ANNEX 1

PROGRAMMING ASSUMPTIONS

1.1 Introduction

These assumptions form the basis for calculating the proposed programme quantities and costs. They are accompanied in each case by the sources and justifications. It should be noted that much of the data used for these assumptions could be open to further review, particularly with respect to demographic interpretations and projections. There are also possible problems of definitions in previous surveys which could affect the quantification of needs, such as what constitutes an individual dwelling and a household, what is poor quality construction and inadequate infrastructure. A more precise picture will emerge in the early years of implementation of the proposed programme (upon its approval) as the field surveys and mapping components begin to yield results. It was nevertheless considered justifiable to run a first test of the proposed programming model with readily available data from previous surveys, no matter how widespread the uncertainties at this stage in programme formulation.

1.2 Sources

Key data sources for these assumptions were:

- Background Survey on Urbanisation and Housing in Roma Neighbourhoods, Bulgaria, April 2003, EU Preparation of Phare 2002 Economic and Social Cohesion, FAS International Consortium. (BS)
- ILO/UNDP Regional Survey (conducted in November 2001) for the UNDP Regional Development Report "The Roma in Central and Eastern Europe: Avoiding the Dependency Trap", 2002. (RS)
- UNDP/RBEC Vulnerability Profiles (survey conducted in October, 2004) for the Decade of Roma Inclusion Countries, Faces of Poverty, Faces of Hope, 2005. (VP)
- Bulletin No. 7-8 Stroiexpert CEK 2004.

Other sources are noted in full under the assumption in question.

1.3 Baseline and Targeting Assumptions

1. Planning base year: **2005**

2. Programme period: **10 years, 2005–2015**

3. Pricing base: **end 2004** (all estimates within the assumptions are at end 2004 prices)

4. Inflation: **4%** for 2005 and **3.5%** for each year thereafter over the 10 year period

Derived from "IMF Bulgaria Staff report for the 2004 Article IV Consultation" and discussions with Government economists.

5. Population: Roma and closely affiliated minorities, urban and rural: **750,000**

The RS mentions a range of 600,000–750,000, while the VP refers to estimates of an extra 350,000 over the 2001 census total of 371,000 giving a 2001 total of 721,000.The EU Phare Multi-Annual Project document uses the same figures, mentioning that this additional 350,000 share the same Roma characteristics but identified themselves otherwise in the census. The BS refers to estimates from experts ranging from 600,000 to 800,000. If the census figure is grossed up by the 42% in the RS who said they did not earlier declare in the census their Roma affiliation, the census total increases to around 640,000. Members of the Expanded Working Group[48] for the proposed programme formulation also suggested 750,000. Senior demographic experts of the National Statistical Institute (NSI) advised

[48] The Expanded Working Group was convened by UNDP Bulgaria to consult the process of the proposed programme formulation and comprised of senior experts from the Ministry of Regional Development and Public Works, the National Council for Cooperation on Ethnic and Demographic Issues at the Council of Ministers, the National Centre for Territorial Development, free-lance architects and Roma experts.

that 750,000 would be a reasonable 2005 estimate.

6. *Population:* urban target group: 55% of 750,000 = **412,500**

The RS sample is 57% urban and the VP sample 74% urban, while VP text states that "almost half the Roma live in villages". NSI senior demographic experts advise using the 2001 census distribution for Roma of 55% urban, 45% rural.

7. *Urban household size:* average of **4.8** reducing to **4.0 over** the ten-year period

The RS survey records 4.9 overall (urban+rural) while in the detailed data sets the urban size was a slightly lower percentage for under 4 persons per household than over 4 persons, so this was adjusted to 4.8 for the programme assumption. VP has a sample of 2,176 Roma in 500 households (urban+rural) giving an average household size of 4.35. The BS refers to data from 81 locations with a total Roma population of 376,817 in 82,023 dwellings giving a dwelling occupancy of around 4.6. The 2001 census has a total Roma population of 371,000 with 89,000 households giving a household size of around 4.2. NSI senior demographic experts advised using the 4.8 from the RS but to assume a reduction to 4.0 in order to take account of the likely trend away from large extended family households with the younger nuclear families seeking their own separate dwellings and also the likely trend towards fewer children in the new households being formed over the 10 year period.

