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The... SUSTAINABLE URBAN NEIGHBOURHOOD Initiative

Welcome to the second issue of SUN DIAL, the journal of the Sustainable Urban Neighbourhood Initiative

In this issue we focus
on the environmental sustainability of urban areas. Inside you will find articles from Michael King of the Combined Heat and Power Association and from Joe Ravetz on the Sustainable City Region Project. We also include an initial write up of the Homes for Change project in Manchester. The promised article on demographic change and urban living has been held over to issue three

We would welcome comments on any of the issues raised and articles for future issues of sun Dial

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Inside we assess the Homes for Change scheme in Manchester

ENVIRONMENTAL SUSTAINABILITY AND THE URBAN NEIGHBOURHOOD

There has been a great deal of discussion about the enviromental benefits of attracting people back to live in urban areas. But how can urban areas themselves become more sustainable? This is not, as sometimes seems the case, solely a matter of planting more trees...

For years cities have been painted as environmental villains. Just as cities dominate global trading systems so they lie at the heart of global systems of resource consumption and pollution.

Yet resource consumption and pollu-tion is created not by cities but people. London may produce 60 million tonnes of CO_2[1] a year but would these environmental impacts be any less if London's 7 million inhabitants were living in eco-villages spread across the south of England? If this were possible, which it isn't, we might imagine more food growing, local power generation, even reed beds for sewage treatment. But these savings would be cancelled out by increased travel distances to work, schools, shops, and leisure, the transport of goods over greater distances and the inefficiencies of providing public transport, recycling and other services to a dispersed population. Patterns of work and consumption may change but this could also happen within cities where the impact would be even greater.

Cities are central to cultural and economic life. The dense, walkable city may be the most sustainable form of human settlement for the majority of people. For all their benefits, new settle-ments and eco-villages will only ever serve a fraction of the population. However urban sustainability is a complex issue as Robert and Brenda Vale have said: *"Green Architecture must encompass a sustainable form of urban development. The city is far more than a collection of buildings, rather it can be seen as a series of interacting systems - systems for living, working and playing - crystallised into built forms. It is by looking at these systems that we can find the face of the city of the future"*.[2] These systems are not neatly confined to the neighbourhood or even the whole city but operate on a regional, national and global level.

Linear urban systems must be transformed into circular systems where waste outputs provide the raw materials for resource inputs. This will reduce the contribution of cities to the unsustainability of wider systems as advocated by the Manchester 2020 project[3].

What then will the sustainable urban neighbourhoods look like? It is possible to suggest a number of principles:

The sustainable neighbourhood will be based on travel by foot so is likely to resemble traditional places like Calne in Wiltshire (Right) and Romania (below)

THE PEDESTRIAN FRIENDLY NEIGHBOURHOOD

The Vales[4] argue that, since future cities will be pedestrian based, they will resemble traditional towns which predate the car. As Francis Tibbalds suggests, this means *"forgetting the spaced-out buildings of the past few decades, separated from each other by highways and left over tracts of land and concentrating on producing intricate places related to the scale of people walking not driving"*[5].

This has a number of implications:

- **Permeable streets:** So that it is easy to walk through the area without long detours caused by car based layouts.
- **A legible environment:** So that it is easy to find your way around and everywhere does not look the same.
- **The taming of the car:** So that the car does not dominate yet we avoid the deserted pedestrianised environments which dominate many inner city estates.
- **Density and a mix of uses:** So that distances are minimised and there are people to animate streets and support local services.
- **Efficient Public transport:** So that people have the choice of an efficient public transport system.

ENERGY USE AND THE URBAN NEIGHBOURHOOD

Energy use will also shape our cities. Urban house types such as terraces and flats have fewer heat loss walls and are more likely to be sheltered by surrounding buildings. They use less materials and embodied energy and make use of existing infrastructure. Combined heat and power systems are more viable in dense urban areas so that neighbourhoods could have their own power station, producing environmentally friendly, cheap heat and power. This could also be linked to a waste incinerator, as in Sheffield.

URBAN RECYCLING

At present most UK recycling takes place through public recycling points. This should be extended to municipal segregated collection as in Milton Keynes. This again will be more efficient in dense housing areas where there is sufficient demand to support viable recycling systems. Cities are already great recycling systems as Jane Jacobs suggested when she envisaged a future where we will 'mine' urban waste for raw materials. In addition to conventional recycling this includes charity shops, second hand furniture stores, scrap yards and small businesses which re-use urban waste. This is a rich vein of economic activity which could revitalise urban economies.

