

PENNINE CASE STUDY

JR V0.3
04-06-08

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1. Summary

Background

Urbanization and development in peri-urban areas is one of the most critical issues facing the UK and EU.

In the UK there is the challenge of where to build 3 million houses in the next 12 years – green belts, flood plains, contaminated brownfield sites, or simply further into the countryside? And in the EU, there are much faster growing cities than in the UK – from the over-development of the Mediterranean coastal cities, to the rapid restructuring of Central and Eastern EU countries.

In all areas there are compound challenges – climate change impacts, growth in road traffic, ageing population, landscape stress, urban-rural migration, farm diversification, tourism impacts, and general pressure for urban development. There are many examples of how to respond to such issues, through local partnerships, community forests, diversification and so on. But as such pressures are likely to increase in the near future, and as funding for such initiatives is not certain, policy makers and stakeholders need the best available evidence and resources.

The PLUREL project

The PLUREL (“Peri-urban Land Use Relationships”) is a large €10m consortium research project, funded by the EC, and coordinated by the University of Copenhagen. It aims to provide a state of the art scientific analysis of urbanization and spatial strategy for peri-urban areas. It includes advanced urban modelling and satellite monitoring; detailed policy analysis; and a set of best practice tools and resources. (see www.plurel.net for details).

At the centre is a set of in-depth case studies in 7 cities, including the Greater Manchester city-region. We aim to provide a unique perspective on the peri-urban-rural areas surrounding the conurbation, by understanding the trends in the city system, and by working closely with stakeholders.

Case study method

The general approach follows a scenario perspective on future trends and possibilities over the next 40 years. This explores a series of ‘what if’ questions such as -

- Will the urban fringe become more of a playground for the rich or a working environment?
- What happens to community forests and similar ventures if the funding runs out, and are there alternative ways to sustain them?
- What are the likely effects of climate change, and what can we do to adapt to them?
- How can peripheral areas develop opportunities which meet economic, social and environmental goals?
- Should the green belt be used for growing bio-mass energy crops for the city?

Stakeholders

We aim to work closely with the organizations who are directly concerned with peri-urban issues. The selected stakeholders represent some the most significant area types and economic drivers in the Manchester city-region:

- The South Pennine uplands – mixed industrial settlements, commuter towns, small scale agriculture, leisure and tourism.
- The Red Rose Forest – mixed industrial settlements, large urban infrastructure, pressure from housing and transport, multi-functional community forest.
- The economic development agenda is represented by Manchester Knowledge Capital, a partnership enabler for innovation and knowledge-based enterprise.

Case study programme

- We aim to run a series of semi-structured interviews in each case study area, leading towards a workshop once a year.
- In 2008 the programme will focus on the future **trends and challenges**.
- In 2009 the programme will focus on future **opportunities and responses**.
- We will also convene a multi-area forum once a year, to share best practices and build European links.
- We will use a variety of methods, including an 'evocative' project using creative media.
- In spring 2010 these will be brought together and presented to the PLUREL international scientific meeting to be held in Manchester.

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2. The Pennine agenda

a) Key themes

First we take a creative look at some upcoming agendas – compounds of policy, media, enterprise themes, in the emerging 21st century South Pennines.

These are in the shape of connected strings of concepts and discourses....

Where will the people go? Housing policy balance for locals and offcomers.

Population change >>> encourage in-migration & new blood >>> need more housing in different bands >>> build on floodplains / windfall sites / hillsides??? >>> then more employment >>> then more services, schools etc >>> strengthen transport >>> but risk of sucking out retail markets >>> displacing jobs & services >>> ??

Looking for new niches? In search of the good life on the fringe...

Economic restructuring >>> new niches in cultural & tourism industries >>> feed off professional commuters >>> need local services >>> skills for diversified employment >>> opportunities for new skills >>> centre-periphery linkages...

Sustainable communities? Environment at the centre ...

Replanting & relandscaping >>> climate change adaptation >>> water & soil management >>> food & energy production >>> local markets & local economies >>> diversification of land >>> land-based communities >>> extension to education & health projects >>> managing visitor flows >>> centre-periphery linkages...



b) Opportunities

These are some upcoming creative ideas and project opportunities:

These also can be thought of in self reinforcing loops, but on a level which is more focused on projects and programmes, (rather than policies and plans as above).