8. *Household sharing:* **1 household per dwelling**

No specific survey data for ethnic minorities was found on household sharing (more than one socially and economically separate household in a single dwelling). Although the 1992 census recorded a high rate among the general population of households sharing the same dwelling unit, it was assumed that although among the Roma there are often high numbers occupying a single dwelling, these are unlikely to be multiple separate households.

9. *Target households in 2005:* 412,500 divided by 4.8 = **85,900** (rounded)

10. *Population increase:* (average annual natural increase) **0**

NSI senior demographic experts advised that the Roma urban population total could be assumed to be static over the 10 period based on survey data on "expected" fertility being only slighty over replacement rate and actual rates being likely to fall. However, the need for new dwellings over the 10 years arising from demographic and socio-economic trends is addressed by the reduction in household size (assuming one household per dwelling).

11. *Migration:* **0**

NSI senior demographic experts advised that although there would be movements in both directions between urban and rural areas and some external migration, the uncertainties are such that it would be reasonable to assume that there would be no change in the 55%:45% distribution.

12. *Target neighbourhoods:* **100** neighbourhoods within **88** urban centres

The BS selected a sample of 88 mainly urban centres or locations. Using the 2001 census data, the total population of these was 4,195,116 with a Roma share of 177,927 or 4.2%. Within the 88, one centre was under 2,000 population and 15 from 2,000–4,000. These smaller centres accounted for 40,800 or 1% of the 4,195,116 in the 88 centres. Several sequential criteria were used in reaching this sample:

- municipalities with 2001 census population over 10,000 = 161 municipalities.
- within 161, the share of Roma population above the mean of 5.6% = 85 municipalities.
- 9 municipalities over 100,000 having a lower share but high absolute numbers of Roma, plus 5 municipalities which, due to self-identification, NCCEDI considered as statistical anomalies = 99 municipalities.
- within these 99, those specific urban centres with compact groups of Roma based on size and concentration, having a total population over 2,000 and a Roma population more than 574 (threshold above which conditions were considered as creating compact Roma groups) = 88 urban centres (Venetz included although under 2,000).

These were divided according to:

low Roma concentrations: 574 – 1,000 Roma population
– 29 locations, total 323,435, of which Roma 6.5%

medium Roma concentrations: 1,000 – 3,500 Roma population
– 47 locations, total 1,670,746, of which Roma 82,333 or 4.9%

high Roma concentrations: over 3,500 Roma population
– 12 locations, total 2,200,935, of which Roma 74,540 or 3.4%

The proposed programme assumes that these 88 urban centres account for the bulk of the programme's urban target of 412,500 persons or 85,900 households– within the current estimate for the national total of 750,000 persons after adjustment for the effects of self-identification. The Background Survey did not record the numbers of separate identifiable Roma neighbourhoods within these urban centres. Further more in-depth material was obtained by the Background Survey from 14 case study centres chosen from the total of 88 urban centres. These 14 centres, which included the major towns and cities of Sofia, Plovdiv, Sliven, Stara Zagora, Pazardzhik and Lom had 22 separate neighbourhoods or clusters of smaller neighbourhoods. It was assumed that the remaining 74 centres would have on average fewer neighborhoods per centre, so a nominal 100 separate neighbourhoods or clusters of smaller neighbourhoods were selected provisionally as the proposed programme target.

13. Land area of neighbourhoods: **2,362** ha

The total for existing neighbourhoods is recorded in the BS as 2,186 ha for the 73 out of 88 urban centres that responded on this aspect of the survey. This was grossed up from 73 to 88 giving a total of 2,623 ha. For the nominal 100 target neighbourhoods this gives a relatively high average per neighbourhood of around 26 ha. The data from the 14 BS case studies interestingly gives an almost identical average of 26.4 ha for the 27 neighbourhoods for which the land areas were provided (total of 7,142 ha). However, this sample was weighted in favour of major centres such as Sofia and Stara Zagora that have several extensive neighbourhoods. Nevertheless, it was considered that this was a safe assumption given that the total number of neighbourhoods across the 88 urban centres is not recorded in any surveys and likely to be over 100. Also the assumption for this total land area is used only in the estimates for the coverage of the satellite imagery and the Detailed Layout Plans, which in both cases would need to take account of the immediate surrounding areas.

