarily take an interest that consultation with residents or the adoption of minimum standards become a feature of their work.
8. Training is unattractive both building centres and potential trainees because:
 - the government stipend is unreasonably low
 - training is not profitable
 - building centres are unable or unwilling to use their surplus to cross-subsidise training or other community services.
9. The house designs used are based on assumptions about what people want and need, and these may not be correct. The following example was not a building centre scheme, but illustrates the point.

There may be circumstances where mud construction or other aspects of customary

Box 11

The Value of Consultation

One interviewee cited a government scheme whereby pucca houses were built for a poor community without prior consultation. On completion, people refused to live in the houses because they found the concrete floors cold and uncomfortable. Had they been asked they would have chosen mud floors, and the money saved could have funded other, more desirable work.

design would be effective, desirable and cheap - but this is not being researched.

10. Government cannot meet the housing needs of the entire population through the direct provision of free housing. There must therefore be an element of cost-sharing, but (in most cases) building centres have no mechanism for encouraging residents to add their own cash, materials or labour to the grant provided by government.
11. Building centres deal only with new construction; they do not research or promote improvements to existing houses which people can make at their own expense, and so progress from kacha to semi-pacca, and eventually pacca construction. As a result, the only beneficiaries of building centres are the few people nominated under a government construction scheme and those who can afford to build their own house using building centre designs.

Affordable improvements could include construction of a bathroom or toilet, roof replacement, or installation of a smokeless choola - all of which could be valuable in established slum communities. Not only could improvement be cheaper than new-build, it may also be preferable to residents if the existing house has desirable, durable features.

12. Even if centres tried to promote the use of traditional designs and construction, they could be thwarted by the need to satisfy official construction standards.

4.2 Positive Initiatives by District Building Centres

Despite the constraints, a few centres have developed approaches that show how community learning and communication can be achieved within the current framework. The following examples provide valuable models of good practice.

Box 12

Consultation in Alleppey

Alleppey building centre is constructing 430 low-cost houses under contracts from panchayats as part of the People's Planning Campaign. Each house has a filler slab roof, single brick walls, one bedroom and one multi-purpose room plus kitchen, bathroom and toilet. This design was adopted by the centre, not developed locally.

Before construction begins, the building centre sends out postcards inviting the intended residents to a meeting where the design is explained and residents' views sought. The budget cannot be increased by the centre but small changes can nevertheless be incorporated, especially if people contribute their own labour. Typically people ask for the plinth or ceiling level to be raised.

Box 13

Training in Thrissur

This building centre overcomes the problem of low stipends by training artisans on-the-job and supplementing the stipend with wages for unskilled tasks such as loading and unloading. Providing work is also seen as a necessary confidence-booster to SC/ST trainees.

With HUDCO funding, the centre now aims to establish training and production sub-centres. Some previous trainees will become trainers, hopefully with their salaries funded from sales and construction income.

4.3 Lessons from NGO Building Centres

NGO-run building centres have several striking differences to district centres that greatly affect the potential for community learning and information. Most importantly

- the poor, not government institutions, are their clients
- they are autonomous and decide their own priorities and workplans
- core funding frees them from dependency on government contracts (though it could lead to complacency)
- they offer holistic assistance (including finance, or at least access to it)
- they operate at village-level and are relatively accessible to the poor
- extension work and community liaison are fundamental to their work
- they aim to assess housing needs rather than assuming them
- they employ a broad mix of staff skills

This is not to suggest that *all* NGO centres are more effective than government ones, but their

organisational arrangements do tend to encourage better community liaison. Adoption of some of these features by district building centres could greatly improve services to the poor.

5.0 POTENTIAL FOR IMPROVED LEARNING AND INFORMATION SERVICES

Two areas are considered here: improvements to existing arrangements, and possible new initiatives.

5.1 Improvements to District Building Centres

There is a limit to the amount of community learning and information that could be accommodated within current institutional arrangements. It is unlikely, for example, that a building centre controlled by the Collector would ever engage in extension work to the same extent as an NGO. Apart from the change in organisational culture required, the move would be

constrained by dependency on government contracts for income.

A more radical solution could be to take building centres out of municipal control, thus giving them true autonomy. This, however, would make their funding less secure and would jeopardise the use of cost-effective technology in future government buildings – an issue irrelevant to the poor but an important dimension to building centres' work and probably worth keeping. (Most staff interviewed felt that the link with the municipality was a positive one). There are in any case sufficient examples from Kerala to show that more community learning and information can be achieved within the current structure, and the challenge lies in **making good practices part of the routine of every centre**. This will only happen if they are made mandatory, and HUDCO may therefore need to amend the Action Plan Manual.

Even if this were done, communication with the community could remain minimal unless specific tasks were allocated to specific staff. An amended organisational structure that embodies community liaison may therefore be needed.

Another useful step would be for building centres to network with other agencies providing housing-related services (such as finance institutions) and those which deal directly with the poor (NGO's and other intermediaries). This would:

- create a communication link between building centres and the community
- enable centres to offer more holistic housing information and assistance
- develop the centres' role as a resource of training and technical support to agencies that lack technical capacity

Centres could also learn a lot about good practices by networking with each other. This would require resolution of the current difficulties between state and district centres so that the former played a co-ordinating role, as intended by HUDCO.

Funding Mechanisms

If HUDCO decide that building centres should focus more on low-income communities, they will need to reconcile this objective with the requirement to be self-financing. Taking a cue from COSTFORD, it may be that revenue from fees for construction projects could be used to cross-subsidise research, training, advisory services and extension work. Again, HUDCO would need to mandate centres to ensure that this was adopted widely.

