

# Pension watch

*Briefings on social protection in older age*

## Study for the introduction of a universal social pension in Kenya

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## Abstract

Using the Kenya Integrated Household Budget Survey 2005/6, this paper investigates the potential impacts a social pension could have on poverty levels in Kenya. Taking into consideration multiple targeting methodologies, ages of eligibility and transfer levels it concludes that a social pension in Kenya would be affordable whilst reducing old age and national poverty rates.

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## Introduction

This study investigates the potential short-term impacts of a universal social pension scheme on poverty in Kenya. Older people account for just 5.4 per cent of the national population, but about one in four people live in a household with an older person. The vast majority of these households (90 per cent) are in rural areas, which are characterised by higher incidence and depth of poverty than urban centres. Moreover, in urban areas, older people represent a vulnerable group as they experience higher poverty rates than the rest of the urban population. A universal social pension in Kenya is, therefore, a potentially cost-effective tool for alleviating poverty, reducing vulnerability, and providing social protection. Based on nationally representative household budget survey data, we stimulated four cash transfer schemes: a universal old age pension and three different poverty-targeted old age grant programmes. We also considered three different levels of cash transfer and three different pension ages. The resulting scenarios are compared with relation to their impact on poverty amongst beneficiaries, their households and the general population.

The paper is structured as follows. Section 2 briefly explains the methodology and the data sources. Section 3 provides a descriptive overview of demographic and poverty characteristics of the Kenyan population in general and older people in particular. Section 4 investigates the impact of the proposed cash transfer mechanisms on poverty in rural and urban areas. The final section summarises our main findings.

## Data sources and technical notes

This study simulates the effect of three different cash transfer levels on poverty by considering three different age thresholds for eligibility and four targeting systems. We therefore compare 36 possible scenarios that allow us to assess the scope for introducing social pension schemes across alternative policy options. The analysis adopts a short-term approach under the hypothesis that household members do not change their behaviour and they spend and equally share the entire flow of cash transfer they receive. In this context, an increase in cash transfers for a household translates into an equivalent increase in its consumption. The estimated effect is, therefore, a “day-after analysis” as it does not consider the possibility that a transfer might lead to second-round effects, such as changes in labour market participation, consumption, saving and investment patterns, and in risk-taking behaviour of individual beneficiaries or through the changes in decision-making of recipient households. Cash transfers can reduce vulnerability to shocks and the likelihood of falling into poverty; they can also have an impact on decisions such as fertility choices, which may be affected by the perceived stability of household incomes. These potential effects are not included in the analysis. Our estimates, therefore, provide an approximation of short-term, minimum poverty impacts. If cash transfers are used, at least in part, for productive purposes or as safety nets against risk, the impact of a social pension system on poverty in the medium to longer term is likely to be greater.

The empirical analysis is based on the 2005/06 Kenya Integrated Household Budget Survey (KIHBS) conducted by the Kenya National Bureau of Statistics (KNBS) between May 2005 and May 2006. This survey collected detailed information on household and individual socio-economic and demographic characteristics and on food and non-food household expenditures. The sample consists of 13,430 households randomly selected across 861 rural and 482 urban clusters, and was designed to be representative of the Kenyan population as a whole and at provincial and district levels, and rural as well as urban areas.

In this report, monetary poverty is based on household consumption. Expenditure data are expected to be more stable and less affected by short-term fluctuations, recall and measurement errors than income data. Therefore, consumption is commonly regarded as a closer proxy of household welfare than income. Following Deaton and Zaidi (2002) and the approach of the Kenya National Bureau of Statistics (2007b) for poverty computation, household consumption includes expenditures on food, personal and medical care, transport and communication, domestic services, personal goods and recreation, clothing items, housing and rental costs, regular health treatments and medicines. Moreover, in order to take into account intra-household differences in needs, we transform total household expenditure into total expenditure per equivalent adult. Since regional price differences and seasonal fluctuations can affect nominal expenditure, household consumption is reported in median national prices by using temporal and regional price deflators.

Finally, this study examines the impact of a universal social pension on different poverty indicators. First, two dimensions of poverty are considered: the headcount poverty index which measures the incidence of poverty, and the headcount poverty gap index which measures its depth. Second, we use three definitions of poverty. We define as “absolute poor” or “poor” those individuals with a monthly household expenditure per equivalent adult that is not adequate to cover basic consumption needs (that is, people living below the basic needs poverty line). The terms “ultra poor” or “food poor” are used to describe those individuals with a monthly per equivalent adult food household expenditure that is insufficient to meet minimum nutritional requirements, defined as 2,250 kilocalories (kcal) per equivalent adult per day (that is, people living below the food poverty line). We define as “hardcore poor” those individuals with a monthly per equivalent adult total household expenditure that is below the food poverty line. As recommended by the Kenya National Bureau of Statistics (2007b), the food poverty line in monthly adult equivalent terms is set at 988KSh and 1,474KSh for rural and urban areas respectively, while the basic needs poverty line is set at 1,562KSh and 2,913KSh respectively.

## Demographic characteristics of Kenya's population in general and older people in particular

This section provides a brief description of the demographic structure and poverty profile of Kenya's population as a whole and of older people, covering those in the 60+, 65+ and 70+ age groups.

- Data on distribution of population by sex (Table 1) highlight that the female share of the population is slightly higher than the male share. This pattern is confirmed across the country, with the exception of the North Eastern and Rift Valley provinces, where the percentage of women as a share of the population is slightly lower than men.
- Sex composition of the population partially changes among the 60+ age group (Table 1). The proportion of women in this age group increases to 52.6 per cent in rural areas and goes down to 43.5 per cent in urban centres. In Nairobi, Kenya's capital city, women account for just 38.8 per cent of people aged 60 or over.<sup>1</sup>
- Overall, people aged 60 and 65 or over comprise 5.4 and 3.8 per cent of the population respectively (Table 1), while 41 per cent of Kenya's population are children (in the 0–14 age group). The share of the dependent population is higher in rural areas than in urban areas.<sup>2</sup> In rural areas, children (aged 0–14) account for 43 per cent of the population compared with 35 per cent in urban areas, and adults aged 60+ represent 6 and 2.5 per cent of the rural and urban population respectively.
- The Central (7.7 per cent) and Eastern (6.5 per cent) provinces have the highest proportion of people aged 60 or over, while Nairobi (2.2 per cent), Coast and Rift Valley provinces have the lowest proportion (both at 4.4 per cent). The “youngest” populations are in the North Eastern and the Western provinces, where 53 per cent and 44.6 per cent of the population respectively are in the 0–14 age group. Finally, the areas with the highest proportion of adults in the 15–59 age group are Nairobi (64 per cent) and Central (57 per cent) provinces.