1.4 Component Design Assumptions: Capital Investment Components

1. Physical infrastructure upgrading needs (dwelling units)

Improving, replacing and extending the infrastructure within existing neighbourhoods.

streets – **11,631**
sewerage – **27,829**
piped water supply – **11,721**
electricity supply – **4,387**
street lighting – **42,950**

Derived from the BS data on Roma access to infrastructure in a sample of 66,964 dwellings from the 88 urban centres, as reported by municipal officials:

total urban dwellings that have these elements:
streets – 57,897 (86.5%)
sewerage – 45,270 (67.6%)
piped water supply – 57,827 (86.4%)
electricity supply – 62,554 (93.4%)
street lighting–survey data not found, assumed 50%

Using the reverse of these percentages to obtain the numbers lacking these elements and grossing up from 66,964 to the target of 85,900 dwellings gives the above needs.

Comparisons from other sources:

the RS:
- running water in the house – 57%
- sewered – 66%
- legal electricity – 88%

the VP:
- piped water in the dwelling – 58%
- piped water in the yard – 30%

- electricity – 87%

2. Physical infrastructure upgrading base costs
(in BGN per dwelling unit)

streets – **1,468**
sewerage – **757**
piped water supply – **470**
electricity – **325**
streetlighting – **120**
sewerage plus 100% street reconstruction – **2,225**
piped water supply plus 50% street reconstruction – **1,204**
design, supervision and contract management + **10%**
physical contingency + **5%,** VAT + **20%**

As sewers and water supply cannot be laid without road reconstruction, these reconstruction costs have been included in each case as shown.

Based on the actual 2004 tendered rates for the Project "Urbanisation and Social Development of Areas with Predominant Minority Populations", Pazardzhik component, including the usual contractors' profit, with adjustment for an assumed density increase to 60 dwellings/ha to take account of higher densities in existing neighbourhoods or a total cost of new infrastructure /ha of BGN 188,900.

3. Need for new dwellings

Existing base **85,900** households/dwellings

a) for reduction in household size from 4.8 to 4.0 over the ten years **17,180**
b) for resettlement due to layout legalisation (10%) **8,590**
c) for resettlement to reduce overcrowding, either ground coverage of dwellings or persons within dwellings (25%) **21,475**

total **47,245** dwellings

The 10% in b) is a provisional estimate based on international practice but subject to adjustment based on actual examples in Bulgaria to be undertaken in the early years of implementation of the proposed programme using revised DLP standards. The 25% in c) is also provisional, using the BS number for illegal dwellings from the 88 urban centres where 21,073 out of 79,206 (26.6%) were reported as illegal. No account is taken of the use of unoccupied existing dwellings or converted residential buildings of any type, including panel blocks, in order to meet these needs. Such initiatives have been planned but apparently have failed to have significant impact. If opportunities for this do arise, there would still be the need for resources to be allocated, in this case for repair and general rehabilitation. The 10% in b) and the 25% in c) would include all those in the ethnic minority target group currently registered on the municipal housing waiting lists for which the disaggregated numbers across all the 88 urban centres were not readily available.

4. New housing options
– standards and costs (in BGN)

These options are used for exploring the varying capital investments with their equivalent housing standards and costs that correspond to the levels of affordability across the Roma income distribution. In order to illustrate this programming methodology in terms of actual designs, dwelling types have been either selected from current house types for new Roma housing or adaptations of these types.

The following assumptions are used for the range of new dwelling options:
a) Average land cost of BGN 6.25/m^2 from the Regulation for the Implementation of the State Property Act (SPA).
b) Right to Build calculated according to Article 102 of the above Regulation of the SPA using as an average land cost BGN 6.25/m^2 with the required adjustment.
c) Cost of the infrastructure for reach option calculated using the above-mentioned costs from the Pazardzhik component tender (Project "Urbanisation and Social Development of Areas with Predominant Minority Populations") adjusted for the different densities in each case.
d) Base cost of construction /m^2 is derived from Bulletin No.7-8 Stroiexpert CEK 2004 for low standard superstructure with the adapted rate of BGN 260/m^2 (excluding heating and telephone connection) for housing options Type A, Type B and Type C, and the adjusted cost for multi-storey residential buildings of BGN 308/m^2 (excluding heating, telephone connection and lift) for housing option Type D.