If the surplus could not provide adequate funds HUDCO might need to consider some form of additional recurrent funding to ensure that community-oriented activities could go ahead. Some centres, for example, regard the surplus as

a safety net for staff in case of redundancy or a lack of contracts, while others use it as working capital for new projects; this could leave insufficient uncommitted funds for community work. Careful analysis and piloting would be needed to determine whether this suggestion is really viable. It may also help if HUDCO clarify the purposes for which the surplus may be used.

5.2 Other Options

It may be that building centres can only provide a comprehensive service to low-income communities if they are located at village / slum level and do not have to devote most of their resources to government contracts. The NGO-run centres visited for this study illustrate how this can be done and suggest an alternative model that might be described as a 'Community Building Centre'. Note that this model is *community-oriented* rather than community-run.

Figure 1 below, and subsequent recommendations, describe how it might function. The development of 'Community Building Centres' has in effect begun in Kerala with the recent sanctioning of five NGO centres, all focussed on low-income communities. These complement the 14 district centres which are already in place in line with HUDCO targets. Of course, there will not be suitable NGO's in every city or district, but the centres could also be sub-centres of district building centres, as in the proposed production-cum-training centres in Thrissur. They could also be run by gram panchayats or local entrepreneurs, ideally from low-income communities. What matters most is that the centres focus on community and are located to maximise community contact.

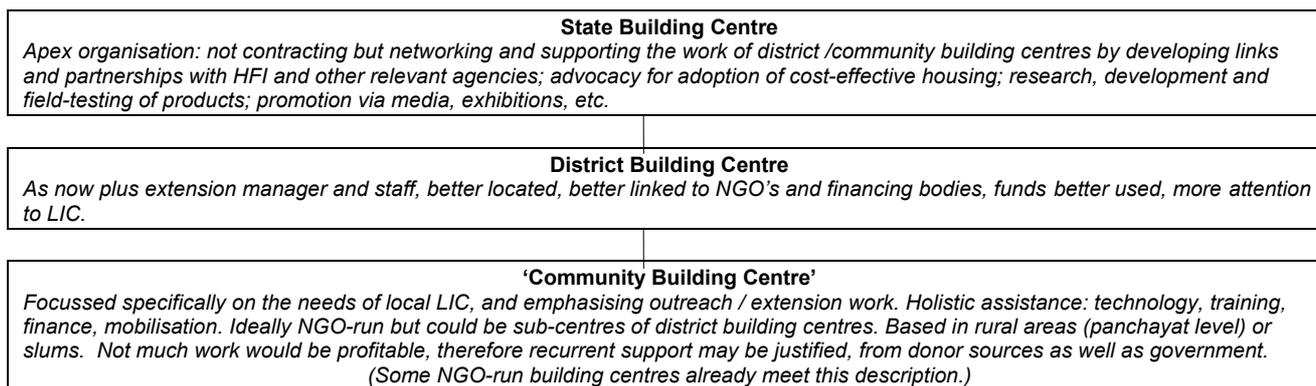
5.3 Piloting

The draft structure below represents how a complete building centre network might work so as to incorporate both existing roles and enhanced learning and information services for the poor. It is followed by recommendations for action from national to panchayat level to make it viable. Please note that:

1. *The recommendations are provisional; for some of them, further research and especially piloting is needed to determine whether they are viable or even appropriate.*
2. *They respond primarily to the Kerala case studies and may not be appropriate for all other states.*
3. *Issues around state building centres are not discussed in detail. HUDCO has already set a rational framework for their functioning, and current problems in Kerala are not directly relevant to CLIC processes*.*

Figure 1

Model Revised Structure for the Kerala Building Centre Network



6.0 RECOMMENDATIONS

National Level: Action by HUDCO

1. Adopt the framework proposed in Table Three above and promote the development of 'community building centres'.
2. Mandate building centres to provide services to low-income communities and adopt the recommendations set out below. Revise the Action Plan Manual for Building Centres accordingly.

Training

3. Lobby government to raise training stipends to a realistic level and revise them regularly in order to attract trainees.
4. Introduce training for building centre trainers and extension staff.
5. Revise project managers' training:
 - incorporate communication, training and extension skills
 - review and streamline the reading material
 - adopt a more interactive, participatory approach

Resource Allocation

1. Explore the viability of using operational surpluses to fund or part-fund services to low-income communities (including staff costs).
2. Clarify the purposes for which operational surpluses should be used.
3. Introduce recurrent funding for community services - but only if they cannot be funded from other revenue.

State Building Centres

4. Adopt minimum health and amenity standards for houses constructed by building centres. Advocate as necessary for their adoption by government.
5. Develop partnerships with housing finance institutions so building centres can offer, or facilitate, a holistic response to housing needs.
6. Adopt a networking and technical support role

for NGO's and other agencies providing shelter-related services to low-income communities.

7. Develop mechanisms for cost-sharing with residents within the framework of government housing schemes (e.g. houses funded by the People's Planning Campaign or MPLADS).
8. Research and field-test building products and housing improvements appropriate to local needs.
9. Produce appropriate guidance notes, manuals, and other communication materials on cost-effective housing construction and improvement, including guidance on access to finance.
10. Develop appropriate training for building centre staff on services to low-income communities. (There may be district centres which can actually give the training.)

District Building Centres

11. Ensure that all houses constructed by the centre meet minimum standards adopted at state level
12. Before constructing any house, consult the intended occupiers in order to:
 - encourage them to supplement the government's provision with their own cash, materials or labour
 - ensure that the accommodation provided will be satisfactory to them. Adjust designs accordingly, as the budget allows
13. Identify the training needs of low-income communities in relation to housing and give priority to training artisans in order to:
 - promote the uptake of cost-effective technologies in the informal sector
 - provide a pool of trained workers for the construction and improvement of houses in target low-income communities.
14. Research and provide appropriate, comprehensive guidance for the use of low-income people wishing to construct or improve their own home.
15. Ensure that the components produced and sold by the centre and its sub-centres are

appropriate to the needs of the low-income communities served.