WATER SAVING

Water use is a classic linear system. Its purification and transport consumes large amounts of energy as does its treatment and disposal. Urban areas should use porous surfaces and water from roofs to reduce run-off and to maintain water tables. Grey water recycling could use water from baths and sinks for toilet flushing whilst measures within buildings should reduce consumption.

GREEN SPACE

The most sustainable urban areas are not necessarily those with the most open space. This is good for wildlife but not for pedestrians forced to pass deserted areas at night or for councils responsible for maintenance. Open space can reduce densities and the viability of other systems for local sustainability. Urban areas should nevertheless maximise wildlife as in Richard Register's vision of Eco-city[7] where the city is a contributor to biodiversity. This it can do through street trees, parks, squares, window boxes, courtyards, private gardens and roof gardens. Much of this can be put to productive use for food growing.

These factors have the potential to significantly reduce the environmental impact of urban development. They are not science fiction but use existing practical technology. This is not to say that sustainable urban development will be easy. Many of the principles run counter to current practice and compulsory competitive tendering of waste collection and bus deregulation have made the task harder. They could however form an agenda for a sustainable future in which cities play a central role.

This article is summarised from a chapter on sustainability and the urban neighbourhood from a forthcoming book by David Rudlin and Nicholas Falk on the Sustainable Urban Neighbourhood to be published by Butterworth Heinemann.

References:
1. **Herbert Giradets** - Mobilisation Civilisation, Resurgence 167 p6-9. 2. **Robert and Brenda Vale** - Green Architecture, Thames & Hudson 1991 3. **Manchester 2020 - A Sustainable City Region Project,** TCPA, CER 1995. 4. See 2 5. From **FRANCIS TIBBALDS** - 10 Commandments of Urban Design. 6. **JANE JACOBS** - The Economy of Cities. 7. **Richard Register** - From Cities To EcoCities, North Atlantic Books, 1994

The Sustainable Urban Neighbourhood Initiative

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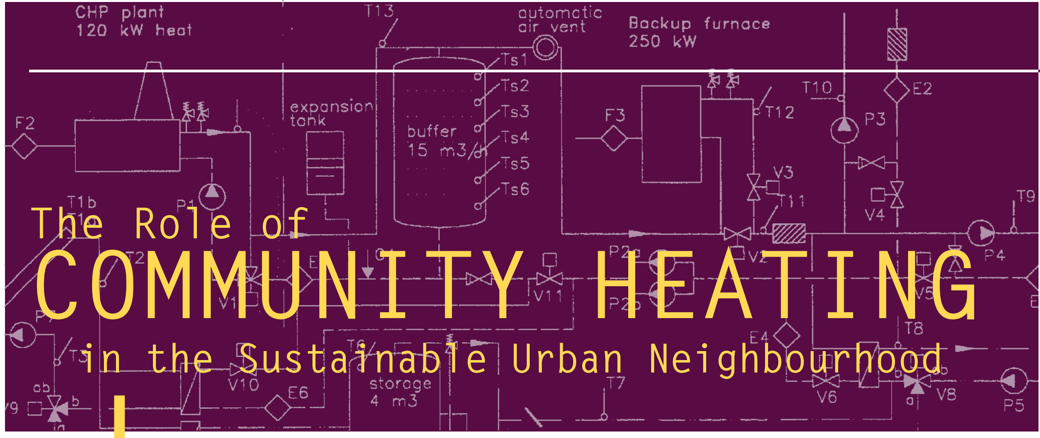

The Role of COMMUNITY HEATING in the Sustainable Urban Neighbourhood

The development of combined heat and power systems has the potential to reduce CO_2 emissions, increase the operating efficiency of heating systems and cut residents' electricity bills. What is more as Michael King of the Combined Heat and Power Association argues these systems are more likely to be viable in the sort of dense mixed use area represented by the Sustainable Urban Neighbourhood.

Community heating is a system of providing a number of buildings with room heating and hot water from a single source. In the UK community heating has been largely restricted to social housing where the technical difficulties which dogged its early development have now been largely overcome. Here there is an increasing recognition of its social and environmental benefits such as higher efficiencies and lower operating costs. This is particularly so when linked to a Combined Heat and Power (CHP) plant which can achieve efficiencies of 90% compared with 30-55% for conventional generation.

However, high infrastructure costs remain a barrier for developers in both the public and private sectors. This will remain a problem whilst developers focus on schemes in isolation and demand inappropriate payback periods. A further difficulty is the private sector's limited knowledge of local authority capital programmes.

Inappropriate paybacks allow individual boilers and electric storage systems, with 10-12 year life spans to appear cost effective. In contrast a community heating system will last 25-30 years in which time other systems would have to be replaced twice, each time with escalating maintenance costs.