For every option, the all-in costs include: design, supervision, contract management for superstructure 5**%** infrastructure 5**%,** physical contingency 5**%,** VAT 20**%.**

The following elemental cost breakdowns for each option show in **bold** the costs that have been used in the proposed programme cost estimates and financing. Land costs in this case are those derived from the actual land area covered by the ground floor of the dwelling plus its share of the residential site area in terms of the net density. The alternative costs where the land is noted as "right to build' (RB) are those which reflect the likely actual cost to the beneficiary using the RB formula based on the total floor area including upper floors in buildings with multiple storeys. The term "superstructure" covers the construction of the complete dwelling unit itself including all infrastructure connections unless otherwise stated.

Type A. Transition unit, 20m^2, 3 storey
(total floor area with share of access gallery and stairs: 29m^2)

land (right to build)	180	**80**
infrastructure	773	**773**
superstructure	8,664	**8,864**
total	9,567	**9,517**
all-in cost	12,694	**12,539**

Costs include share of access gallery and stairs, with 7 units per stairs.
Parcel coverage 40%, density 336 dwellings /ha calculated for 16 blocks.
Construction rate of BGN 299/m^2 – Bulletin Stroiexpert CEK 2004 low standard superstructure construction with rate of BGN 260 + 15% profit.

Type B. Self-build starter dwelling, 20m^2 plus 20m^2 extension space, single storey

land (right to build)	35	**620**
infrastructure	2,600	**2,600**
superstructure	6,000	**6,000**
total	8,635	**9,220**
all-in cost	11,398	**11,998**

Based on half of Kyustendil ADRA dwelling, containing bathroom and kitchen area.
Parcel coverage 50% (including 25% for starter extension), density 100 dwellings/ha.
Construction cost BGN 300/m^2 to take account of smaller floor area but with complete bathroom and kitchen.
Assumes self-build with contractors profit excluded.

Type C. Self-build dwelling, 40m^2, single storey

land (right to build)	75	**620**
infrastructure	2,600	**2,600**
superstructure	10,400	**10,400**
total	13,188	**13,620**
all-in cost	17,259	**17,819**

Using Kystendil ADRA dwelling, construction rate BGN 260/m^2, base rate from CEK.
Assumes self-build with contractors profit excluded.
Parcel coverage and density as Type B above.

Type D. Apartment unit, 50m^2, 4 storeys plus basement
(total area with share of stairs, entrances and basement 68.75m^2)

land (right to build)	214	**222**
infrastructure	928	**928**
superstructure	21,160	**21,160**
total	22,411	**22,310**
all-in cost	29,439	**29,444**

Based on Hristo Botev neighbourhood, Sofia Phase 2 mid-range apartment size, adjusted construction rate BGN 308/m^2 from CEK, including share of stairs, entrance and basement.
Parcel coverage 40.%, density 280 dwellings per ha.

Type E. Single dwelling, 87 m^2, 2 storeys

land (right to build)	662	**1,148**
infrastructure	4,814	**4,814**
superstructure	25,800	**25,800**
total	31,024	**31,762**
all-in cost	41,284	**41,650**

Uses the Pazardzhik Phare project for 11 dwellings, as-built construction rate including profit and adjusted for inflation BGN 296/m^2.
Parcel coverage 30%, density 54 dwellings per ha.

5. Land need for new housing

47,245 dwellings (see item 13) with average density of 140 dwellings/ha – **337** ha

Density based on the average of 200 dwellings/ha of net residential area, representing 70% of gross area needed for new housing.

6. Materials for existing dwelling upgrading (BGN)

new roof etc.	**1,500**
internal plumbing etc.	**300**
new windows	**1,200**
electrical installation	**440**
plastering /painting etc.	**1,060**
heat insulation etc.	**2,000**
notional loan	**1,500**
total, all options	**8,000**

no. of notional loans each of BGN 1,800 (BGN 1,500 + VAT) – **21,475** loans
total fund BGN **32,212,500** + VAT **20%**
distribution: 25% of 85,900 households

Based on the adjusted costs from Bulletin Stroiexpert CEK 2004 and an assumed dwelling size of 40m^2.