16. Develop links with local NGO's and CBO's offering shelter services, and provide technical support.
17. Locate new building centres so as to provide convenient access to low-income customers.
18. Aim to establish sub-centres in slum/low-income areas. (These may become CBC's as below). Ideally, previous trainees would run the sub-centres centres as self-financing units working in production, training and contracting.
19. Appoint an extension officer with responsibility to:
 - facilitate community consultation for housing schemes
 - manage training
 - ensure institutional learning on local housing needs
 - research and develop appropriate options both for new-build and upgrading
 - oversee networking and support to local NGO's
 - promote building centre services to low-income communities

(The appointed officer might be one of the existing technical staff but would need an appropriate aptitude and training. Not only would this establish a clear line of communication between the centre and the community, it would ensure that, even where a centre did not receive many contracts for EWS housing, it still provided advisory and support services to low-income communities.)

Community Level (slum or gram panchayat)

1. Establish building centres at this level with the following role:
 - assess local housing needs,
 - mobilise the community, plan and develop schemes with them.
 - research, develop and produce appropriate designs and products, especially those affordable without subsidy.
 - promote both new-build and incremental improvements, on a self-help basis.
 - train artisans and develop a pool of skilled labour for hire by householders or the centre.
 - facilitate access to finance (through links to a finance institution or microcredit scheme, or by direct loans)
 - execute government housing schemes, with full user participation. Promote cost-sharing.
 - some private and non-housing government contracting as a means of promotion and fund-raising for community work, but this should not be the main activity.

HUDCO (1998): *HUDCO Build-Tech*, HUDCO, New Delhi

Suresh, V (1998): *Affordable Housing for Sustainable Urban Development*, paper presented to the Symposium on Sustainable Urban Development, Chennai, 1998.

Report of the Expert Group Study of the Working of Building Centres, MoUD (GoI), 1992.

References

Sources of Finance.

Component	Amount (in Rs.)	Comments
GOVERNMENT OF INDIA GRANT		
Land Development	50,000 (10%)	mainly capital
Building	100,000 (20%)	
Equipment / Machinery	100,000 (20%)	
Training	150,000 (30%)	Recurrent but higher input at beginning
Overheads	100,000 (20%)	Recurrent
TOTAL	500,000 (100%)	1st instalment of Rs. 300,000 and 11nd instalment of Rs. 200,000 (on production of utilisation of certificate in respect of 1st instalment).
KFW GRANT		
Land Development	300,000	<ul style="list-style-type: none"> • Proposal (under the Techno Economic Financial Matrix) should be prepared by each BC. • Only for land development, construction and equipment but not for training. • Need to explore possibilities how this could be tied in with more social objectives
Building	350,000	
Equipment / Machinery	350,000	
Overheads	200,000	
TOTAL	12,00,000	
HUDCO SOFT LOAN ASSISTANCE FOR WORKING CAPITAL AND MACHINERY		
Building materials production working capital (1st stage)	600,000	<ul style="list-style-type: none"> • Geared towards commercial production. • Need to explore possibilities how this could be tied in with more social objectives.
Working capital - II stage	600,000	
Machinery & Equipment	10,00,000	
TOTAL	22,00,000	Maximum loan assistance from HUDCO
POTENTIAL SOURCES OF FUNDS FOR TRAINING		
<ul style="list-style-type: none"> ▪ Grant from Gol through HUDCO ▪ Grant from Gol through HUDCO under SJRY ▪ Funds from SCP / Industry Department / self employment scheme / CAPART / TRYSEM ▪ State govt. grants 		

Orrisa Building Centres.**EXAMPLE ONE****Phulbani Building Centre**

This centre was established in 1995 and is managed by the District Urban Development Agency, Kandhamal under the technical guidance of Assistant Town Planner-O.I.C, Technical Cell.

Finance.

The centre has received over Rs. 2,900,000 in grants from a variety of sources including GOI (startup grant), HUDCO, DRDA, KfW, Orrisa Rural Housing Development Corporation (ORHDC) and TRYSEM. The great majority of the funding was for buildings and equipment, with only a small amount (Rs. 73,000) earmarked specifically for training.

It appears that the centre is not yet financially self-sustaining.

Range of Activities

<i>Construction</i>	The centre has constructed institutional buildings for ICDS, IWDP and others, and market complexes.
<i>Production</i>	Building materials worth a total of Rs. 8.4 lakhs have been produced.
<i>Training</i>	The centre has trained 81 skilled, semi-skilled and unskilled construction workers in cost-effective building techniques.
<i>Promotion</i>	Has participated in district level exhibitions, issued handouts.

EXAMPLE TWO**Puri Building Centre.**

Established in 1994, this centre is managed by Puri-Konarak Development Authority. The Directorate of Town Planning, Bhubneshwar is the nodal agency to monitor the building centre activities.

Finance.

Approximately Rs. 1,700,000 of grant aid has been received (sources as at Phulbani above). Again, only Rs. 73,000 was targeted for training. Land for the centre was provided by Puri-Konark Development Authority. It is not clear whether the centre is financially self-sustaining.

Range of Activities.

<i>Construction.</i>	A range of institutional buildings have been completed but it appears that the centre does not build houses.
<i>Production.</i>	The centre produces RCC lintels, lintel-cum-chajja, L panels and planks; PP joists, ferrochannel roofs, ferrocement doors and windows.

EXAMPLE THREE

Narangarh Building Centre.

History and Location

This Building Centre was established in 1992 and was the first rural building centre in the country. It is located 49 km from Bhubaneshwar, the state capital.

Staffing.

The project manager is an employee of ORHDC, working at the centre two days per week. Other staff include 4 supervisors, 70 master masons and 3 support staff. The master masons are on contract, other staff work full time.

Finance.

The centre is self sustained and has a turnover of approximately Rs. 40 lakh per annum, with ORHDC as its main client. Revenue distribution is roughly 70% from production of materials; 25% from construction activities; 5% from housing guidance and training.