- Local food: re-use of land: rebuilding environmental quality: local fresh / organic food: education & youth projects:
- Community economy : cooperatives & LETs schemes: small business & ICT centres: access to training & skills: social enterprise: local markets.
- Upland management: reforestation & drainage: peat bog protection: low impact leisure & eco-tourism: linkage with city providers:

From a research point of view, these work on many levels. They are demonstrations of the ‘innovation / institutional’ agenda, not so much technology as social and market innovation (see ‘policy analysis’ below). They are also tests of the technical analysis – i.e. what are the environmental trends? Is there a tourism market? Etc.



c) Scenario trends & prospects

These alternative futures are adapted from the PLUREL general scenarios for peri urban areas: (which are in turn adapted from the IPCC scenarios for world development and climate change).

Recent trends

While the upland landscapes look timeless and unchanging, there are powerful trends over the last half century. These could be projected forward to get a glimpse of the possibilities in 2050.

Some Pennine towns lost ½ their population, and since the low point of the 1980s, some have regained it. The local textile industry almost totally collapsed, and is now being replaced with a more mixed bag. Car ownership doubled and doubled again. Production from the land, in farming forestry or minerals, continues to drop.

“Hyper-tech” - globalized / privatized world

Large parts of the Pennine area are bought up by international property & tourist companies. Advanced IT enables new clusters of professionals to live/work in upland locations. They appear to combine



environmental land management with diversified local economies, but all in the name of the global economy....

“Extreme water” – localized / privatized world

The more drastic possibilities of climate change kick in early, with a range of effects: river flooding: peat bog decline & soil erosion: ancient woodlands are subject to drought and fire. There is little public provision or adaptation programmes, and continued privatization of land, so the situation for local economies and communities is driven by short term profit.

“Peak oil” - globalized governmental world

The price of oil doubles, doubles again, and keeps on rising. Many Pennine residents who took for granted their journey to work now have to think again, causing out-migration of people, alongside in-migration of businesses. In the background is a new level of international cooperation, and one effect is that all natural resources and spare land are utilized for alternative sources of energy and carbon storage: this comes to dominate the Pennine landscape.

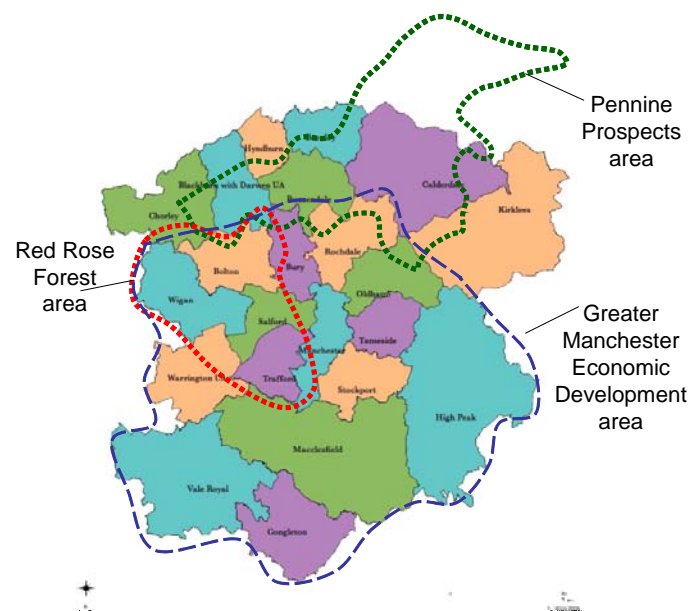
“fragmentation” – localized community world

Pennine communities do what they are good at, which is to look after their own. There is a resurgence in local collective enterprise, with farmers markets, intermediate labour, sustainable land management, small scale tourism and craft cooperatives. While there are stronger communities, there are inbuilt tensions about housing, land and business, which often serve to fragment locals from outsiders.

d) Policy analysis

Spatial scale issues

- S Pennines is an in-between city-region area, by definition on the periphery.
- Generally a decentralized geographical type with no single centre or corridor.
- The PLUREL research agenda and data resource covers the whole of the Manchester city-region, of which the S Pennine is a part. The district data covers over half of the PP area (not including Bradford, Craven or Leeds)
- Spatial data & analysis would ideally



include the fringe sections of other city-regions in W & S Yorkshire, E Lancashire etc. Full coverage of the Pennine area would require further co-funding.

These are some of the effects which can be seen in a basic spatial analysis:

- Gravity effects to city-region centre / other edge hubs
- Corridor effects
- Visitor hub effects

Policy themes

Following this, major policy themes can be overlaid:

- Green belt & other policy zoning
- Local housing & community policy
- Local economic development policy
- Transport & infrastructure policy
- Environment & landscape policy

Policy evaluation

For each of these there are questions to explore: (see also interview questions below)

- Is the policy / plan / programme working?
- Who are the winners or losers?
- What are the costs / benefits, economic or other?
- Is the policy for local or wider objectives?
- Does the policy encourage innovators and entrepreneurs?
- Does the policy enable integration & multi-level governance?
- Are there ways to improve?