The 25% is subject to adjustment, being derived from the BS data on construction quality of dwellings for all groups, including Roma, in the 88 centres. This recorded 25% as being "jerry-built" meaning poor insecure structure. It is assumed that there could be at least this share of households in Roma neighbourhoods who would have a priority for improving their dwellings and taking a loan for materials. Revolving of recovered loans would of course allow additional loans to be taken out over time.

7. Social facilities–construction of buildings (costs in BGN)

total cost BGN **54,669,600**
plus design, supervision and contract management 7.5%, plus physical contingencies 10%, plus VAT 20%
all-in cost BGN **77,300,000**

In the absence of data on the quantity and quality of existing facilities serving each neighbourhood it is assumed for the purpose of programming that each neighbourhood would require facilities in accordance with the standard provision for new residential areas based on the aggregate land area. This assumption would therefore safely cover the needs also for rehabilitation or extension of any existing facilities.

In order to calculate the floor area needed for social facilities and also for the land area to be covered by DLPs and by the satellite imagery, the land area of existing neighbourhoods was adopted and the land area for new housing added. It was assumed that the land parcels for the social facilities would be within or adjacent to the existing neighbourhood areas and wouldn't require new land – in many cases the facilities would involve renovations of existing facilities.

The total for existing neighbourhoods is recorded in the BS as 2,186 ha for the 73 out of 88 locations that responded on this aspect. This was proportionally grossed up from 73 to 88 giving a total of 2,623 ha. To this was then added 337 ha for new housing, making a total of 2,960 ha rounded up to a total residential land area of 3,000 ha.

For the social facilities, the standards quoted in the BS were used:
Education multi-purpose – 25m^2 of floor area per ha of residential land area x 3,000 = 7.5 ha
Health – 3m^2 of floor area per ha of residential land area x 3,000 = 0.9 ha
Cultural recreational – 4m^2 of floor area per ha of residential land area x 3,000 = 1.2 ha
Public administration/police – 4m^2 floor area per ha of residential land area x 3,000 = 1.2 ha
total 10.8 ha of floor areas

(land cost in each case = floor area of buildings as above x 6.25 BGN/m^2)

unit cost rates for construction, based on the BS are those per ha of residential land area (3,000 ha):

education 3,000 ha x BGN 13,000 = BGN 39,000,000
land 465,000
health 3,000 ha x BGN 1,000 = BGN 3,000,000
land 55,800
cult/rec 3,000 ha x BGN 2,000 = BGN 6,000,000
land 74,400
pub/admin 3,000 x BGN 2,000 = BGN 6,000,000
land 74,400

total BGN 54,000,000 plus land BGN 669,600 = BGN 54,669,600

8. Small business development

total BGN **36,910,000**
loans for small businesses, notional loan of 2,700 for 13,740 borrowers.

The assumed number of borrowers was based on the VP finding that 16% of Roma households "use credit or have borrowed" and the nominal loan size was derived from advice given by banks and non-bank financial institutions and data from their current programmes.

1.5 Component Design Assumptions: Support Components

1. Mobilising community-based organisations

Training of 180 facilitators, training of residents' initiative groups made up of an aggregate of around 2,400 residents – advisory support, mentoring, office support, exploring instruments for collective activities such as savings and credit groups and construction cooperatives, in country neighbourhood exchange visits – targeting 100 neighbourhoods,

total BGN **810,000**

Over years 1–6 for main training activities and over years 7-8 for continuing advisory consulting and mentoring
Training of facilitators BGN 18,000/year
Training of residents' initiative groups – BGN 33,000/year
Training material, meetings, evaluations, advisory services – BGN 20,000/year
Travel expenses field trips – BGN 5,000/year
Office costs – BGN 6,000/year
Small community practical activities – BGN 18,000/year
In-country community exchange visits – BGN 20,000/year
Mentoring and advisory activities in last years of the programme – BGN 45,000/year

2. Capacity-building and partnership development

a) Joint training and practical activities of around 2250 participants with 60 trainers, in batches over the programme period, participants composed of municipal and state officials, Roma NGOs and community representatives – targeting all 88 cities and towns in around 30 clusters. Main centres addressed individually, smaller ones in groups.