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<sup>1</sup> Nairobi is home to 39 per cent of Kenya's urban population.

<sup>2</sup> The dependent population is defined as the age groups 0–14 and 65 years and above, while the population aged 15–64 years is classified as the working-age population (KNBS 2007b).

*Table 1: Structure of the population by sex, age, place of residence and region*

|                    | Area of residence |       |       | Provinces |         |       |       |               |        |             |       |
|--------------------|-------------------|-------|-------|-----------|---------|-------|-------|---------------|--------|-------------|-------|
|                    | Rural             | Urban | Kenya | Nairobi   | Central | Coast | East. | North Eastern | Nyanza | Rift Valley | West. |
| Men                | 49.1              | 49.8  | 49.3  | 49.8      | 47.5    | 48.5  | 49.3  | 51.4          | 47.8   | 51.2        | 48.7  |
| Women              | 50.9              | 50.2  | 50.7  | 50.2      | 52.5    | 51.5  | 50.8  | 48.6          | 52.2   | 48.8        | 51.3  |
| Children (0–14)    | 42.6              | 35.4  | 41.2  | 33.3      | 35.2    | 42.3  | 40.2  | 53.2          | 42.2   | 43.1        | 44.6  |
| Adults (15–59)     | 51.3              | 62.1  | 53.5  | 64.4      | 57.2    | 53.3  | 53.3  | 41.3          | 52.1   | 52.5        | 49.4  |
| Older people (60+) | 6.1               | 2.5   | 5.4   | 2.3       | 7.7     | 4.4   | 6.5   | 5.6           | 5.8    | 4.4         | 6.1   |
| Older people (65+) | 4.4               | 1.7   | 3.8   | 1.4       | 5.6     | 3.1   | 4.9   | 3.8           | 4.0    | 3.1         | 4.3   |
| Older men (60+)    | 47.4              | 56.5  | 48.2  | 61.2      | 43.8    | 47.0  | 47.1  | 55.1          | 46.8   | 50.6        | 49.5  |
| Older women (60+)  | 52.6              | 43.5  | 51.8  | 38.8      | 56.2    | 53.0  | 52.9  | 44.9          | 53.2   | 49.4        | 50.5  |

As Table 2 shows, Kenya's proportion of urban population, estimated at 20 per cent according to the KIHBS 2005/06, is in line with the Eastern Africa average (23 per cent), but low when compared with Western and Central Africa, where the urban population already stands at 44 and 41 per cent respectively.<sup>3</sup>

According to the KIHBS 2005/06, more than half of the population is concentrated in the most fertile and highly productive agricultural areas of the centre and west of the country (Table 2): Rift Valley (25 per cent), Nyanza (14 per cent), Western (12 per cent) and Nairobi (8 per cent) provinces account for 51 per cent of the population. About 17 per cent of the population lives in the most urbanised areas with the provinces of Nairobi (8 per cent of the total population) and Coast (9 per cent of the total population) home to 56 per cent of the urban population.

*Table 2: Percentage distribution of the population by sex*

|       | Area of residence |       | Provinces |         |       |         |               |        |             |         |
|-------|-------------------|-------|-----------|---------|-------|---------|---------------|--------|-------------|---------|
|       | Rural             | Urban | Nairobi   | Central | Coast | Eastern | North Eastern | Nyanza | Rift Valley | Western |
| Men   | 79.6              | 20.4  | 8.0       | 11.9    | 9.1   | 16.4    | 3.2           | 13.8   | 25.5        | 12.1    |
| Women | 80.1              | 19.9  | 7.8       | 12.8    | 9.4   | 16.4    | 3.0           | 14.6   | 23.7        | 12.4    |
| All   | 79.9              | 20.1  | 7.9       | 12.3    | 9.2   | 16.4    | 3.1           | 14.2   | 24.6        | 12.2    |

<sup>3</sup> United Nations Population Fund (UNFPA), 2007



Table 3: Percentage distribution of population by household composition

|   | Area of Residence |       |       | Provinces |         |       |         |               |        |             |         |
|---|-------------------|-------|-------|-----------|---------|-------|---------|---------------|--------|-------------|---------|
|   | Rural             | Urban | Kenya | Nairobi   | Central | Coast | Eastern | North Eastern | Nyanza | Rift Valley | Western |
| Male-headed                                 | 72.6              | 77.7  | 73.6  | 82.2      | 72.4    | 74.4  | 71.6    | 72.9          | 68.3   | 75.3        | 74.5    |
| Female-headed                               | 27.4              | 22.3  | 26.4  | 17.8      | 27.6    | 25.6  | 28.4    | 27.1          | 31.7   | 24.7        | 25.5    |
| Older person (60+) headed                   | 20.4              | 7.2   | 17.7  | 5.7       | 23.0    | 16.5  | 20.0    | 19.3          | 19.1   | 15.0        | 21.3    |
| Older person (65+) headed                   | 13.8              | 3.7   | 11.7  | 1.9       | 16.2    | 10.9  | 12.8    | 12.7          | 13.2   | 9.6         | 15.1    |
| Older person (70+) headed                   | 8.6               | 2.2   | 7.3   | 1.0       | 9.9     | 6.9   | 8.0     | 9.1           | 8.7    | 5.7         | 9.1     |
| With at least one child (0–14)              | 90.3              | 81.6  | 88.5  | 78        | 82.5    | 89.6  | 89.7    | 96.0          | 89.7   | 90.6        | 91.5    |
| With at least one child (7–14)              | 76.2              | 58.1  | 72.6  | 51.7      | 64.6    | 75.8  | 77.0    | 81.4          | 72.8   | 75.4        | 77.6    |
| 1–2 children                                | 31.6              | 44.8  | 34.2  | 47.6      | 45.3    | 26.6  | 34.7    | 23.2          | 36.7   | 31.2        | 25.6    |
| 3–5 children                                | 49.1              | 32.4  | 45.7  | 29.5      | 35.2    | 41.0  | 48.0    | 54.7          | 47.0   | 50.0        | 54.9    |
| 6 children or more                          | 9.6               | 4.4   | 8.6   | 1.0       | 1.9     | 21.9  | 7.1     | 18.2          | 6.0    | 9.4         | 11.1    |
| With older people (60+)                     | 25.9              | 10.9  | 22.9  | 8.3       | 26.4    | 23.9  | 29.2    | 29.9          | 21.3   | 20.5        | 24.4    |
| With older people (65+)                     | 19.3              | 7.2   | 16.8  | 4.7       | 19.7    | 18.1  | 22.3    | 21.9          | 15.0   | 14.6        | 18.8    |
| With older people (70+)                     | 13.1              | 5.2   | 11.5  | 3.0       | 13.4    | 12.6  | 16.1    | 17.0          | 10.2   | 9.9         | 11.6    |
| With older people (60+) and children (0–14) | 21.5              | 8.6   | 18.9  | 5.1       | 19.0    | 21.0  | 24.9    | 28.4          | 17.2   | 17.8        | 19.8    |
| With older people (65+) and children (0–14) | 15.9              | 5.8   | 13.9  | 2.9       | 14.2    | 16.0  | 18.8    | 20.5          | 11.8   | 12.9        | 15.1    |
| Without working-age members (15–59)         | 1.8               | 0.7   | 1.6   | 0.6       | 2.5     | 0.7   | 1.6     | 1.9           | 2.3    | 1.3         | 1.6     |