Other systems rely on inefficient generating technologies and/or long distance transportation of fuel and power with inevitable transmission losses. This may not seem important when energy prices are falling but forecasts are for rising energy prices after the year 2000. The harmful environmental impact of such technologies are also important as councils begin to meet their commitments under Local Agenda 21 and the Home Energy Conservation Act.

Whilst longer payback periods and environmental considerations may tip the balance in favour of community heating, there are a number of strategies which can further enhance the viability of systems.

Firstly, the high "heat densities" of the grouped housing complexes offer a starting point for the development of community heating. Viability can be further increased by establishing a portfolio of heat customers in mixed use development so balancing demand profiles and energy use patterns. This has been achieved by Sheffield Heat and Power who have linked up many of the major buildings in the city centre including shopping centres, office buildings, law courts, leisure centres, the hospital, University and blocks of flats. Similar systems exist in Nottingham and Leicester whilst others are evolving in Manchester and Doncaster. Glasgow, Birmingham and Norwich also intend to follow this lead.

Viability is also increased by encouraging competition amongst heat suppliers including waste-to-energy plants, independent CHP units, renewable sources such as biomass and industrial plants such as bakeries and breweries which produce excess heat. New services such as district cooling, already established in the City of London, not only dispenses with the need for environmentally harmful air conditioning but smooth out inter-seasonal demand profiles.

Opportunities created by the liberalisation of the domestic electricity market in 1998 will CHP-generated electricity to be sold directly to domestic tenants. This is already taking place in pioneering scheme by the St Pancras Housing Association as described below.

What we built today must perform in a 21st century scenario of highly competitive energy prices, environmental concerns and potentially new energy taxes. These factors are beginning to drive urban development towards higher densities and mixed uses embodied in he concept of the Sustainable Urban Neighbourhood. Community heating offers the most appropriate energy solution in this context. It is therefore vital that today's developers select the energy system that makes effective use of shrinking fossil fuel reserves and install the enabling infrastructure for their building's future use.

chpa
Combined Heat & Power Association

St. Pancras Housing Association St. Richard's House and Hillwood House.

A CHP system has been installed in this scheme near Euston Station as part of St. Pancras's green policy. The complex includes 95 flats, an elderly persons community centre and 10 commercial units. The building was originally served by two communal boilers and as part of the replacement of the heating system a 54kWe CHP unit was fitted. The housing association now provides both heat and electricity to residential and commercial tenants. The system has led to primary energy savings of 650,000 kWh/year, a 20% reduction in CO_2 emissions of 275 tonnes/year. Residents electricity bills were also cut by 25%. The scheme cost £268,000 compared to the replacement of the old boilers which would have cost £80,000. It did however benefit from existing heat distribution systems. It is estimated that the payback period for the CHP system is 7 years.

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Homes for Change

As part of URBED's 21st Century Homes research for the Joseph Rowntree Foundation we used as a demonstration project the Homes for Change development in Hulme, Manchester. This was completed in September 1996 and in this article we undertake an initial assessment of the scheme.

HOMES FOR CHANGE

WORK FOR CHANGE

The Homes for Change Housing Co-operative is a product of its environment. Its first development, opened in September, is a physical embodiment of the character of the community that created it. The building dominates the heart of Hulme in Manchester, a district which until a few years ago was one of the largest deck access estates in Europe. Homes for Change is a symbol of the areas rebirth.

At the same time it is based on a recognition that, whilst the Hulme built in the 1960's may have failed, it nevertheless nurtured a strong if unconventional community. What is more this community quite liked the old Hulme, the proximity to the city centre, the size of the flats, the tollerance and the close networks of neighbours. With the launch of the City Challenge funded redevelopment of Hulme, Homes for Change was conceived as a lifeboat to preserve a small part of the local community. The co-op sought not to reject the past but to build upon it by rescuing the best points of the of the old estate. At the same time they used their very practical experience of its failings to ensure that these were not repeated in the new development. In doing this the co-operative has created a potential model for the regeneration of British cities.

The relevance of the Homes for Change model is not so much the architecture of the building, striking as this is, but the process by which it was built. It illustrates that when local people are given a full and informed choice over their environment, the result need not be the blandness which has characterised so much community architecture. It has been suggested that the development is the result of a unique combination of circumstances and people. But the membership of Homes for Change is not untypical. They may be young and largely childless but so are 40% of UK households and more than 80% of the 4.4 million extra households predicted by the government in the next twenty years will be single people. Given a choice such people may not create another Homes for Change but they are likely to opt for something very different to the current product of most mass housebuilders.

