

## **CHAPTER 2 : METHODOLOGY**

### **General Approach**

The identification of those areas of Nottinghamshire which are experiencing greatest social need involved four stages:

- (a) the identification, collection and processing of a number of statistical indicators that represent different aspects of social need, from a variety of sources;
- (b) the sub-division of the area into zones and the calculation of scores for these zones for each of the selected indicators;
- (c) the analysis of the relationship between the different indicators and calculation of a single measure of social need;
- (d) the examination of the position of particular groups in the community which are especially likely to suffer greater degrees of social need.

### **Selection of Indicators**

In selecting the various indicators to measure social need it was important to ensure that all aspects of the concept were represented, and that no aspect was over-represented, so far as was possible within the constraints of the available data. The main aspects of social need have been identified as:

- low income;
- unemployment;
- poor housing;
- poor health and disability;
- family difficulties and crime;
- educational difficulties;
- lack of skills.

Indicators have been identified to measure all of these themes. The 22 indicators finally selected are as follows:

#### Low Income

- A. % of households with no car
- B. % of lone parent households
- C. % of people dependent upon those in employment
- D. % of children receiving free school meals

#### Unemployment

- E. % of adults unemployed
- F. % of young people unemployed

#### Poor Housing

- G. % of households that are overcrowded
- H. % of households lacking central heating

#### Poor Health and Disability

- I. % of people of working age with a limiting long term illness or disability
- J. % of babies with a low birthweight
- K. Standardised Death Rate for people aged under 75
- L. % of people aged 75 and over receiving care

#### Family Difficulties and Crime

- M. % of children involved in child protection enquiries
- N. Rate of recordable offences committed by young people
- O. Rate of domestic burglaries

#### Educational Difficulties

- P. % of 16 and 17 year olds not in full time education
- Q. % of pupils obtaining no GCSEs
- R. % of pupils not obtaining 5 or more GCSEs at A\* to C grades
- S. % of pupils not achieving Level 4 or above at Key Stage 2 English and Maths

#### Lack of Skills

- T. % of adults without qualifications at Level 2 or above (5 or more GCSEs or equivalent)
- U. % of people in routine occupations
- V. % of people in semi-routine occupations.

Chapter 4 describes each indicator in detail and gives a justification for its use. It also gives basic statistics for each indicator, including the average for all zones and the maximum and minimum zone scores.

The choice of indicators is similar to those used in the previous studies, although increased availability of data and extensive computerisation means that a wider choice of indicators is available this time. The main beneficiaries of this are in the fields of education and health.

One new source of data from the Census which has not been included, but could have been, is the proportion of people providing unpaid care. This has been excluded because a sufficient number of indicators relating to health were already available. Generally, a preference has been given to non-census data, because of the added value of using such local information which is not available anywhere else. As three non-census health indicators were available, together with the census one that has been used before, it was decided not to include this indicator.

The previous studies did not include crime data, because it was felt that the issues of social need and breaking the law should be considered separately. Crime information has been included this time, partly because it will be included in the

update to the *Indices of Deprivation 2000*. Also, it is clear that the indicator used, burglaries, has a particular impact in areas with other social needs and can contribute to exacerbating those needs.

Because crime and offenders data is included this time, the aspect of social need which was called 'Family Difficulties' in the 1994 Study has been renamed 'Family Difficulties and Crime'.

Not all of the indicators are direct measures of the form of social need that they represent. As in the previous studies, indirect indicators have been chosen where direct indicators are inadequate or not available. For example, the proportion of households lacking a car is used as an indirect indicator of low income, in the absence of any information relating specifically to income.

Since the indicators are amalgamated to produce a single measure of social need, care has to be taken to balance the different aspects of social need represented. Indicators have only been chosen when their occurrence is sufficiently numerous in Nottinghamshire as a whole to produce reliable results.

### **The Definition of Zones**

The 1983 and 1994 Studies used the same zones, except where small changes had to be made to allow for District Council boundary changes. It was decided to define different zones this time for the following reasons:

- ward boundaries have changed throughout the City and County. In some areas, the previous zone boundaries were based upon the old ward boundaries, which no longer have any relevance;
- where possible the Study uses zones that reflect recognisable communities irrespective of ward boundaries. 'Super output areas' to be used in the updated Indices of Deprivation, on the other hand, are defined by an automatic statistical procedure and may not be locally identifiable communities;
- there is now more of a need for data for smaller areas, in order to support funding bids and local service planning. In order to properly identify smaller communities with particular needs, it was decided that the population threshold for zones should be lowered;
- it is also necessary to tie the zones in with the new census geography of output areas (see below).