Table 4: Percentage distribution of households by household composition

|   | Area of Residence |       |       | Provinces |         |       |         |               |        |             |         |
|---|-------------------|-------|-------|-----------|---------|-------|---------|---------------|--------|-------------|---------|
|   | Rural             | Urban | Kenya | Nairobi   | Central | Coast | Eastern | North Eastern | Nyanza | Rift Valley | Western |
| Male-headed                                 | 69.1              | 76.7  | 71.0  | 80.1      | 69.2    | 74.1  | 69.0    | 69.0          | 63.6   | 73.7        | 69.3    |
| Female-headed                               | 30.9              | 23.3  | 29.0  | 19.9      | 30.8    | 25.9  | 31.0    | 31.0          | 36.4   | 26.3        | 30.7    |
| Older person (60+) headed                   | 22.7              | 6.3   | 18.5  | 5.0       | 24.1    | 14.9  | 22.0    | 22.0          | 21.5   | 15.4        | 24.9    |
| Older person (65+) headed                   | 16.2              | 3.5   | 13    | 2.3       | 18.0    | 9.9   | 15.4    | 15.4          | 15.7   | 10.3        | 18.1    |
| Older person (70+) headed                   | 10.8              | 2.3   | 8.6   | 1.3       | 12.0    | 6.1   | 10.5    | 10.5          | 10.8   | 6.6         | 11.8    |
| With at least one child (0–14)              | 79.3              | 63.8  | 75.3  | 62.7      | 68.2    | 72.5  | 78.6    | 78.6          | 78.9   | 77.8        | 80.4    |
| With at least one child (7–14)              | 62.8              | 39.9  | 57.0  | 36.7      | 49.7    | 55.2  | 64.0    | 64.0          | 60.6   | 59.6        | 63.7    |
| 1–2 children                                | 36.1              | 42.3  | 37.7  | 44.1      | 44.2    | 31.8  | 38.0    | 38.0          | 40.5   | 35.2        | 30.6    |
| 3–5 children                                | 38.1              | 19.9  | 33.5  | 18.1      | 23.2    | 31.0  | 36.6    | 36.6          | 35.4   | 37.7        | 44.1    |
| 6 children or more                          | 5.0               | 1.6   | 4.1   | 0.4       | 0.8     | 9.7   | 4.0     | 4.0           | 3.1    | 4.9         | 5.7     |
| With older people (60+)                     | 26.8              | 8.5   | 22.2  | 7.0       | 26.5    | 20.2  | 28.6    | 28.6          | 23.4   | 19.1        | 27.1    |
| With older people (65+)                     | 20.3              | 5.7   | 16.6  | 4.3       | 20.4    | 15.3  | 22.2    | 22.2          | 17.3   | 13.8        | 21.0    |
| With older people (70+)                     | 14.2              | 4.0   | 11.6  | 2.9       | 14.4    | 10.4  | 16.4    | 16.4          | 12.2   | 9.4         | 13.7    |
| With older people (60+) and children (0–14) | 17.7              | 5.1   | 14.5  | 3.0       | 13.6    | 15.0  | 19.6    | 19.6          | 15     | 14.1        | 17.0    |
| With older people (65+) and children (0–14) | 13.1              | 3.5   | 10.7  | 1.7       | 10.1    | 11.2  | 14.9    | 14.9          | 10.5   | 10.3        | 12.8    |
| Without working-age members (15–59)         | 5.3               | 1.7   | 4.4   | 1.4       | 6.9     | 2.3   | 4.6     | 4.6           | 6.3    | 3.3         | 5.5     |

Table 3 and Table 4 show the distribution of population and households by household composition. The data show a clear urban–rural divide in terms of household structure. In rural areas, about a quarter of the population (26 per cent) live with a person aged 60 or over and almost 27 per cent of households have at least one older person. In urban areas, these figures drop to 11 per cent and 8.5 per cent respectively. More than 16 per cent of rural household heads are aged 65 or over compared with 3.5 per cent of household heads in urban areas.

Moreover, as Table 4 shows, 79 per cent of rural households and 64 per cent of urban ones have at least one child in the 0–14 age group. In rural areas, 38 per cent of households have between 3 and 5 children compared with 20 per cent in urban areas. The majority of rural dwellers live in households with between 3 and 5 children (49 per cent) or more (9.6 per cent) (see Table 3), while in urban areas, 45 per cent of the population live in households with between 1 and 2 children, and only 4 per cent belong to families with more than 5 children.

Households in rural areas are much more likely to include children and older people than those in urban areas: for example, the percentage of households that have children below 15 and people over 65 is three times higher in rural areas (13 per cent) than in urban areas (3.5 per cent) (Table 4).

*Overall, rural households tend to be bigger, with more children and older people, and a higher dependency ratio than urban households (see Table 5*

*Table 5).* This pattern intertwines with economic differences across provinces. In Nairobi and Central provinces, the areas with the lowest poverty rates in the country, the average household size and number of children is lower than in other provinces. This similarity in household structure, however, is associated with a very different level of urbanisation: while Nairobi is a metropolitan area, only 10 per cent of the population in Central province live in urban areas. In contrast, North Eastern Province, which is the poorest province but which does not have the lowest urban population share, has the largest average household size (6.1 members) and highest number of children per household (3.2) in the country.