Community Learning and Information

This centre is active in providing training in cost-effective materials and house building, including on-the-job training for Community Management Groups under the Kalinga Kutira Scheme.

Poor people cannot, however, afford building centre materials or services. Instead they construct their own houses using mud, wood and bamboo, which they obtain virtually free from the forests and open areas.

Range of Activities

Government Contracts The centre builds houses for the economically weaker sections under schemes such as Awas Vikas Yojana ; public buildings; and low-income houses under Kalinga Kutira in one block (Khurda).

Housing Guidance Technical advice is given in house building and the centre undertakes design and construction contracts for middle- to high-income clients.

Production The government of Orrisa has banned the use of timber in the construction of government and semi-government buildings, thus increasing the demand for building centre products. A range of concrete and ferrocement components are produced for walls, roofs, floor, doors and windows.

Products are sold primarily to individuals, Community Management Groups, Indira Awas Yojana, and private companies. There is apparently high demand from middle and income and high-income customers for concrete blocks.

Training About 1200 artisans and 100 engineers have received training. On-the-job training is also provided at a charge rate of Rs. 1000 per participant for:

- project managers of other building centres,
- NGO's, voluntary organisations and government/semi-government agencies

- Representatives from Community Management Groups.

These programmes may help trainees build their own enterprises.

Delhi Building Centres.

EXAMPLE ONE

Laurie Baker Building Centre, New Delhi

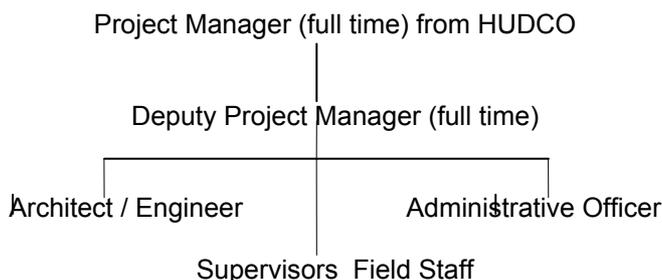
History and Location

This centre was set-up in early 1990 and is jointly promoted by HUDCO and the Slum Department of the Municipal Corporation of Delhi (MCD).

Centre Priorities.

The centre provides consultancy services in planning, design and construction using cost-effective, innovative materials and appropriate technologies. It also undertakes training but does not produce building components.

Staffing.



Finance.

The centre is self-sustained through revenue from a variety of clients including NGOs, voluntary organisations, local government, private companies, and individuals (middle- to high-income group).

Community Learning and Information

The centre provides on-the-job training to technicians, artisans and carpenters. Trainees are encouraged to build their own enterprises.

Though the centre is a supplier and contractor to schemes targeting the poor it has very little direct contact with the community.

Range of Activities.

NGO contracts

The centre has constructed 400 dwelling units for slum dwellers in New Delhi, for the Hope Foundation; developed a village near Varanasi; and rehabilitated housing for slum dwellers and leprosy patients.

Training

Masons, carpenters and artisans are given on-the-job training under NGO schemes.

Housing Guidance

The centre designs and builds individual houses for middle- to high-income groups, plus some public buildings.

EXAMPLE TWO

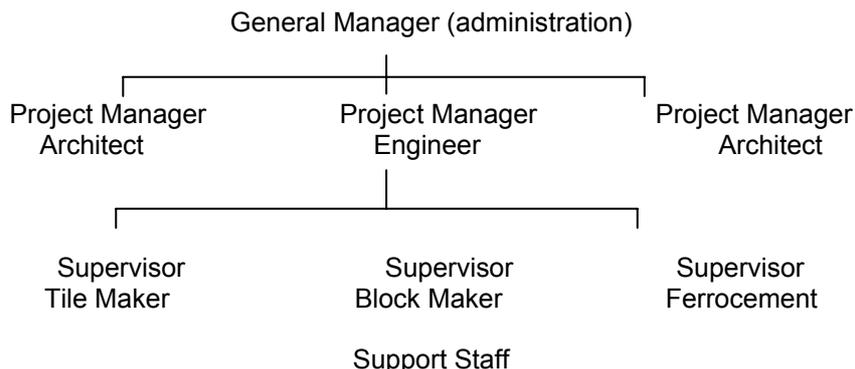
Tara Nirman Kendra, New Delhi

Centre Priorities.

TARA Nirman Kendras (building centres) of the Development Alternatives Group aim to promote alternative technologies and ensure their transfer from 'lab to land'. Development Alternatives conduct research and development while the building centre does promotion and dissemination.

TNKs use local raw materials and designs that suit local geographical conditions and require low capital investment. They also try to provide employment to local people. They are part of a network of building centres, research institutions, private companies and NGOs working in shelter.

Staffing.



Finance

The Delhi centre is self-sustained through contracts with NGO's, national and international agencies, private companies and individuals (middle- to high- income group). It does not take on government contracts.

Community Learning and Information

The centre has executed a number of donor-funded projects in which communities were consulted from the design to completion. It recently designed a programme called 'SUTRA' (Selection and Upgradation of Technologies for Rural Areas) with the objective of providing design and technical support to grassroots shelter organisations in the region.