Bearing this in mind, the following criteria were used in defining the boundaries:

- the zones should have a sufficiently large population to provide reliable results. Initially a threshold of 1,500 was used, but due to the other requirements a few of the zones finally defined fall slightly below this size;

- the zones should be of broadly similar population size. If there is a wide variation in size, large zones may include areas with much higher levels of social need which are comparable in size to smaller zones. Although the smallest zone has a population of 1,479 and the largest 4,509, nearly half of the zones have populations between 2,000 and 3,000;
- within other constraints, where possible zones should reflect the boundaries of locally identifiable communities with similar social and economic characteristics;
- zones must comprise areas for which information is available. All zones are made up of complete output areas, the smallest areas for which 2001 Census results are published. As the average size of output areas is quite small (125 households), this has not generally caused a problem, but in a few instances the zone boundaries have had to deviate from the most desirable boundaries on other criteria.

Using these criteria, Nottinghamshire has been split into 380 zones, compared with 210 in the 1994 Study.

## Analysis

To ensure that the indicators could be considered to measure social need, a check was conducted to see if the different aspects of social need occur in the same areas. A correlation analysis of the indicators showed a clear association between all 22 indicators, except between 'households lacking central heating' and three other indicators ('people dependent upon those in employment', 'people of working age with a limiting long term illness or disability' and 'adults without qualifications at Level 2 or above'). A more detailed description of this exercise and a table of the correlation results are given in Appendix B.

The 1983 and 1994 Studies used a simple statistical technique to compile the aggregated index of social need, whereas the *Indices of Deprivation 2000* use a much more complicated statistical procedure. It was decided to continue with the method used by the previous studies, because:

- the simpler method is much more easy to explain and, given a basic grasp of maths, for people to understand;
- more complicated methods would require more time to specify, test and run, and would require software which is not readily available;
- it is unlikely that more sophisticated methods would come out with significantly different results – for instance, the areas identified in the 1994 Study are very similar to those identified in the *Indices of Deprivation 2000*.

The method used calculates a single index of social need for each zone by totalling its 'normalised' scores on each of the indicators. Details of this technique are given in Appendix C. The zones were ranked on the basis of these scores, to identify those with the highest levels of social need.

Having constructed a single ranking of social need, the final stage of the analysis was to interpret the index scores in terms of levels of social need, by looking at breaks in their distribution (i.e. where the differences in the index scores between one rank and the next are particularly great). This enabled the classification of zones into areas with 'extreme social need' (a score of greater than 28.8), 'serious social need' (greater than 17.9) and 'moderate social need' (above the average for all zones). Zones with below the average score (8.7) were regarded as having 'below average social need'.

### **Groups Likely to Experience Social Need**

As in the previous studies, the distribution within Nottinghamshire of particular groups of people that are more likely than average to suffer social need has been examined and compared with the general findings on social need (see Chapter 7). Two groups have been included: people in ethnic groups other than 'White British' and pensioners.

There are still wide discrepancies in social need between ethnic groups. For instance, according to 2001 Census data for both the City and the County, the unemployment rates amongst the Black/Black British and Mixed ethnic groups are nearly double that of the White British group.

Although, according to the Department of Work and Pensions *Pensioners' Income Series 2001/2*, the relative incomes of pensioners have, on average, improved in the last 20 years, many are still on very low incomes. For instance, Age Concern has identified that 80% of pensioners living alone do not have a reasonable standard of living (*Modest but Adequate – a reasonable living standard for people aged 65 to 74*, November 2002).

Three other groups were considered for inclusion, but have not been included for various reasons:

- lone parent families are a group with low average incomes, which were considered separately in the last Study. This time the detailed information about them has been included under Indicator B in Chapter 5;
- large families (i.e. with three or more dependent children) were included in the last Study. Unfortunately, the 2001 Census does not include data at below ward level for these to be examined this time;
- people with disabilities also tend to have low average incomes. Half of all disabled people have incomes below half of the mean income of the whole population (*Enduring economic exclusion: disabled people, income and work*, Joseph Rowntree Foundation, October 2000). They have, however, not been treated as a separate group, because many of them are pensioners, who are, therefore, included in the information on people over pensionable age. Also, adults with disabilities under pensionable age are included in Indicator I.