*Table 5: Household structure by place of residence and region*

|               | Average Household size | Average No. of children | Average No. of Older People (60+) | Dependency Ratio |
|---------------|------------------------|-------------------------|-----------------------------------|------------------|
| Rural         | 5.5                    | 2.3                     | 0.3                               | 1.1              |
| Urban         | 4.0                    | 1.4                     | 0.1                               | 0.6              |
| Nairobi       | 5.1                    | 2.1                     | 0.3                               | 1.0              |
| Central       | 3.8                    | 1.3                     | 0.1                               | 0.6              |
| Coast         | 4.4                    | 1.6                     | 0.3                               | 0.8              |
| Eastern       | 5.5                    | 2.3                     | 0.2                               | 0.9              |
| North Eastern | 5.5                    | 2.2                     | 0.4                               | 1.0              |
| Nyanza        | 6.1                    | 3.2                     | 0.3                               | 1.6              |
| Rift Valley   | 5.0                    | 2.1                     | 0.3                               | 1.0              |
| Western       | 5.3                    | 2.3                     | 0.2                               | 1.0              |

Table 6 shows some indicators of household structure by age group of the household head. Overall, when the household head is older, the dependency ratio tends to be higher than the national average, while the opposite is the case for household size and number of children. For example, household heads aged 65 or over live in households with an average size of 4.6 members compared with a national average of 5.1 members, while the dependency ratio of their households is 1.46 compared with the national average of one dependent member for each working-age person.

*Table 6: Household structure by age group of household head*

|                                      | Age of the household head |       |       |      |      |      |
|--------------------------------------|---------------------------|-------|-------|------|------|------|
|                                      | 20–29                     | 30–44 | 45–60 | 60+  | 65+  | 70+  |
| Average household size               | 3.3                       | 5.2   | 6.2   | 4.9  | 4.6  | 4.3  |
| Average number of children           | 1.4                       | 2.6   | 2.2   | 1.5  | 1.4  | 1.3  |
| Average number of older people (60+) | 0.02                      | 0.05  | 0.1   | 1.3  | 1.3  | 1.4  |
| Dependency ratio                     | 0.82                      | 1.16  | 0.66  | 1.13 | 1.46 | 1.51 |

Table 7 shows poverty rates and poverty gaps by place of residence. According to the KIHBS 2005/06, poor people account for 45.9 per cent of the population. Overall, poverty is more widespread and severe in rural areas. Monetary poverty affects about one in two rural people and one in three urban dwellers. The poverty gap, a measure of poverty depth, is 17.5 in rural areas and 11.4 in urban centres. Moreover, the rural–urban gap is particularly marked in terms of hardcore poverty, which indicates a condition of extreme poverty. Almost 22 per cent of the rural population are hardcore poor compared with 8.3 per cent of the urban population, and the rural hardcore poverty gap (6.9 per cent) is almost three times as high as the urban one (2.5 per cent).

This general pattern, however, masks important differences across the national territory. Absolute poverty rates at provincial level, for instance, range between 21 per cent in Nairobi and 74.4 per cent in North Eastern province. These provinces are also the richest and poorest respectively in all dimensions of monetary poverty. Also, the rural–urban gap changes across provinces, with the divide more marked in Coast and Eastern provinces but very narrow in Central, Western and North Eastern provinces, where urban and rural monetary poverty rates do not diverge much.

Data on poverty status by age and household composition (Table 6) suggest that dependent family members, such as children and older people, are vulnerable categories. Poverty rates tend to increase with the number of children in the household and are higher for children and for older people than for working-age adults. Living with older people increases the risk and depth of household poverty: individuals in households with older people experience higher poverty rates than national, rural and urban averages. About 56 per cent and 25 per cent of households with older people aged 60 and over are respectively absolute and hardcore poor, while at the national level, absolute and hardcore poverty rates fall to 46 and 19 per cent respectively (Table 7). Poverty rates increase further when households include children and older people.

Overall, while men and women are equally likely to be poor (Table 8), female-headed households tend to be poorer than male-headed ones. In contrast with this general pattern, Table 9 shows that, among older people, men (50–53 per cent) are slightly more at risk of absolute poverty than women (45–46 per cent), and incidence of food poverty is higher for men (44–46 per cent) than for women (41–45 per cent).

Table 7: Poverty rates and poverty gaps (percentage) by place of residence

|               | Absolute Poverty |      |       |             |      |       | Food Poverty |      |       |             |      |       | Hardcore Poverty |      |       |             |      |       |
|---------------|------------------|------|-------|-------------|------|-------|--------------|------|-------|-------------|------|-------|------------------|------|-------|-------------|------|-------|
|               | Poverty Rate     |      |       | Poverty Gap |      |       | Poverty Rate |      |       | Poverty Gap |      |       | Poverty Rate     |      |       | Poverty Gap |      |       |
|               | Rur.             | Urb. | Total | Rur.        | Urb. | Total | Rur.         | Urb. | Total | Rur.        | Urb. | Total | Rur.             | Urb. | Total | Rur.        | Urb. | Total |
| Provinces     |                  |      |       |             |      |       |              |      |       |             |      |       |                  |      |       |             |      |       |
| Nairobi       | -                | 21.3 | 21.3  | -           | 6.9  | 6.9   | -            | 29.6 | 29.6  | -           | 8.2  | 8.2   | -                | 4.2  | 4.2   | -           | 1.3  | 1.3   |
| Central       | 30.4             | 30.7 | 30.4  | 9.5         | 12.2 | 9.8   | 31.6         | 39.9 | 32.4  | 9.6         | 12.7 | 9.9   | 11.4             | 10.9 | 11.4  | 3.4         | 3.2  | 3.4   |
| Coast         | 69.7             | 40.3 | 58.3  | 26.6        | 11   | 20.6  | 63.5         | 49.2 | 57.9  | 21.9        | 15.8 | 19.5  | 35.4             | 5.2  | 23.7  | 10.5        | 1.4  | 7     |
| Eastern       | 50.9             | 33   | 49.9  | 17.8        | 11.3 | 17.4  | 45.2         | 43.3 | 45.1  | 15.9        | 14.1 | 15.8  | 22.5             | 9.7  | 21.8  | 6.8         | 1.9  | 6.6   |
| North Eastern | 73.9             | 76.8 | 74.4  | 32.9        | 37.6 | 33.7  | 66           | 70.4 | 66.7  | 24.9        | 33   | 26.3  | 46.3             | 39.8 | 45.2  | 15.2        | 15.2 | 15.2  |
| Nyanza        | 47.6             | 40.4 | 46.5  | 16.8        | 13   | 16.2  | 46.1         | 48.2 | 46.4  | 15.7        | 15.8 | 15.7  | 21.1             | 9.9  | 19.4  | 6           | 2    | 5.4   |
| Rift Valley   | 49               | 43   | 48.3  | 17.5        | 15.7 | 17.3  | 49.7         | 45.8 | 49.2  | 17.5        | 16   | 17.3  | 20.6             | 12.4 | 19.5  | 7.8         | 4.2  | 7.4   |
| Western       | 52.3             | 52.4 | 52.3  | 18.3        | 19.1 | 18.4  | 51.1         | 49.8 | 51    | 17.4        | 18.3 | 17.5  | 23.2             | 16.6 | 22.6  | 6.4         | 4.6  | 6.2   |
| Kenya         | 49.1             | 33.7 | 45.9  | 17.5        | 11.4 | 16.3  | 47.3         | 40.5 | 45.9  | 16.3        | 13.1 | 0.4   | 21.9             | 8.3  | 19.1  | 6.9         | 2.5  | 6     |