Policy structural analysis

This looks more deeply at underlying themes of globalization, segmentation, innovation etc, which are clearly exposed in peri-urban areas: (this part to be led by Manchester Institute of Innovation Research)

- peri-urban zones of chaotic & creative experiments, urban residues etc
- peri-urban spatial planning as class competition for territory & control
- peri-urban as a zone of capital accumulation, or city versus rural interests
- re-invention of new socio-economic-cultural roles & agendas in obsolescent areas
- creative destruction of obsolescent economies and communities
- community initiatives as new social movements, socio-cultural enterprise etc.

Policy analysis method

Within limited resources this is more of an overview, not a detailed in-depth policy study;

- semi-structured interviews, and workshop results:
- desk study of documents, and analytic thinking

e) Technical analysis

Trend analysis

This looks at the combination of trends which are relevant to the Pennine area: using either linear or spatial data where available. There is also a comparative analysis between trends in city-regions and urban fringe areas.

Economic trends:

- Economic restructuring
- Employment & occupation change
- Metropolitanization – rapid shift towards urban based socio-cultural structure

Social trends:

- Demographic change & migration
- Social structure
- Leisure & tourism activities

Urbanization trends:

- Housing supply & demand
- Housebuilding, location & density
- Transport mode changes

Environmental trends:

- Air & water quality
- Land use change
- Biodiversity if data available

Agent Based Modelling (ABM)

This is an experimental modelling technique, being developed in Module 4 of the PLUREL. The city-regions of Manchester and Leipzig have been selected for an indepth modelling study of stakeholders and institutions. This aims to collaborate and feedback to the Module 3 Pennine case study.

As a first concept, a small number of basic 'agent' types could be constructed for an ABM model:

- Local residents: priority for staying, until the need for a) housing, b) services, c) employment, forces migration.
- Incoming residents: will enter the housing market, if there are local services: often retain employment outside: but then depend on transport links.
- Local entrepreneurs: priority for staying, until the need for a viable local market forces closure or move.
- Incoming entrepreneurs: generate new services and employment: but prefer to employ other incomers:

These could be modelled in ABM terms, first on a flat plain, then on a more realistic Pennine type geography. This might aim to include:

- Shortage of available housing land, except on floodplains, or in areas of high landscape value.
- A stock of older industrial property, some historic: could be converted either to housing or employment.
- Severe congestion on the main roads, where improvements have large impacts (rail travel is available in some corridors but for limited market segment).

Systems modelling & mapping

This takes a more macro level approach in contrast to the ABM above. These are ideas to be discussed.

a) Applying spatial development concept modelling to the case study:

- apply the conventional urban model in concept form (population, economy, land-use, distance), to the urban fringe / edge city.
- Compare the case of the South Pennines to the theoretical urban fringe edge city

b) Extending the analysis of poly-centricity, to peripheral-ity

- extend the poly-centricity analysis to a finer resolution, which is needed for analysis of the urban fringe
- extend the commuting flows to wider issues such as leisure & tourism: explore the components of metropolis-ation.
- Explore a thought experiment where the periphery and the centre exchange roles.

c) Exploring the dynamics of metropolis-ation:

- look for patterns and correlations in the spatial data and trend data, between conventional spatial development modelling (population, economy, land-use, distance), and a wider set of components of metropolis-ation
- this could include: knowledge based occupations: urban cultural types: lifestyle patterns: connections to global economy and networks: attachment to natural landscapes: alternative worldviews.
- This might start with Acorn or Mosaic type socio-cultural data if this available.

3. Work programme

Summary of actions

- We aim to run a series of semi-structured interviews in each case study area, leading towards an annual workshop in late 2008 and another in late 2009.
- The 2008 programme will focus more on the present - *policies, trends & challenges*.
- The 2009 programme will focus more on the future – *prospects, scenarios & opportunities*.
- We will use a variety of methods, including an ‘evocative project’ with students producing creative media (details below).
- In spring 2010 these will be brought together and presented to the PLUREL international scientific meeting, to be held in Manchester.

Area programs

In each of the 2 main areas, (Pennine & Forest), plus extensions to the other areas, we anticipate the following detailed programme:

- 10-15 per year semi-structured interviews with selected stakeholders (members of the board or advisory group of partner organizations)
- annual workshop meetings in late 2008 and 2009, where initial results are presented and discussed.

There is a parallel strand in the first phase of the creative ‘evocative project’ (separate file).

The results will be presented at the international conference in Manchester, spring 2010.