Range of activities	
<i>Technology</i>	<p>The centre promotes:</p> <ul style="list-style-type: none"> ▪ Stabilised compressed earth blocks for walling ▪ Concrete blocks for walling ▪ Ferrocement roofing components.
<i>Promotion and Dissemination</i>	<p>Micro concrete roofing tiles</p> <ul style="list-style-type: none"> ▪ Public awareness campaigns on technology options. ▪ Participation in construction-related exhibitions nationwide ▪ Dissemination through links with the construction industry. ▪ Articles and brochures about TNKs activities <p>Demonstration structures both within and outside the TNKs premises in Delhi, Bangalore and Jhansi.</p>
<i>Key Projects</i>	<ul style="list-style-type: none"> ▪ Post-earthquake reconstruction of about 375 houses at village Malkondiji, Latur. ▪ Leprosy Rehabilitation Centre ▪ Ashram, Jaipur ▪ Primary Education Centre for Andhra Pradesh Government. ▪ Bank Buildings in Karanataka ▪ Construction of <i>BMPTC</i> training centre using ferrocement technology ▪ Research and Development Activities
<i>Training</i>	<p>TNK's provide construction training on site or at their premises in Delhi, Orchha (Uttar Pradesh) and Bangalore.</p>

APPENDIX FOUR

**Training Programme for Building Centre Project Managers,
HUDCO Zonal Training Centre, Delhi.**

Day	Activities
Day 1	<ul style="list-style-type: none"> ▪ Audio visual - building centre movement ▪ Lecture on guidelines setting up building centres, building centre models and financing
Day 2	<ul style="list-style-type: none"> ▪ Group exercise on resource mapping ▪ Interaction with CMD ▪ Lecture on a sustainable approach to planning and building ▪ Audio visual on Lawrie Baker-The Living Legend
Day 3	<ul style="list-style-type: none"> ▪ Lecture on technology scan and experience with earthquake rehabilitation ▪ Site visits to Lawrie Baker building centre and other sites in Gurgaon showing rat trap bond, arches, filler slab and funicular shells
Day 4	<ul style="list-style-type: none"> ▪ Audio visuals - down to earth and MCR tile ▪ Site visits to DA and TARA Nirman Kendra ▪ Lecture on the role of BMTPC in the building centre movement.
Day 5	<ul style="list-style-type: none"> ▪ Lecture on funicular shells, application of CBRI technologies
Day 6	<ul style="list-style-type: none"> ▪ Lecture on KfW and HUDCO R&D grant loan procedures ▪ Audio visual - the most with the least and discussion on ferrocement, gram awas 95 and funbamboo ▪ Interaction session
Day 7	Free
Day 8	Visits to Avas Vikas Sansthan, Jaipur (building projects executed by BCs) and lectures and demonstration
Day 9	▪
Day 10	▪
Day 11	<ul style="list-style-type: none"> ▪ Experience with projects using alternate technologies ▪ Potential of fly ash and HUDCO's promotion of building material industries ▪ Site visits
Day 12	<ul style="list-style-type: none"> ▪ Lecture on accounting procedure, CBRI technologies ▪ Valedictory and Evaluation

Source : HSMI

APPENDIX FIVE

Functional Building Centres in Kerala: Financial Status

S.No	Building Centre	Sanctioned Year	Training (nos.)	Production (in lakh Rs.)	Construction (in lakh Rs.)
District Administration					
1	Trivandrum	1988	230	14.15	487.00
2	Quilon	1988	753	157.30	1782.00
3	Thrissur	1989	1260	431.00	2026.86
4	Kasargod	1989	134	325.00	555.00
5	Pathanamtitta	1989	557	400.00	500.00
6	Wayanad	1989	287	231.00	230.00
7	Alleppy	1989	218	433.00	498.00
8	Calicut	1989	246	210.00	260.00
9	Cannanore	1989	402	378.00	477.00
10	Ernakulam	1989	300	23.40	340.00
11	Idukki	1989	197	5.80	168.00
12	Kottayam	1989	303	25.00	1337.00
13	Malapuram	1989	254	2.05	287.00
14	Palakkad	1989	428	811.00	605.00
Kerala State Nirmithi Kendra					
15	Trivandrum	1990	75	0.00	1000.00
16	Pathanamthitta	1992	154	0.00	31.26
17	Idukki	1992	34	0.00	57.00
18	Palakkad	1992	147	0.00	3.23
19	Ernakulam	1992	145	0.00	370.00
20	Kozhikode	1992	136	0.00	25.77
21	Wayanad	1992	55	0.00	13.00
22	Kottayam	1992	145	0.00	134.00
23	Thiruvananthapuram	1992	1170	0.00	260.00
Educational Institution					
24	Chathanur	1994	215	72.75	30.00
Non-governmental Organisation					
25	Vellanad	1998	0	0.00	0.00

Source : HUDCO database on functional building centres.

Kerala Building Centres.

EXAMPLE 2

Kollam District Nirmithi Kendra.

History and Location.

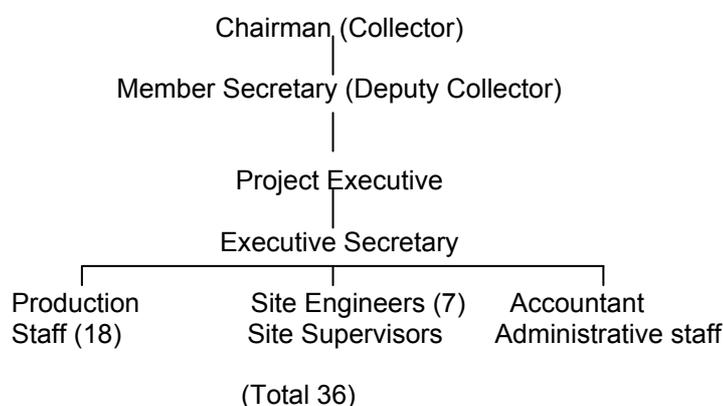
Established in 1986, this was the first building centre in India and was inaugurated by the President. It is located on former Development Authority land in a residential area not far from the town centre, which is being paid for in instalments. Both the office and production centre are located on the same site.

Centre Priorities.

The manager defines the centre as 'a seminal agency to generate, propagate and innovate the ideas of low-cost housing technology. In addition...it serves as a house of information and a data bank on housing which bring the fruits of research from lab to land.' Reducing the cost of housing is thus a priority.

Management Arrangements.