Table 8: Poverty rates and poverty gaps (percentage) by age, sex and household type

|  | Absolute Poverty |             | Food Poverty |             | Hardcore Poverty |             |
|--|------------------|-------------|--------------|-------------|------------------|-------------|
|  | Poverty Rate     | Poverty Gap | Poverty Rate | Poverty Gap | Poverty Rate     | Poverty Gap |
| <b>All individuals:</b>                                    |                  |             |              |             |                  |             |
| Children (0–14)  | 50.3             | 18.2        | 47.5         | 16.2        | 21.6             | 6.8         |
| Working-age adults (15–59)                                 | 42.7             | 14.9        | 45.1         | 15.2        | 17.2             | 5.4         |
| Older people (60+)   | 48.4             | 17.4        | 43.0         | 15.1        | 20.7             | 6.5         |
| Older people (65+)   | 48.9             | 17.4        | 42.7         | 15.1        | 20.5             | 6.5         |
| Older people (70+)   | 48.9             | 17.4        | 42.4         | 15.2        | 20.4             | 6.4         |
| Men  | 45.8             | 16.2        | 45.7         | 15.6        | 19.1             | 6.0         |
| Women  | 46.1             | 16.3        | 46.1         | 15.7        | 19.1             | 6.0         |
| <b>Individuals living in the following household type:</b> |                  |             |              |             |                  |             |
| With children (0–14)                                       | 48.8             | 17.5        | 48.2         | 16.5        | 20.8             | 6.6         |
| With school-age children (7–14)                            | 51.9             | 18.8        | 51.5         | 17.9        | 22.5             | 7.2         |
| With older people (60+)                                    | 56.4             | 21.1        | 52.8         | 19.3        | 25.9             | 8.4         |
| With older people (65+)                                    | 56.3             | 20.6        | 52.3         | 19.1        | 25.1             | 7.9         |
| With older people (70+)                                    | 56.6             | 21.1        | 52.5         | 19.6        | 25.7             | 8.2         |
| With children (0–14) older people (60+)                    | 61.3             | 23.6        | 58.0         | 21.4        | 29.4             | 9.6         |
| With children (0–14) and older people (65+)                | 61.2             | 22.8        | 57.7         | 21.2        | 28.0             | 9.0         |
| With 1 or 2 children                                       | 37.1             | 12.6        | 39.4         | 12.8        | 14.6             | 4.2         |
| With 3–5 children  | 54.9             | 19.7        | 52.5         | 52.5        | 23.4             | 7.5         |
| With 6 or more children                                    | 70.5             | 28.4        | 65.8         | 24.9        | 35.4             | 12.5        |
| With male-household head                                   | 44.7             | 15.5        | 44.6         | 14.8        | 17.9             | 5.4         |
| With female-household head                                 | 49.5             | 18.5        | 49.4         | 17.8        | 22.4             | 7.7         |
| Single-person households                                   | 10.7             | 3.1         | 9.3          | 3.6         | 2.8              | 0.9         |
| Without working-age members                                | 39.0             | 14.6        | 29.9         | 11.1        | 17.2             | 5.8         |

Table 7: Poverty rates and poverty gaps (percentage) by place of residence

|               | Absolute Poverty |      |       |             |      |       | Food Poverty |      |       |             |      |       | Hardcore Poverty |      |       |             |      |       |
|---------------|------------------|------|-------|-------------|------|-------|--------------|------|-------|-------------|------|-------|------------------|------|-------|-------------|------|-------|
|               | Poverty Rate     |      |       | Poverty Gap |      |       | Poverty Rate |      |       | Poverty Gap |      |       | Poverty Rate     |      |       | Poverty Gap |      |       |
|               | Rur.             | Urb. | Total | Rur.        | Urb. | Total | Rur.         | Urb. | Total | Rur.        | Urb. | Total | Rur.             | Urb. | Total | Rur.        | Urb. | Total |
| Provinces     |                  |      |       |             |      |       |              |      |       |             |      |       |                  |      |       |             |      |       |
| Nairobi       | -                | 21.3 | 21.3  | -           | 6.9  | 6.9   | -            | 29.6 | 29.6  | -           | 8.2  | 8.2   | -                | 4.2  | 4.2   | -           | 1.3  | 1.3   |
| Central       | 30.4             | 30.7 | 30.4  | 9.5         | 12.2 | 9.8   | 31.6         | 39.9 | 32.4  | 9.6         | 12.7 | 9.9   | 11.4             | 10.9 | 11.4  | 3.4         | 3.2  | 3.4   |
| Coast         | 69.7             | 40.3 | 58.3  | 26.6        | 11   | 20.6  | 63.5         | 49.2 | 57.9  | 21.9        | 15.8 | 19.5  | 35.4             | 5.2  | 23.7  | 10.5        | 1.4  | 7     |
| Eastern       | 50.9             | 33   | 49.9  | 17.8        | 11.3 | 17.4  | 45.2         | 43.3 | 45.1  | 15.9        | 14.1 | 15.8  | 22.5             | 9.7  | 21.8  | 6.8         | 1.9  | 6.6   |
| North Eastern | 73.9             | 76.8 | 74.4  | 32.9        | 37.6 | 33.7  | 66           | 70.4 | 66.7  | 24.9        | 33   | 26.3  | 46.3             | 39.8 | 45.2  | 15.2        | 15.2 | 15.2  |
| Nyanza        | 47.6             | 40.4 | 46.5  | 16.8        | 13   | 16.2  | 46.1         | 48.2 | 46.4  | 15.7        | 15.8 | 15.7  | 21.1             | 9.9  | 19.4  | 6           | 2    | 5.4   |
| Rift Valley   | 49               | 43   | 48.3  | 17.5        | 15.7 | 17.3  | 49.7         | 45.8 | 49.2  | 17.5        | 16   | 17.3  | 20.6             | 12.4 | 19.5  | 7.8         | 4.2  | 7.4   |
| Western       | 52.3             | 52.4 | 52.3  | 18.3        | 19.1 | 18.4  | 51.1         | 49.8 | 51    | 17.4        | 18.3 | 17.5  | 23.2             | 16.6 | 22.6  | 6.4         | 4.6  | 6.2   |
| Kenya         | 49.1             | 33.7 | 45.9  | 17.5        | 11.4 | 16.3  | 47.3         | 40.5 | 45.9  | 16.3        | 13.1 | 0.4   | 21.9             | 8.3  | 19.1  | 6.9         | 2.5  | 6     |

