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Mark Scheme (Results)
Summer 2007

GCSE B

GCSE Geography (1313) Paper 1F

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1313/1F Summer 2007

1. **a)** **i)** 60% or 60 1

ii) 40% or 40 1

iii) The proportion of population living in cities in LEDCs has risen (1)
e.g. between 1950 and 2000 it rose from 17% to 40% (1)
it grew most rapidly between 1970 and 2000 from 24% to 40% (1)
Credit any other correct change identified if supported by correct data (population % or dates). 2

b) **i)** (approx.) 8 million (1) (approx) doubled (1) by about 100% (1) 1
by <u>just</u> over 100% not <u>over</u> 100% not 7m to 15m

ii) High birth rate (1) inmigration / migration from surrounding rural areas / rural-urban migration (1) NOT just migration
2

c) An advantage of living in a city 1

d) Health care is better in urban areas = **pull**
There are not enough jobs in rural areas = **push**
There is a shortage of food in rural areas due to drought = **push** 3

Total 11

2. **a)** Houses made from rubbish / plastic / sheets/wood (1) on stilts (1)
next to river / water (1) not permanent (1) Likely to collapse (1)
dirty (1) litter / rubbish lying around (1) etc. N.B. Must be from the photograph
cramped/close together (1)
3

b) Lack of infrastructure (1) lack of waste collections (1) Lack of money/bad financial management (1)
public unwillingness to dispose of waste responsibly/lack of public awareness (1)

NB Credit **only** those responses linked to the resources 2

c) Unhygienic (1) creates a hazard (1) and smell (1)
may attract rats / vermin (1) may lead to disease (1)
increasing the death rate / infant mortality (1) 4
contamination of water(1) fire risk (1) blocking streets (1)
not sewage

Total 9

3. **a)** 65+ 1

b) More old people living on their own ✓
More marriages ending in divorce ✓ 2

c) Likely to be more waste created (1) although more recycling may occur (1) 1
Domestic waste (1)

Total 4

4. **a) i)** Household waste is waste produced in the home / garden (1) such as food waste, paper, glass / bottles, plastics, grass cuttings etc.
(any **two** for the second mark) NOT waste produced in the house(hold) 2

ii) Commercial waste is waste produced by shops / retailers offices/businesses/service industry (1) (not just 'industry') **not** just 'by commerce')
such as paper, boxes / packaging, waste food from restaurants etc.(any **two** for the second mark) 2

iii) 9 (%) or just under 9 (%) 1

iv) 11 (%) or just under 11 (%) 1

b) **i)** Composting is allowing organic / vegetable matter / garden waste to decay / decompose/break down/ rot/ biodegrade 1

ii)

The amount of household waste collected per person per year decreased by about 10kg.	✓
The amount of recycled household waste collected through kerbside schemes doubled.	
The amount of municipal waste that was household waste fell by 0.4 million tonnes.	✓
The proportion of municipal waste that was disposed of in landfill increased by 3%.	
The proportion of municipal waste that was incinerated with energy recovery decreased by 9%.	
The proportion of municipal waste that was recycled and composted increased by 3.4%.	✓

3

c)
Incineration produces greenhouse gases which can lead to global warming ~~more sunshine~~ .
Incineration is an expensive ~~a cheap~~ method of waste disposal.
Landfills can produce ~~oxygen~~ methane, a greenhouse gas. This gas can be used as an energy source.

Recycling provides raw materials for industry. It also uses ~~more~~ less energy.
In the USA, the rate of recycling was ~~five~~ six times higher in 2000 than in 1960.

5

Total 15

5.

a) i) 2000 1

ii) 2004 1

iii) Recycling rate has increased (1) from 7.6% to 18% or by about 10% (1)
Increased more rapidly or at an increasing rate (1) since 2002 (1) 2
NB. Data must be used for the 2nd mark

b) i) 3 1

ii) There has been an increase in the recycling rate (in virtually all areas) (1)
Greatest increase in Northern/E. Anglia (1)
Smallest increase in NW/Yorks and Humberside/SE/Sunderland (1)

Over half of the areas were below 10% in 1999,
whereas over half were above 10% in 2004 (1)
Only a few areas were above 15% in 1999,
Whereas only a few were below 15% in 2004 (1)
Credit identified changes for each region
1 mark for 4 regions, 2 marks for 8 regions 4

Total 9

6.

a) No mark for choice of policies.
Credit valid reasons for candidates' choice of two policies.