The development of the scheme

The Homes for Change co-operative emerged from Hulme in the late 1980's. Its members spent almost five years working on a scheme to convert a former police station in Central Manchester. Whilst this project did not happen, it did give the co-op a huge amount of experience. Crucially the co-op was registered with the Housing Corporation, something which few new-build co-ops have achieved since 1988. When it was announced that Hulme was to be redeveloped through City Challenge, Homes for Change was able to turn its attention to its home territory as an already established and recognised co-operative.

Homes for Change was accepted as one of the social housing developers in Hulme and following lengthy negotiations was allocated funding for 75 flats and a site in the heart of the area. However the Housing Corporation made it clear that an untried co-operative could not take on what was to become a £4 million development. The members therefore selected The Guinness Trust as their development partner. Under the terms of the partnership agreement Guinness was to undertake the development for the co-op whilst co-op members were given the right to be involved in all decisions and to take on ownership on completion if they could raise the necessary finance. This arrangement has led to inevitable tensions. However to Guinness's credit, they

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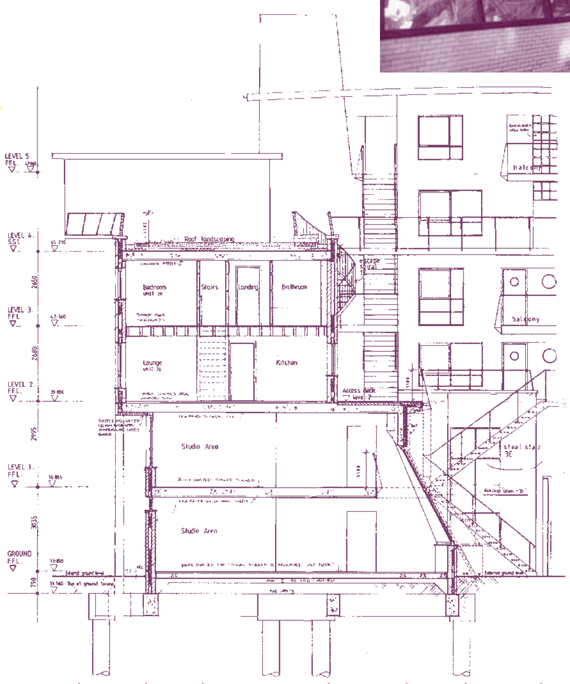


Left: section a/a through the artists' studio space showing the maisonettes above, the deck access walkway and the grass roof

Below: The site plan showing the planned phase two and the future relationship to surrounding streets

Below Right: Floor plans of the building (3rd and 5th ommitted)

Scheme details

Area: 0.63 hectares.

Development partners:
The Guinness Trust/Homes for Change/Work for Change

Consultants:
Mills Beaumont Leavey (Architects)
Tweeds (Quantity Surveyor)
YRM Anthony Hunt Ass. (Structural Engineers)
Steven Hunt Associates (Service Engineers)
ECD (Environmental Consultants)
URBED (Development consultants)
Malcolm Lynch, Solicitors (Legal)
Slade & Cooper (Accountant)

Contractors:
Amey Building Ltd
(inc. Build for Change as subcontractors)

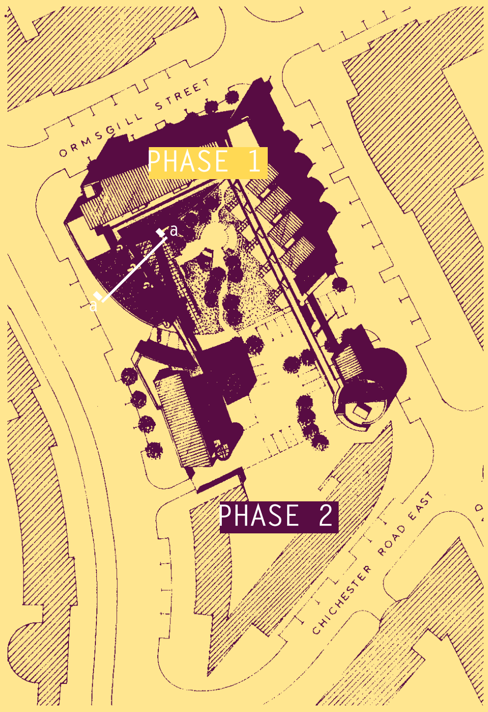
Cost

Homes for Change	
Housing Corporation Grant	£2,040,000
Tudor Trust	£ 55,000
Private finance	£1,179,000
Total	£3,274,000
Work for Change	
City Challenge Grant	£ 275,000
ERDF	£ 360,000
Moss Side & Hulme Task Force	£ 40,000
Private finance	£ 286,000
Total	£ 961,000
Forecast total works cost	£3,645,000
On-costs	£ 590,000
Forecast total scheme cost	£4,235,000