Table 8: Poverty rates and poverty gaps (percentage) by age, sex and household type

|  | Absolute Poverty |             | Food Poverty |             | Hardcore Poverty |             |
|--|------------------|-------------|--------------|-------------|------------------|-------------|
|  | Poverty Rate     | Poverty Gap | Poverty Rate | Poverty Gap | Poverty Rate     | Poverty Gap |
| <b>All individuals:</b>                                    |                  |             |              |             |                  |             |
| Children (0–14)  | 50.3             | 18.2        | 47.5         | 16.2        | 21.6             | 6.8         |
| Working-age adults (15–59)                                 | 42.7             | 14.9        | 45.1         | 15.2        | 17.2             | 5.4         |
| Older people (60+)   | 48.4             | 17.4        | 43.0         | 15.1        | 20.7             | 6.5         |
| Older people (65+)   | 48.9             | 17.4        | 42.7         | 15.1        | 20.5             | 6.5         |
| Older people (70+)   | 48.9             | 17.4        | 42.4         | 15.2        | 20.4             | 6.4         |
| Men  | 45.8             | 16.2        | 45.7         | 15.6        | 19.1             | 6.0         |
| Women  | 46.1             | 16.3        | 46.1         | 15.7        | 19.1             | 6.0         |
| <b>Individuals living in the following household type:</b> |                  |             |              |             |                  |             |
| With children (0–14)                                       | 48.8             | 17.5        | 48.2         | 16.5        | 20.8             | 6.6         |
| With school-age children (7–14)                            | 51.9             | 18.8        | 51.5         | 17.9        | 22.5             | 7.2         |
| With older people (60+)                                    | 56.4             | 21.1        | 52.8         | 19.3        | 25.9             | 8.4         |
| With older people (65+)                                    | 56.3             | 20.6        | 52.3         | 19.1        | 25.1             | 7.9         |
| With older people (70+)                                    | 56.6             | 21.1        | 52.5         | 19.6        | 25.7             | 8.2         |
| With children (0–14) older people (60+)                    | 61.3             | 23.6        | 58.0         | 21.4        | 29.4             | 9.6         |
| With children (0–14) and older people (65+)                | 61.2             | 22.8        | 57.7         | 21.2        | 28.0             | 9.0         |
| With 1 or 2 children                                       | 37.1             | 12.6        | 39.4         | 12.8        | 14.6             | 4.2         |
| With 3–5 children  | 54.9             | 19.7        | 52.5         | 52.5        | 23.4             | 7.5         |
| With 6 or more children                                    | 70.5             | 28.4        | 65.8         | 24.9        | 35.4             | 12.5        |
| With male-household head                                   | 44.7             | 15.5        | 44.6         | 14.8        | 17.9             | 5.4         |
| With female-household head                                 | 49.5             | 18.5        | 49.4         | 17.8        | 22.4             | 7.7         |
| Single-person households                                   | 10.7             | 3.1         | 9.3          | 3.6         | 2.8              | 0.9         |
| Without working-age members                                | 39.0             | 14.6        | 29.9         | 11.1        | 17.2             | 5.8         |



*Table 9: Poverty rates of older people by sex (official scales of equivalence), percentage*

|                  |                  | Male | Female | All  |
|------------------|------------------|------|--------|------|
| Older people 60+ | Absolute Poverty | 50.3 | 46.6   | 48.4 |
|                  | Food poverty     | 44.4 | 41.7   | 43.0 |
|                  | Hardcore poverty | 20.6 | 20.7   | 20.7 |
| Older people 65+ | Absolute Poverty | 51.5 | 46.4   | 48.9 |
|                  | Food poverty     | 44.6 | 40.8   | 42.7 |
|                  | Hardcore poverty | 21.1 | 19.9   | 20.5 |
| Older people 70+ | Absolute Poverty | 53.2 | 44.8   | 48.9 |
|                  | Food poverty     | 45.9 | 39.1   | 42.4 |
|                  | Hardcore poverty | 21.7 | 19.2   | 20.4 |

The poverty status of older people by place of residence (Table 10 and Table 11) follows the general poverty profile of the whole population, with higher rates in rural areas and important differences across provinces. Data also suggest that older people in urban areas represent a vulnerable category: the absolute poverty rate within this group (45 per cent) is 12 percentage points higher than the total urban poverty rate (33 per cent). With a hardcore poverty rate of 11–12 per cent, older people in urban areas are also more likely to find themselves in a situation of acute destitution than the rest of the urban population. Moreover, their poverty conditions tend to be deeper with an average poverty gap<sup>4</sup> higher than urban averages for other age groups. In contrast, in rural areas, poverty rates for older people are in line with rural averages.

The economic status of older people varies across provinces and there are no clear signs of correlation between age and poverty. In Central and Eastern provinces, older people have similar poverty rates to the rest of the population; in Coast, North Eastern, Nyanza and Rift Valley provinces, they are more likely to be poor, while in Western province, older people have lower poverty rates than the total population. Heterogeneity of poverty conditions among older people is even more marked if we consider data at district level (see Appendix 1).