Criteria include:
- relevance to Sunderland's history of waste production (increasing at 3.5% per year until 2002/03 but then falling for the first time in 2003/04)
- relevance to Sunderland's changing population (slightly decreasing) and number of households served
- requirement for Sunderland to meet EU and UK government aims
- impact on the environment – local and national (e.g. pollution – visual, noise, atmospheric etc.), and global (e.g. global warming / climate change)
- health and safety issues
- cost and cost effectiveness

Some suggested advantages and disadvantages / possible reasons for choosing / rejecting each Option

Option 1 To reduce the amount of waste the Council has to handle	**Option 2** To increase the sorting of waste	**Option 3** To increase the incineration of waste	**Option 4** To reduce the use of landfill sites
ADVANTAGES / possible reasons for choosing the Option	ADVANTAGES / possible reasons for choosing the Option	ADVANTAGES / possible reasons for choosing the Option	ADVANTAGES / possible reasons for choosing the Option
- Up to 2003 waste was increasing by 3.5% a year [cf. 3% for UK] – but since 2003 the amount has decreased [2003 = 165,385 tonnes, 2004 = 157,954 tonnes] – we need to maintain that decrease - Reduces need for / frequency of kerbside collections and street cleaning - Reduces amount of sorting needed at MRFs - Reduces amount of landfill / incineration needed – vital as 89.7% of Sunderland's household waste went to landfill in 2005 - Cheaper for council – so may reduce council tax for householders - Encourages individual responsibility for sorting / recycling / composting - One compost bin reduces green waste by 170kg per year - Incineration is expensive as waste has to be sent 50kms to Cleveland – so if less waste is produced / sent, cost is reduced	- More efficient - Would make kerbside collections easier / cheaper - Reduces the need for council to sort waste at MRFs - Reduces amount of landfill / incineration needed – vital as 89.7% of Sunderland's household waste went to landfill in 2005 - Cheaper for council – so may reduce council tax for householders - Encourages individual responsibility for sorting / recycling / composting - Encourages households to take sorted / recycled waste to bring sites [only 2% currently] - Would help to maintain the fall in cost of waste collection [£26.10 in 1999, £24.61 in 2001 – below the national ave.]	- Building new modern incinerator in Sunderland means waste would not have to be sent 50kms to Cleveland, which is costly - Could handle 30% of Sunderland's waste by 2015 [only 0.003% in 2005] (Ave. for England in 2004 was almost 9%) - Burning solid waste is now more efficient due to modern technology - Energy recovered could provide heat for up to 5000 households. This would help to achieve Govt. target of recovering value from 67% of municipal waste by 2015, and reduce use of coal / oil / gas - Reduces waste by up to 75% in weight / 90% in volume, so less landfill is needed	- In 2005 Sunderland sent 89.7% of waste to 5 landfill sites [cf. only 72% for England in 2004] - Landfill is costly to council - £20 per tonne, and this is to increase due to UK Landfill Tax - Landfill sites are eyesores - They produce dust, smell - They pose health risks e.g. by attracting vermin - They pose environmental risks e.g. fires and toxic gases / chemicals - Greenhouse gases esp. methane can be generated, contributing to global warming - Leachate can get into water supply - Fewer landfill sites means more land for farming / more brownfield sites can be used for housing etc.