total BGN **640,000**

Years 1, 2 (BGN 127,000 per year), year 5 (two programmes concurrently, BGN 254,000) and year 10 (BGN 127,000)
Trainers' fees and expenses – BGN 27,000/year
Participants travel, per-diems – BGN 60,000/year
Logistics and coordination, training materials – BGN 15,000/year
Consulting services for course design and training methods – BGN 25,000

b) Support for network strengthening and for the establishment of an NGO Coalition, targeting NGOs working with the Roma and affiliated minorities in all aspects of minority affairs. Start-up assistance over the first two years for providing an NGO forum and contact point, for networking through meetings and communications, setting up clearing house functions for assembling, processing and disseminating information on community activities and best practices, preparing and updating an NGO directory and strengthening the Ethnos website.

total BGN **106,800**

year 1 – BGN 52,500, year 2 – BGN 54,300
Meetings/networking: per diems, materials – BGN 34,560
Office equipment – BGN 5,050
Coordination /office staff: 3 persons – BGN 48,000
Administrative expenses: materials. office rental, utilities – BGN 19,200

3. Land and property management

Revised and new Detailed Layout Plans (DLP) and cadastre mapping for the total land areas of existing neighbourhoods and the areas for new housing, covering the full set of DLP and cadastre components in-

cluding the necessary physical field surveys–aided by the satellite imagery for up-to-date detailed base mapping (see item 4). The imagery product will provide rectified imagery and can be used for accurate measurements for planning purposes, but will not be at the level of accuracy required for cadastre survey and mapping.

total BGN **8,810,000**

Costs are based on the Regulation for Minimum Cost of the Chamber of Bulgarian Architects
Assumed for all target neighbourhoods
Revised DLPs for existing neighbourhoods 2,960/ha
DLP for neighbourhods or undeveloped areas without DLPs 2,500/ha
Cadastre maps for neighbourhoods or undeveloped areas without DLPs 600/ha

Using the land area for new housing of 337 ha
2,623 ha x BGN 2,960 per ha for existing areas = BGN 7,760,000
337 x BGN 2,500 + 600 (cadastre) for new areas = BGN 1,050,000

4. Neighbourhood Local Economic Development Strategies

Local economic assessments, within the context of the Municipal Development Plans, for each of the large neighbourhoods and clusters of smaller neighbourhoods, identifying opportunities and comparative advantages for investment and employment, bringing together all stakeholders at community and municipality levels and including the private business centre.

total BGN **3,870,000**

Average of 15 person-months input per local strategy, including short initial international advisory support, at an average of BGN 3,000 per person month for 88 municipalities – BGN 44,006 per strategy.

5. Information system development and awareness-raising

a) Community self-surveys

Demographic/socio-economic surveys aiming for 100% household coverage and targeting the 100 neighbourhoods, implemented by community activists and volunteers, coordinated and facilitated by 50 mobile teams drawn from the target population, training for the 250 team members and community support for the field activities–aided by the satellite imagery for up-to-date detailed base mapping. Serving as information gathering for improved understanding of problems and opportunities, community self-awareness and programme performance tracking.

total BGN **668,000**

Training of 50 teams, 12 groups each of around 20 members – BGN 27,000
Survey methodology and management development including data processing – BGN 25,000
Office expenses and training materials, training of fieldwork volunteers and incentives – BGN 75,000
Central coordination and ongoing advisory services, monitoring – BGN 40,000
total for one series – BGN 167,000
Conducted for all target neighbourhoods four times over the 10 year period in years 1, 4, 7 and 10

b) Satellite imagery

Acquisition of sets of satellite imagery for each of the target neighbourhoods, as part of the proposed national coverage of major towns and cities, building on the Sofia experience and the arrangements being explored by Pazardzhik and Plovdiv municipalities (see also item 3).

total BGN **580,000**

Based on BGN 80/ha (at Jan 2005 informal quotation from supplier company plus 10% processing, plus 10% contingency – BGN 96/ha
3,000 ha coverage – BGN 288,000 for one set
2 sets during the 10 year programme period – BGN 576,000 rounded up to BGN 580,000.