*Table 10: Poverty rates and gaps (percentage) among older people (60+) by area of residence (official scales of equivalence)*

|                 | Older people 60+ |      |          |             |      |          |
|-----------------|------------------|------|----------|-------------|------|----------|
|                 | Poverty rate     |      |          | Poverty gap |      |          |
|                 | Absolute         | Food | Hardcore | Absolute    | Food | Hardcore |
| <b>Area</b>     |                  |      |          |             |      |          |
| Rural           | 48.8             | 42.8 | 21.5     | 17.4        | 15.0 | 6.8      |
| Urban           | 44.6             | 44.9 | 12.9     | 16.8        | 16.2 | 3.9      |
| <b>Province</b> |                  |      |          |             |      |          |
| Nairobi         | 22.5             | 26.5 | 0.0      | 5.7         | 5.9  | 0.0      |
| Central         | 31.4             | 27.9 | 10.5     | 9.5         | 9.5  | 3.4      |
| Coast           | 64.3             | 63.4 | 31.0     | 25.1        | 19.9 | 8.2      |
| Eastern         | 52.4             | 42.0 | 20.8     | 17.5        | 14.7 | 6.4      |
| North Eastern   | 80.4             | 73.5 | 45.9     | 37.1        | 27.1 | 15.2     |
| Nyanza          | 51.4             | 43.8 | 25.1     | 19.5        | 16.2 | 7.2      |
| Rift Valley     | 53.3             | 48.5 | 23.5     | 19.8        | 18.0 | 8.3      |
| Western         | 46.2             | 42.5 | 19.4     | 16.6        | 15.4 | 6.5      |

<sup>4</sup> The poverty gap index measures the average difference between the expenditure of the poor and the poverty line.

*Table 11: Poverty rates and gaps (percentage) among older people (65+) by area of residence (official scales of equivalence)*

|                 | Older people 65+ |      |          |             |      |          |
|-----------------|------------------|------|----------|-------------|------|----------|
|                 | Poverty rate     |      |          | Poverty gap |      |          |
|                 | Absolute         | Food | Hardcore | Absolute    | Food | Hardcore |
| <b>Area</b>     |                  |      |          |             |      |          |
| Rural           | 49.6             | 42.7 | 21.4     | 17.5        | 15.1 | 6.8      |
| Urban           | 42.1             | 42.5 | 11.2     | 16.1        | 15.5 | 3.5      |
| <b>Province</b> |                  |      |          |             |      |          |
| Nairobi         | 23.4             | 28.6 | 0.0      | 7.4         | 6.9  | 0.0      |
| Central         | 30.7             | 27.0 | 10.3     | 9.4         | 8.8  | 3.3      |
| Coast           | 64.1             | 61.0 | 29.3     | 24.1        | 20.1 | 7.7      |
| Eastern         | 52.9             | 41.9 | 21.3     | 17.6        | 14.6 | 6.6      |
| North Eastern   | 79.0             | 72.7 | 46.5     | 36.4        | 26.9 | 14.5     |
| Nyanza          | 53.6             | 45.2 | 26.2     | 20.3        | 16.6 | 7.6      |
| Rift Valley     | 52.1             | 47.2 | 22.9     | 19.2        | 18.2 | 8.2      |
| Western         | 49.9             | 43.6 | 18.7     | 17.4        | 15.6 | 6.4      |

In terms of expenditure distribution, the Gini coefficients (see Table 12) highlight that rural areas (0.38) have a lower level of inequality than urban areas (0.447). Similarly, the most urbanised provinces, such as Nairobi and Coast, have higher Gini coefficients than other provinces.

*Table 12: Inequality across areas: Gini index*

|                          | Gini Index |
|--------------------------|------------|
| <b>Area of residence</b> |            |
| Rural                    | 0.380      |
| Urban                    | 0.447      |
| Kenya                    | 0.470      |
| <b>Provinces</b>         |            |
| Nairobi                  | 0.474      |
| Central                  | 0.381      |
| Coast                    | 0.453      |
| Eastern                  | 0.415      |
| North Eastern            | 0.380      |
| Nyanza                   | 0.388      |
| Rift Valley              | 0.447      |
| Western                  | 0.377      |

Older people are less likely than other adult members to bring income sources to the household budget. Therefore, households with older people might be less likely to belong to the top expenditure deciles. Indeed, the proportion of individuals living in households with older people (Table 14) is negatively correlated with expenditure deciles, declining from 33 per cent in the bottom decile to 10 per cent in the top one. This pattern is found in both urban and rural areas, but it is more marked in urban centres.

Data on the proportion of older people by expenditure decile (Table 13) also confirm that the link between economic status and age is not distinctly delineated: whereas in urban areas, the proportion of individuals aged 60 and over increases along expenditure deciles, in rural areas, older people comprise around 6 per cent of the population, and this does not vary significantly across deciles.

*Table 13: Percentage of older people (60+) by expenditure decile and area of residence*

| Deciles | Rural | Urban | Kenya |
|---------|-------|-------|-------|
| 1       | 6.3   | 2.9   | 6.2   |
| 2       | 6.0   | 6.7   | 6.0   |
| 3       | 6.4   | 3.9   | 6.3   |
| 4       | 5.8   | 4.5   | 5.8   |
| 5       | 6.6   | 3.5   | 6.2   |
| 6       | 6.5   | 3.1   | 6.0   |
| 7       | 5.7   | 3.1   | 5.2   |
| 8       | 6.0   | 1.7   | 5.0   |
| 9       | 5.2   | 1.9   | 3.7   |
| 10      | 5.7   | 2.4   | 3.4   |

*Table 14: Percentage of individuals living in households with older people (60+) by expenditure decile and area of residence*

| Deciles | Rural | Urban | Kenya |
|---------|-------|-------|-------|
| 1       | 33.4  | 20.1  | 33.0  |
| 2       | 29.8  | 43.9  | 30.2  |
| 3       | 31.1  | 20.6  | 30.4  |
| 4       | 26.3  | 23.1  | 26.1  |
| 5       | 27.3  | 17.1  | 26.1  |
| 6       | 25.2  | 16.6  | 24.1  |
| 7       | 20.4  | 10.9  | 18.5  |
| 8       | 20.2  | 6.9   | 17.0  |
| 9       | 16.1  | 7.7   | 12.2  |
| 10      | 15.1  | 8.1   | 10.4  |