The manager in this case is a retired government engineer and has been with the centre for two years, having taken over after the death of the previous manager who had joined the centre straight from college. The manager sees the centre as a quasi-government concern.

Staffing.**Finance.**

All cheques over Rs. 5,000 are signed jointly by the Secretary and a staff member. The centre has a small surplus, some of which has been used to construct a retaining wall on the river bank bordering the site. About Rs. 6 lakhs are kept in fixed deposits as reserves. There have been problems with financial management which the manager is trying to resolve. Some projects have been running at a loss.

Community Learning and Information.

Though some housing has been built for low-income communities, there was no consultation with residents prior to construction and the centre generally has no direct contact with the community. As with most building centres, the staff interact with government departments, not with beneficiaries, and there are no links with local NGO's or CBO's. The manager agreed that the centre does not focus on low-income communities but said that there were no funds to use on such work.

People can approach the centre for technical advice but this is not actively encouraged, no leaflets, manuals etc. are provided and no staff are deployed in advisory positions. The manager feels the location is easily accessible for people on foot.

Range of Activities.

<i>Government Contracts</i>	<p>Construction of buildings under MPLADS is the centre's main activity though for large buildings such as schools it does not always use low-cost technology. The centre takes 10% profit per contract. Some work also comes from the panchayats. At the time of visiting the centre had 45 ongoing contracts and no other work. The total value of the contracts was Rs. 1.28 crores.</p> <p>Government contracts have included low-cost housing for fishing communities.</p>
<i>Housing Guidance</i>	<p>The centre does not take on any private contracts for house-building, apparently due to lack of capacity.</p>
<i>Production</i>	<p>Most customers are private buyers of middle-income. The centre produces three sizes of hollow concrete block, plus RCC door and window frames.</p>
<i>Training</i>	<p>Many masons and carpenters have been trained in the past but no training has been provided for the last two years and none is planned at present apart from computer training for SC/ST people, for which government funds are available. Previous trainees left the centre on completion of their course to work elsewhere. <i>[have details on courses done]</i></p>
<i>Promotion</i>	<p>The centre does not do any promotional activity.</p>

EXAMPLE 3

Alleppy District Nirmithi Kendra.

History and Location.

This centre was established in 1989 and is located in a quiet residential area not far from the centre of town.

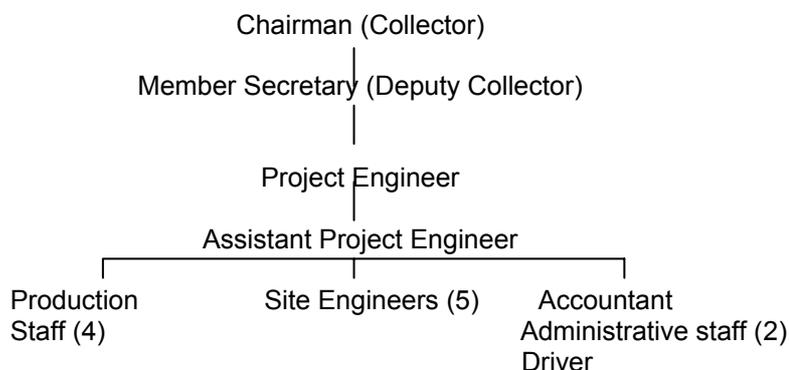
Centre Priorities.

The manager sees the centre's purpose as 'the dissemination of low-cost technology to the common man' and aims to produce 'liveable, loveable and affordable houses.

Management Arrangements.

These are the same as for all district centres and the rapid turnover of collectors has created problems of continuity. Staff say the centre feels as though it were part of the local administration, which sets the salaries. They would prefer to be employed under standard government terms and conditions as their salaries are low and they have no job security. The current manager has been at the centre for ten years and was recruited straight from college.

Staffing.



Finance.

The centre currently has a surplus of 30 lakhs resulting from construction contracts. No use for it has been identified; the Collector is apparently looking to the government for clarification.

Community Learning and Information.

For every low-cost house constructed, the centre consults the residents and tries to incorporate their requirements – see Box XX.

The centre receives some informal requests for advice and is happy to respond. No literature is available to give them but according to the manager, most poor people in the area are illiterate.

The centre has no links with local NGO's or CBO's and does no research on technology (for example the use of mud or laterite).

Range of Activities.

Government Contracts	The centre executes many government contracts, and ongoing work includes a contract for 340 low-cost houses commissioned by panchayats under the People's Planning Programme. This has become its main activity, with 20 houses completed so far. Each unit is constructed for Rs. 35,000, which allows the centre to make a 5% profit. Houses for 83 fishermen were also built under an earlier contract.
Housing Guidance	The centre does not take on any private contracts for house-building at present, since it does not have spare capacity. It claims to receive 5-6 enquiries per day from potential clients of all income groups.
Production	The centre produces hollow concrete blocks, plus RCC door and window frames, and most of the production is used in the centre's own contracts. The manager believes the demonstration effect is working as many private production units now make concrete frames.
Training	The centre has previously provided training for scheduled caste people (including 200 masons) and plans to do more this year though the low stipend is deterring people. The manager says that the stipend cannot be increased because the Collector is in control of funds. There is a local shortage of trained masons.
Promotion	The centre does not do any promotional activity though the manager believes that public buildings incorporating cost-effective technology have a demonstration effect.

EXAMPLE 4

Cochin District Nirmithi Kendra.

History and Location.

This centre was established in 1986 and is located on a quiet site away from the town centre.