No. of units: 50 (phase 1) 25 (phase 2)

Units	%	N°.	m²	bed sp
1 bed	14%	7	56	11
2 bed	58%	29	72	102
3 bed	22%	11	81	55
4 bed	6%	3	104	18

Plus 15,000sqft of workspace inc. offices, artists studios, a theatre, gallery, cafe, shop and workshop



have given the co-op real control as witnessed by the fact that the building is radically different to anything that a mainstream housing association would normally have developed.

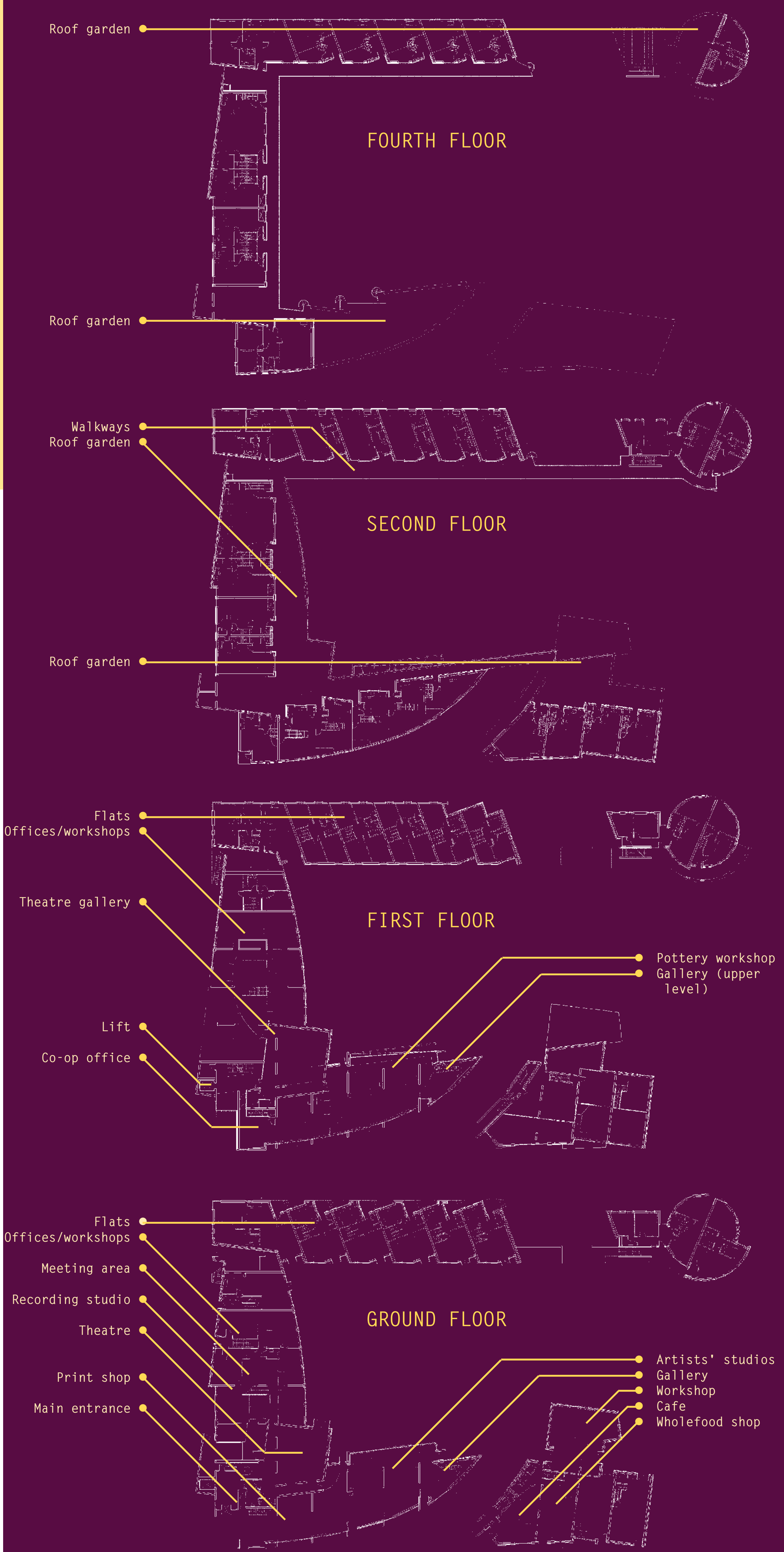
Creating a mix of uses

From the start the co-op's vision has been of an urban mixed-use building. This was entirely in line with the strategy for Hulme but was particularly important for co-op members, many of whom were used to working from home and had developed businesses in the space provided by the old Hulme flats. There was a risk that these businesses would be destroyed by redevelopment unless affordable workspace could be provided. Homes for Change therefore planned to incorporate 1,500m² of workspace into the scheme and established a sister co-op, Work for Change to develop and manage this space. Work for Change is organised like a housing co-operative and is run by its member businesses. It has developed a concept of "self-managed workspace" so that businesses put time into managing the space in return for a reduction in service charges. A feasibility study for the workspace was commissioned from URBED, and funding was secured from City Challenge, the Moss Side and Hulme Task Force and the European Regional Development Fund. As with the housing, there was also a borrowing requirement which is provided by The Guinness Trust until Work for Change is able to raise its own finance. Because the tenants of Work for Change have been members of the group for some time, the workspace is almost unique in being fully let the day it opened.

The design process

After the appointment of The Guinness Trust, the most important decision was the selection of architects. Whilst the co-op wanted a building which was both "green" and collectively designed, they took the unusual decision of appointing architects who were specialists in neither of these areas, and indeed were not even recognised housing architects. MBLC Architects were appointed for their design flair and because of their attitude to the co-op, not as a group to be consulted, but as a multi-headed client. The co-op were confident that they knew how they wanted to be involved and were concerned to find consultants who shared their vision and would not be constrained by conventional wisdom.