Research programme - 2008

Main focus for the semi-structured interviews: (see below)

- Trends & challenges:
- Policies & actors:

Research inputs include in 2008:

- scenario model inputs from M1: adapted to case study in spring 2008: as an input to exploring ‘trends and challenges’.
- technical inputs from local data – trends, projections, proto-model data, demographic model.

The result of this will be completed for the workshop at the end of 2008:

This will then inform the two main deliverables:

- D3.3.8 – evaluation of spatial strategies in the city-region, in the context of the scenario *‘trends and challenges’*.
- D3.4.1 – initial report on scenario *‘trends and challenges’*

Research programme 2009

Main agenda for the semi-structured interviews & workshops:

- Future projections and scenarios
- Responses to problems and opportunities

Research inputs include in 2009:

- scenario inputs, as developed from 2008 programme:
- technical contributions from PLUREL modeling work in M2 & M4.
- Second phase of the ‘evocative project’ (see below).

The result of this will be completed for the workshop at the end of 2009:

This will then inform the main deliverable:

- D3.4.3 – report on scenario *‘responses and opportunities’*.

Interview guide

(Detailed notes in separate file)

- Organizational questions – i.e. who does what?
- Policy & strategy questions – i.e. what are their aims?
- Driving forces, trends & processes – i.e. what is really going on?
- Peri-urban agenda – i.e. where are the problems / solutions coming from?
- Conflicts, trade-offs, inconsistencies – ?
- Priorities & values – i.e. how are decisions really made?
- Resources, human / knowledge – i.e. how are things achieved?
- Future trends & scenarios – i.e. what are the possibilities for change?

Evocative project

(Details in separate file)

As part of the research programme we propose to run an '**evocative project**'. This will mobilize the work of students in creative media such as art, video, photography or installation, to generate new insights on peri-urban issues.

The 'evocative project' will contribute to the in-depth understanding of peri-urban areas such as the South Pennines, which goes beyond report writing. Its general aims include:

- Cultural perspective on the 'values' and 'discourses' of the community
- Widening the experience from 'decision-makers' to the surrounding community
- Using art and creative media to stimulate new ideas and insights.

The audience for this project will include:

- Decision makers in urban and peri-urban areas, with other stakeholders.
- Other stakeholders – businesses, developers, infrastructure, education.
- European partners and other case study stakeholders in PLUREL, who are also running similar projects.
- The general public in each of the selected areas.

The output is likely to be presented at the Manchester International Conference in spring 2010: it will also be online. Local exhibitions are also possible if co-funding can be found.

We are proposing that the Manchester Institute for Research into Art & Design (MIRIAD) at MMU, would take on the role of coordinator for various groups of students.

The start date is anticipated as late 2008, depending on a bureaucratic EU approval process.

4. Annex

Detailed programme

Month 1-24	DELIVERABLE	OBJECTIVES	METHODS	ANALYTIC FRAMEWORK
D.3.3.1 – 3.3.7	reports on regional planning and decision making and its impact on land use in the urban fringe (Month 11-15).	Brief history of the city-region Baseline landuse & socio-economic profile & trends. - Baseline of spatial planning / governance.	desk study semi-structured interview	technical baseline data issues matrix analysis stakeholder matrix governance matrix
D. 3.3.8- 3.3.14:	Assessment reports of local and regional government and planning strategy (Month 15-25)	identify the criteria for spatial governance identify new opportunities evaluate policies / strategies by these criteria	desk study semi-structured interview panel meetings	benchmarking matrix evaluation matrix governance matrix actor network mapping
D. 3.3.15- 3.3.21:	Workshop in the case study region on planning and decision making and its impact on land use in the urban fringe (Month 20, 21, 22)	promote dialogue with stakeholders & researchers test the initial findings develop the action research method	present results interactive group work action – research scenario initiative 1: including workshop & digital resource	governance matrix evaluation matrix
D. 3.3.22:	EU conference on planning and decision making. (Month 23)			
D3.4.1:	Outline for discussion and transplantation of generic scenarios in each case study region (Month 24)	explore the future trends and projections in peri-urban areas. adapt the generic scenarios to be relevant to case study problems & opportunities	desk study trend projection refer to M1 scenario framework & model output	technical data on trends & projections. other national / EU context scenarios
D3.4.2:	Small European workshop on typology of urban regional dynamics (Month 25)			
Month 25-48	DELIVERABLE	OBJECTIVES	METHODS	ANALYTIC FRAMEWORK
D3.4.3 - 9:	Report on enhanced planning strategies and decision making for urban fringes including scenarios for future land use development, including regional workshops (Month 26 – 35).	scenario report opportunity review policy recommendations	desk study action – research scenario initiative 2: including workshop & digital resource	Scenario matrix - to be developed. Benchmarking matrix
D. 3.5.1	method for generalization and transfer			