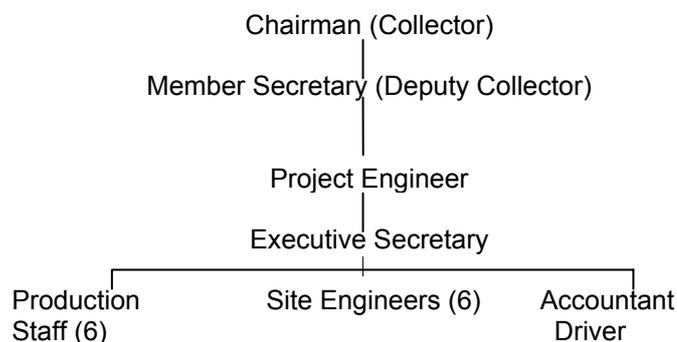
Centre Priorities.

The centre focusses on construction under government contracts and production of building components for sale.

Management Arrangements.

The manager, a civil engineer, has been at the centre four years and previously worked in the private sector. He feels that the centre offers more job security than the private sector; while the staff have annual contracts, these are usually renewed.

Staffing.



Finance.

The currently has a surplus of approximately 6 lakhs. This is kept in a bank account, not in fixed deposits, and is used as working capital to enable the purchase of materials etc. for construction contracts.

Community Learning and Information.

The centre has little interaction with low-income communities except through occasional training programmes and verbal advice to individual enquirers. According to the deputy collector, *there is no demand for assistance from the poor, making it difficult to do anything for them.*

Range of Activities.

<i>Government Contracts</i>	<p>At present the centre has a number of contracts but has never done any house building for government; in Cochin this is mostly done by the Kerala Housing Board which does not give contracts to the building centre. Similarly, the People's Planning Campaign is active in Cochin but panchayats have not made housing a priority.</p>
<i>Housing Guidance</i>	<p>The centre prepares plans and estimates for private clients but does not do any housing construction at present; the reason given is lack of capacity. Since inception of the centre has built just 5 private houses, all for high-income clients.</p> <p>Some low-income people receive financial assistance from the Housing Board for building their own house, and use the centre as a source of designs and/or materials. The manager reports that 6-10 such enquiries are received per month, for which the centres provides free standard designs.</p> <p>The deputy collector said very few enquiries are received from low-income people because Ernakulam is a richer district than some others in Kerala.</p>
<i>Production</i>	<p>Concrete door and window frames, ferro-cement tanks, and hollow concrete blocks are manufactured. There is apparently heavy demand for these items, with recent sales of Rs. 100,000 in a 2-3 month period. Approximately 60% of production is purchased by private buyers (both large contractors and individual householders) with the rest used in the building centre's own construction projects.</p>
<i>Training</i>	<p>10 training programmes have been run since inception of the centre – less than one per year. Last year, some street children working as rag pickers were given training in production of building components using HUDCO night shelter funds (part of SCA to SCP). Why the children were given this type of training is not clear, but few attended regularly, many did not finish the course and none were given jobs on completion. No follow-up was done to assess the benefit of the course.</p> <p>This year, the centre hopes to offer computer training for SC/ST people but has no plans for building-related training due to the low stipend which, the manager says, deters trainees.</p>
<i>Promotion</i>	<p>The centre does not do any promotional activity but occasional TV features about the state building centre have apparently helped to increase public interest.</p>

EXAMPLE 5

Thrissur District Nirmithi Kendra.

History and Location.

Thrissur is a rural district, with the building centre located in Thrissur town near the collectorate. The site is shared with the NGO Costford.

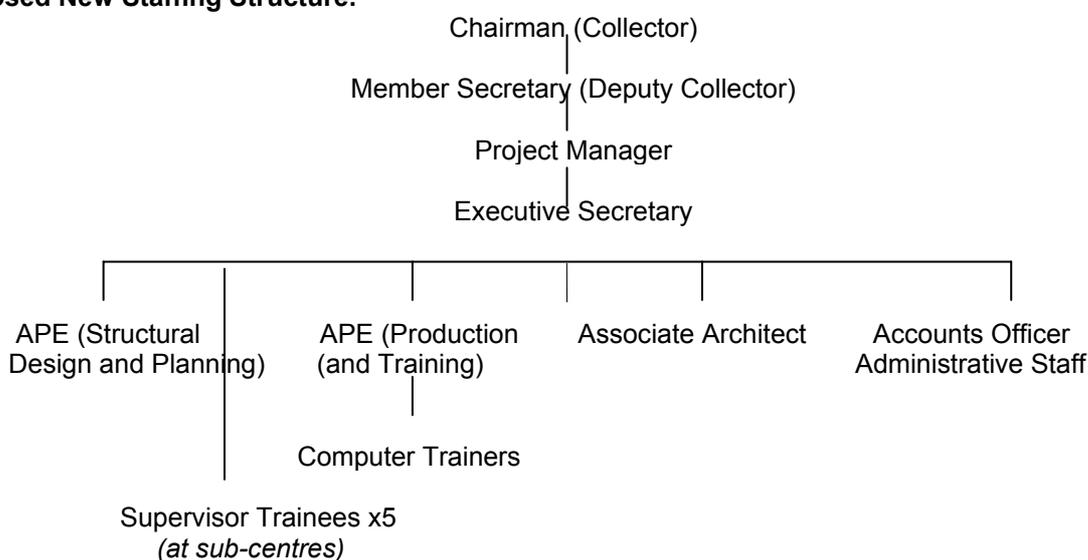
Centre Priorities.

This is one of the few centres in Kerala with a strong emphasis on training and housing construction for the poor, in addition to other construction work, consultancy and the promotion of cost-effective technology.

Management Arrangements.

The manager, a civil engineer, joined the centre after leaving college in 1989. He sees the close link with the municipality as positive since it enables the centre to get contracts, but says the centre enjoys a welcome degree of autonomy in technical matters and is more efficient than government technical departments.

Proposed New Staffing Structure.



(APE = Associate Project Engineer)

Finance.

The centre has a surplus and has used some of its fixed deposits for purchase of a jeep and computers.

Community Learning and Information.