The design process which followed was one of the most participatory to have been undertaken in recent years. Day-long workshops took place every month for more than a year. In the early workshops members visited schemes across the country and plundered architectural journals to make up style sheets to illustrate the sort of building that they wanted. They made 1:50 Plasticine models of the scheme to explore building forms and worked with larger models to understand the space. The group even made up full- scale models of the flat interiors in a local church hall. Hours were spent pondering brick types, colour schemes, door handles and windows. Throughout there were disagreements, Guinness for example objected to the grass roofs and deck access walkways both of which were subsequently incorporated into the scheme.



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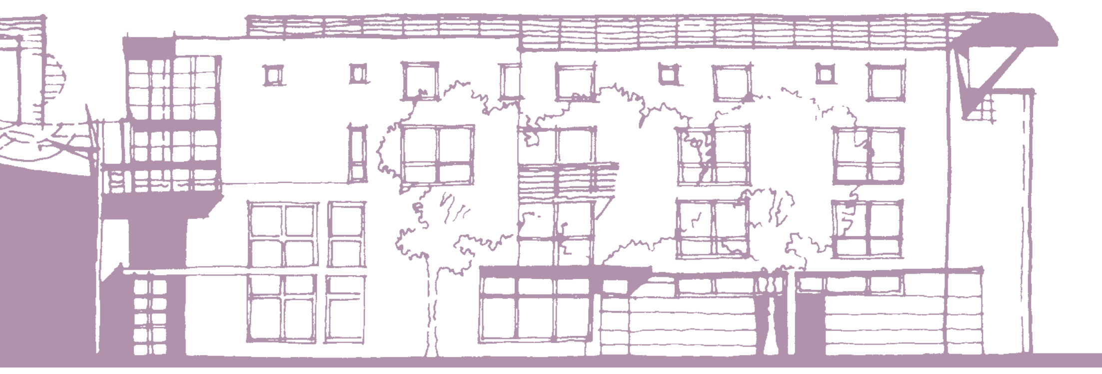

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These disagreements were, however, resolved through informed debate within the partnership which took account of costs and management implications. This meant that when members had to drop elements they understood the reasons and in most cases took the decision themselves.

Environmental design

Co-op members were also concerned that the building should incorporate best practice in environmental design. The development became a demonstration project as part of URBED's 21st Century Homes research for the Joseph Rowntree Foundation. This provided some funds to engage ECD as environmental consultants. Workshops were held to draw up a range of environmental targets ranging from CO_2 emission to sustainable materials and waste recycling which were monitored through the development process. Seventeen of the targets were met in full and only two: embodied energy and water saving were not achieved. The scheme will be followed up a year after completion to see whether the predicted benefits, such as heating bills of £1 per week, have been achieved in practice.