- By encouraging householders to recycle / compost waste, it would help to achieve Govt. targets for recycling / composting (33% by 2015) [in 2005 only 9.2% was recycled, and 1.1% composted] [cf. UK ave. of 19%] - Cheaper for householders as home compost bins only £15 from council (cf. £25-40 from garden centres)			
DISADVANTAGES / possible reasons for not choosing the Option	DISADVANTAGES / possible reasons for not choosing the Option	DISADVANTAGES / possible reasons for not choosing the Option	DISADVANTAGES / possible reasons for not choosing the Option
- Reducing waste might mean reduced collections which could require provision of more bring sites with additional costs - Difficult to monitor if compost bins are being used - Composting produces CO_2 which is a greenhouse gas contributing to global warming - unlikely to be achievable as decreasing population is offset by increasing number of households	- Some people might be unwilling to sort waste - Need to provide additional / separate bins for different types of waste, so extra cost - Still requires unsorted waste to be handled / processed, and incinerated / sent to landfill - May result in increased cost of kerbside collections, which is at present below the National ave. [£24.61 in 2001 cf. National ave. £30.35] - Sorting / taking waste to bring sites is only possible for car owners, which encourages car use / pollution etc.	- Building new incinerator in Sunderland would be very expensive / cost c.£30m - Incineration releases greenhouse gases which contribute to global warming - Gases / smoke can also contribute to acid rain - Gases / smoke can be toxic / cause cancer - Not all the waste is disposed of / ash is left - Safety precautions increases cost of incineration - Possible energy production for 5000 homes is only a very small amount [4% of households]	- Landfills can eventually provide reclaimed land for farming, housing etc., especially if done efficiently - Technology means gases such as methane can be monitored / controlled / used as an energy source, so there is no need to reduce landfilling - Landfills, despite their problems, are still preferable to incineration, which can affect more people e.g. because of smoke / air pollution - Landfills can be an efficient way of reclaiming derelict land to enable it to be used

Level 1 1-4 marks	**Only considers a few relevant criteria** Probably only uses obvious points from figure 11 **Makes simple points lifted from the Resource Booklet** Composting provides humus for garden soil Incineration results in a reduction in volume and weight of waste materials Landfill can eventually provide more land for agriculture **For the top mark, makes several simple points.**
Level 2 5-8 marks	**Considers a number of relevant criteria** May use more sources than figure 11 **Makes a number of simple points, but also includes at least one developed (D) point (**i.e. elaborates with more detail, or explanation, or makes comparisons). The 3.5% annual increase in waste handled up to 2002/03 means that Sunderland council must encourage householders to compost at home (D) The falling cost of kerbside waste collections (by £1.49 per household) means that Sunderland council should be able to afford to increase collections, and sorting at MRFs (D) The 90% volume reduction gained by incineration means that much less landfill is needed (D) Energy gained during incineration can reduce our use of coal, oil and gas, so that these will last longer, and the UK's reliance on them will be reduced (D) Landfill can be used to reclaim derelict or useless land such as quarries which can then be made productive e.g. for agriculture (D) **For the top mark:** **- Includes a few developed (D) points** **- Writes in sentences with a clear and structured style.** **Spells, punctuates and uses the rules of grammar with reasonable accuracy.**

b) No mark for choice of rejected policy.
Credit valid reasons for candidates' choice of rejected policy.

Criteria are the same as for a) above.

Level 1 1-2 marks	**Only considers a few relevant criteria** Probably only uses obvious points from figure 11 **Makes simple points lifted from the Resource Booklet** Composting produces carbon dioxide, a greenhouse gas Recycling at 'bring' sites can really only be done by car owners Incineration causes harmful atmospheric emissions Landfill creates smell, dust and vermin **For the top mark, makes several simple points.**
Level 2 3-4 marks	**Considers a number of relevant criteria** May use more sources than figure 11 **Makes a number of simple points, but also includes at least one developed (D) point (**i.e. elaborates with more detail, or explanation, or makes comparisons). Householders will never be able to recycle a significant amount of waste via bring sites – Sunderland only achieves 2% of its recycling is gained in this way (D) Solid and liquid residues from incineration create environmental pollution, the amount and impact of which is difficult to measure (D) Landfill is dangerous to human health because 'leachate' can get into the water supply (D) **For the top mark:** **- Includes a few developed (D) points** **- Writes in sentences with a clear and structured style.** **Spells, punctuates and uses the rules of grammar with reasonable accuracy.**

4

Total 12

Paper Total 60