When people are nominated for new houses under a panchayat scheme they are invited en masse to a meeting at the building centre where the designs are explained and attempts made to accommodate their wishes. Only minor changes to the plans are allowed, but these are in any case designed to suit the occupation and social requirements of the occupants. For example, animal housing may be included, or a verandah for weaving.

The centre also gives free copies of standard low-cost housing designs to people in receipt of a house construction loan.

Range of Activities.

Government Contracts

The manager identifies two types of construction activity: service and infrastructure. Service activity includes a large house-building programme for EWS people. This constitutes 60% of the centre's construction activity, with 300 homes built in 1998. The typical unit cost is Rs. 42,000 and beneficiaries sometimes make small contributions in the form of cash or labour. Contracts come from panchayats and the District Rural Development Authority, but none are given under MPLADS.

The centre uses different technology according to the location of the proposed building. Hollow concrete blocks are used in coastal areas, bricks in central areas and, in the forest and hills, laterite and filler slabs (for roofs).

Rubber wood is often used for doors but timber is otherwise avoided.

Generally, the choice of components is based on what is locally affordable.

Non-housing construction makes up the remaining 40% of construction work, and includes contracts of up to Rs. 32 lakhs.

Housing Guidance

Approximately 50 houses per year are built for middle- to high-income clients.

Production

Products include hollow concrete blocks, concrete door and window frames, ferro-cement slabs for wardrobes [?!]. These are used primarily in the centre's own projects; some are also sold privately. The centre conducts random quality control checks.

Training

The manager sees the centre's future primarily as a training centre, not only for construction workers but for their trainers and staff of other building centres.

For artisans, the centre overcomes the problem of stipends by training people on-the-job and supplementing the stipend with wages for unskilled tasks such as loading and unloading. Providing work is also seen as a necessary confidence-booster to SC/ST trainees.

Recently a six month course in hollow concrete block construction was provided for 12 women selected by panchayats under SCA to SCP funding, and courses in other trades are also offered. The main purpose of training is to improve employment opportunities rather than to absorb people into the centre's payroll. The manager hopes that some of the women trained will form a production co-operative, though this has not yet happened.

With HUDCO funding the centre now aims to establish training and production sub-centres. Some previous trainees will become trainers with their salaries funded (hopefully) from sales and construction income.

The centre also provides computer training for EWS with SCA to SCP funding and has its own computer centre.

Promotion

The centre has had exhibitions at trade fairs and colleges. The manager believes that the promotional effect of the centre's work is taking off

EXAMPLE 7

Mitra Niketan, Velland, Trivandrum

This NGO serves a rural community, most of them from the weaker sections, and acts as a nodal agency for other NGO's including more than 20 in the Trivandrum area. Now in its fifth decade, it is based on a large campus in Velland, a small rural town and home of its founder, K. Viswanathanand. Like Costford it has close links to Laurie Baker, who built some of his first houses here and still serves as a consultant.

HUDCO recently approved the establishment of a building centre on the campus; this is now under construction.

Priorities.

Mitra Niketan (meaning 'the abode of friends') has a wide-ranging portfolio of activities that aim to promote 'people-centred holistic rural development for improving the quality of life and living of village communities'.

Management Arrangements/Staffing.

Finance. Funded from a variety of sources including international donors

Activities and Approach.

The principal areas of work are:

- education (both formal and non-formal); the campus includes a people's college where anyone over 18 can attend residential courses lasting up to two years. These cover both specialist subjects and general life skills. Students come from all over Kerala.
- agriculture; including lab-to-land transfer of knowledge and skills for marginal farmers
- appropriate technology. This includes skill upgradation, research and development, technology transfer, and work with rural housing.

The organisation's extension approach has changed over the years; whereas it earlier provided a lot of free facilities, it now concentrates on training, mobilisation and the promotion of self-help schemes.

Housing.

In the past, Mitra Niketan built many low-cost village houses using CAPART funding. It also developed 53 houses via loans to poor households that were funded by the Housing Finance Development Corporation with the NGO acting as guarantor and administrator. At present very little housing construction is done, neither is there any research on the upgrading of existing houses. The NGO does, however, promote household sanitation and has constructed over 1,000 low-cost latrines in various parts of Kerala.

The NGO stresses the need to develop houses which are cost-effective rather than just cheap. In other words, they should be both affordable and meet minimum standards including provision of a toilet and water supply (ideally by rainwater harvesting).

Problems reported by the NGO include

- rigid government standards which restrict the use of some cost-effective technology and/or upgrading existing houses which incorporate traditional technology such as grass roofs.
- getting people to take up cost-effective technology. For example, some people want to have plastered walls.

Mitra Niketan currently does very little contracting since it has little interest in building for government or high-income clients and funds its community work from other sources including income-generating schemes and international donors.

The above may change once the building centre is established.

Staffing.

Staff from a variety of disciplines are employed. For housing there are two civil engineers, with local masons hired when needed. A bank of consultants is also available.

Credit.

The NGO facilitates a micro-credit scheme administered through 30 women's groups, each of them independently registered, with a total membership base of 5,000. The scheme is not currently used to fund housing construction.

Managers of the NGO are convinced that, while credit is needed, every family has something to invest in construction of their home, be it cash, labour or materials. They intend to encourage this in any future housing schemes.

Training

Training is provided for masons and other artisans, with the objective of promoting cost-effective technology and increasing employment opportunities. Each specialised course is combined with general training in life skills; the mason's course, for example, lasts twelve months with half of each day spent on general education, the other on masonry.

Nominations for training are received via NGO's and previous trainees, but anyone is free to enrol on a course at the college. The demand for artisan's training is reportedly low since most people now want white-collar jobs.

Building Centre Activities.

A building centre is being developed in order to set up a production unit which will serve Mitra Niketan programmes and NGO's within its network, as well as selling to the public. The centre will also become the base for artisan's training and may take on construction contracts, though this is unlikely to become its main activity.