The perils of innovation

The Homes for Change scheme innovates on many levels. It is innovative in its layout and design, the co-operative way in which was built and will be managed, the mix of uses and the way in which the workspace is being managed. Innovation is always a risk and, when undertaken on this scale, is something that organisations with more experience probably would not attempt. There have indeed been problems, the tenders to build the scheme came in well over budget and savings had to be made quickly by the co-op. There have been a range of problems on site and the scheme was completed over budget and behind schedule. There is always a cost to innovation and everyone involved has paid it heavily. To some this may reinforce the view that the scheme is a one-off. However innovation is only justified if it leads to lessons being learnt. If this is done, there is no reason why this building, and particularly the process by which it was built, could not provide a model and an inspiration for urban communities elsewhere.

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BELOW: The Homes for Change Environmental targets and the extent to which they have been achieved

OBJECTIVE	TARGET	HOMES FOR CHANGE
GLOBAL ISSUES		
Halving Carbon Dioxide emissions	36-45 Kg/sqm/yr compared to 71-90 Kg/sqm/yr for a comparable Building Regulations house	Estimated 39 Kg/sqm/yr for a typical 3 bed maisonette
Avoiding CFCs and HCFCs	Total omission	Avoided except for an area of walkway where exposure of insulation to water meant HCFC unavoidable
Using Sustainable Materials	Avoiding materials which are unsustainable or which harm the environment in their production, extraction use or disposal	This has been largely achieved with the use of brick and concrete containing PFA
ENERGY USE		
Reducing Embodied Energy	Achieving reductions of to 60% of typical values	It is estimated it that has slightly higher embodied energy than a typical house because of development form
This proved very difficult to measure because of the lack of authoritative embodied energy table		
Maximising Passive Solar gain	Meeting 25% of space heating demands from passive solar gain Typical value estimated as 120W	Estimated 231W Solar gain in south facing flat - Target met
Heat recovery	To explore the possibility of heat from ventilation and grey water	Not incorporated
Maximising internal daylight Low energy lighting	No target measurable	Excellent internal daylight and low energy compact fluorescent lighting throughout
Achieving super insulation	0.55-0.6 W/m3K volumetric heat loss Fabric U Values: 0.2-0.4 W/m2K Glazing U Values of 2.0 W/m2K Air leakage of 3-4 ac/h @ 50pa	U Values: Walls 0.3 W/m2K Roof 0.25 W/m2K, Glazing 2 W/m2K Estimated that air leakage rates have been met
Minimising space heating costs	Space heating costs of £1/week	Estimated at £65/year for a 3 bed flat £1.25/Week
WATER AND WASTE		
Reducing water consumption	Water consumption less than 75% of a typical house	This has not been achieved - Grey water recycling dropped/spray taps and showers not included (tenant preference) 7.5l flush toilets (NWWA requirement)
Minimising collection of unsegregated Waste	Less than 50% of a typical household	Full provision for segregated collection in kitchens and bin stores - Target achieved
Exploring grey water recycling and minimising surface run off	No target	Grey water restoration explored - would have cost £2/week and saved 90p/week Courtyard permeable to run off
HEALTHY BUILDINGS		
Use of Controlled ventilation	No target	Passive stack explored and rejected due to problems with capacity of service ducts. Humidity controlled extract fans and trickle vents
Avoiding harmful materials	Avoiding formaldehyde, harmful wood preservatives and paint, coal tar and man made fibre insulation	Achieved
LAYOUT/INFRASTRUCTURE		
Minimising vehicle infrastructure	Different targets were set for each scheme	Parking provision reduced to 50% for housing and 1 space/600sqft for workspace in line with target
Promoting cycle use	Provision of secure storage	Incorporated
Considering the environmental implications of layout	This only related to the Honddu Place scheme	NA
MISCELLANEOUS		
Involvement of residents	Maximising the involvement of residents in the design of the housing	Residents involved as a joint client through Homes for Change Housing Co-operative
Maximising Flora and Fauna	To preserve and enhance site ecology	Site initially of no value, incorporation of grass roofs, bird boxes, courtyard to be landscaped by residents with natural species and transplanted trees

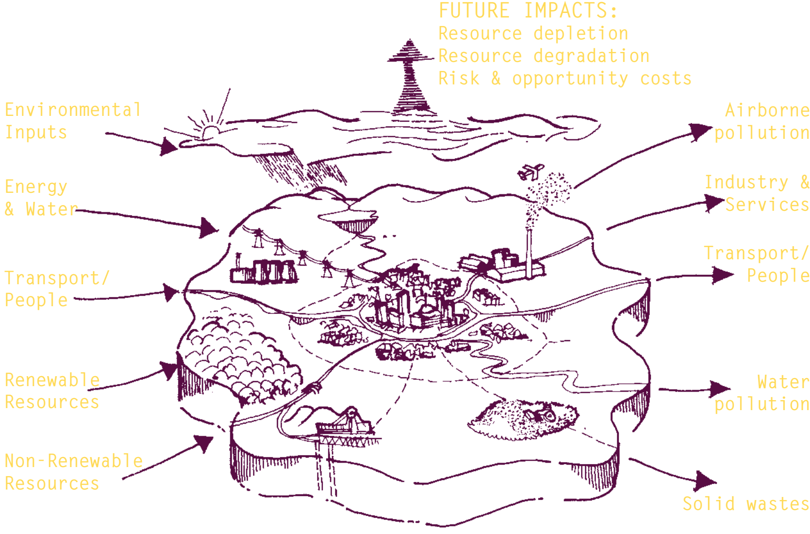
FROM NEIGHBOURHOODS TO CITY REGIONS

Strategies for the future

The Manchester 2020 study, a two year investigation into the sustainability of the city region using Manchester as a case study, has recently produced its final report. The project based in Manchester Metropolitan University and backed by the Town and Country Planning Association was headed by Joe Ravetz who outlines how the ideas of the Sustainable Urban Neighbourhood overlap with their findings.

The Sustainable Urban Neighbourhood is a balance of social, economic and environmental themes. But in a fast changing world this magic quality of 'sustainability' can often be complex and contradictory.

In practice the SUN concept focuses on the 're-urbanisation' of inner areas, and the ideal of dense, mixed use, human scale, cohesive communities. But most key factors for the neighbourhood are determined by outside forces - housing policy, public transport and energy efficiency, to name but a few, are clearly dependent on actions at the city, national or even global level.



The 'Manchester 2020' project looks at sustainable development at the city-region scale, with Greater Manchester as its case study. It investigates conditions, trends and projections for all aspects of the city - region, both environmental, economic and social. It sets out sustainability targets, strategies, responsibilities and actions to move the city region towards greater sustainability, within the current 'dynamics' of the city region.

The first dynamic is in the trends of urbanisation and counter urbanisation. Greater Manchester, for instance, has expanded as the population demands more space for living and working - a growth trend of about 2% per year. This has been both cause and effect of growth in travel, first in public transport and then in the meteoric rise of private transport. The effect has been dramatic - many inner neighbourhoods are depopulated and derelict, while suburban areas sprawl for miles. Meanwhile the latest household projections show that Greater Manchester may need 200, 000 extra dwellings over the next 25 years. This is both a problem and an opportunity.

The problem is the pressure for urbanisation of surrounding countryside, with loss of land, increase in private transport, and diminishing viability of inner areas. Alternatively, counter urbanisation may colonise much wider rural areas, aided by telecommunications and further private transport, with severe effects on rural communities.

The opportunity is for the extra households to contribute to the re-urbanisation of inner areas: this would help to consolidate neighbourhood units, reinforce the viability of local jobs and services, and improve the quality of life in the he city as a whole. Estimates from the 2020 project show that a policy of clustering higher density housing around local centres, over 25 years, could increase by 50% the population within walking distance of local centres.

But there are powerful forces acting to prevent this. One is the incentive, for those that can afford it, of personal space on greenfield sites in more select communities. Another is the fear of crime, pollution and poor services in the inner city - property values in parts of Manchester are so low it is difficult to get anything built.

One approach to these opposing trends is to lead by example - to show by demonstration that a dense mixed neighbourhood is safe, viable and enjoyable. Another approach is to look at the next level up, at the district or city region, and to work out strategies to support the sustainability of both city regions and their neighbourhoods. The Manchester 2020 project has explored many possibilities and will be presented at a future seminar in the SUN series.

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The initiative is managed by URBED from its Manchester office by david Rudlin with administration provided by Christina Swensson and Helene Rudlin

This news sheet has been researched, written (unless otherwise credited)and designed by URBED which is a not for profit urban regeneration consultancy set up in 1976 to devise imaginative solutions to the problems of regenerating run down areas. URBED's services include consultancy, project management, urban design and economic development. The SUN Initiative further develops URBED's growing involvement in housing development and continues the work of the 21st Century homes project.

Why NOT get involved?

Our aim is to develop the SUN Initiative as a broadly based network of organisations and individuals interested in the sustainable urban development. We do not have a membership but people can get involved in a number of ways...

Mailings: If you did not receive this newsletter by post please contact us and we will add you to our mailing list.

Contributions: We would welcome letters or articles for future issues of this newsletter.

Examples: We are compiling a resource base of good examples of sustainable development both nationally and internationally. We would therefore welcome details of projects that you are involved in.

Sponsorship: We are seeking sponsors for future issues of this newsletter and for exhibition material. Details are available on request.