## The potential impacts of different old age grant schemes on poverty

### Description of the simulated scenarios

This section examines the potential impacts of different old age grant schemes on poverty in Kenya by simulating scenarios based on the KIHBS 2005/06. The scenarios differ according to three criteria:

1. *Eligibility for old age pensions*: age of eligibility to receive pension benefits is set at 60, 65 and 70 years.
2. *Level of transfers*:
  - **Transfer 1**: A value of 1,000KSh per month in 2010 prices. In 2007/08, the Kenyan government implemented a pilot pension programme, the Older Persons Cash Transfer (OPCT), with transfer rates of 1,000KSh per month. This scenario simulates the poverty impact of an old age pension scheme with the same grant as in the pilot programme OPCT with no inflation adjustment.
  - **Transfer 2**: A value of 1,500KSh per month in 2010 prices, which corresponds to the current amount of the OPCT.
  - **Transfer 3**: A value of 2,000KSh per month in 2010 prices, which corresponds to the current amount of the Orphans and Vulnerable Children Cash Transfer (OVC-CT) scheme.
3. *Targeting criteria*: the micro-simulations consider four possible pension schemes.
  - **Scenario 1 – Universal pensions**: old age grants are assigned to all individuals who have reached the pension age (60, 65 or 70).<sup>5</sup>
  - **Scenario 2 – Poverty targeted – poorest 21 per cent of households with an older person**: old age grants should be assigned to households with individuals who have

<sup>5</sup> A pension scheme that provides for grants to all people who have reached the pension age and do not receive other pensions could reduce fiscal cost while at the same time having a similar effect on poverty as a universal social pension. However, according to KIHBS data, the percentage of households that received a pension in 2005 was very low (1.7 per cent). Thus, this targeting scheme would increase administrative costs for means-test, but the resulting reduction in total disbursements would be insignificant.

reached the pension age and belong to the poorest quintile. Since perfect targeting is not possible, we simulate an exclusion error as shown in Table 15.

- **Scenario 3 – Poverty targeted – poorest 51 per cent of households with an older person:** old age grants should be assigned to households with individuals who have reached the pension age and belong to the poorest 5 deciles. In this case, we simulate an exclusion error (Table 15) which mirrors that found in the second phase of the Orphans and Vulnerable Children Cash Transfer (OVC-CT/2).<sup>6</sup>
- **Scenario 4 – Poverty-targeted - with an exclusion error of 43 per cent and no inclusion error:** old age grants are assigned to those individuals who have reached the pension age and belong to the poorest 5 deciles. We randomly select and exclude 43 per cent of eligible households as happened in the OVC-CT/2 programme. In fact, some 43 per cent of the poorest households with orphans and vulnerable children remain outside the programme (Ward et al., 2010). However, unlike in the OVC-CT/2, this scenario does not consider any inclusion error and, therefore, it simulates an overall coverage rate of 28 per cent of all households with older people.

The combination of these possible alternatives produces 36 different scenarios (3 eligible ages x 3 cash transfer amounts x 4 targeted populations), which provide a broad overview of various policy options and their scope for poverty reduction.

Finally, the information is presented with reference to the absolute poverty rate, the absolute poverty gap, the hardcore poverty rate and the hardcore poverty gap, while the impacts of old age grants have been simulated on the following groups: older people, beneficiary households, and the entire population. We mainly discuss impacts on poverty at national level and by area of residence (rural and urban), while the detailed effects at district level are reported in Appendices 2, 3, 4 and 5.

## The potential impacts of a universal old age grant on poverty reduction in Kenya

### Impact on poverty among older people and beneficiary households

The direct beneficiaries of a universal old age grant are people who have reached the pension age and their households. According to data from the 2009 Kenya Population and Housing Census, if the pension age for a universal old age grant was set at 60 years, 1.9 million people would receive it. In 2005/06, people living in a potential recipient household accounted for 23 per cent of the national population. Therefore, under the assumption that in the past five years Kenya's population has maintained the same age structure, this universal pension could have reached 8.9 million people in recipient households. Table 16 provides a rough estimate of potential costs of a universal old age grant in the various scenarios we consider. Note that we include only direct disbursements and do not take into account any other material, labour and administrative costs. Depending on the pension scheme, in 2010, government costs for the payment of old age pensions would have ranged from 0.4 to 1.8 per cent of total gross domestic product (GDP). Interestingly, a transfer of 1,000KSh to all people aged 60 or over, a transfer of 1,500KSh to all people aged 65 or over, and a transfer of 2,000KSh to all people aged 70 or over would require a similar amount of disbursements (0.9–1 per cent of GDP). Therefore, if the Kenyan government evaluated the possibility of introducing one of these three pension schemes, their potential poverty impact could be a key determinant of choice, as the differences in terms of cost are almost negligible.

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<sup>6</sup> Ward et al., 2010. The second phase of the OVC-CT programme covered 51 per cent of eligible OVC households.

*Table 15: Predicted programme coverage (percentage) under scenarios 2, 3 and 4 of households with older people by income quintile*

| Income Quintile | Scenario 2         |                  | Scenario 3         |                  | Scenario 4         |                  |
|-----------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|
|                 | Predicted coverage | Perfect coverage | Predicted coverage | Perfect coverage | Predicted coverage | Perfect coverage |
| 1               | 26                 | 100              | 61                 | 100              | 57                 | 100              |
| 2               | 26                 | 100              | 61                 | 100              | 57                 | 100              |
| 3               | 26                 | 0                | 59                 | 100              | 57                 | 100              |
| 4               | 26                 | 0                | 59                 | 100              | 57                 | 100              |
| 5               | 21                 | 0                | 61                 | 100              | 57                 | 100              |
| 6               | 21                 | 0                | 61                 | 0                | 0                  | 0                |
| 7               | 17                 | 0                | 41                 | 0                | 0                  | 0                |
| 8               | 17                 | 0                | 41                 | 0                | 0                  | 0                |
| 9               | 15                 | 0                | 33                 | 0                | 0                  | 0                |
| 10              | 15                 | 0                | 33                 | 0                | 0                  | 0                |
| All             | 21                 | 20               | 51                 | 50               | 28.5               | 50               |

*Table 16: Potential costs of a universal old age grant*

|                    |                                 | Total annual transfers in 2010KSh, millions |        |        | Total annual transfers as a share of GDP in 2010 (%) |       |       |
|--------------------|---------------------------------|---|--------|--------|--|-------|-------|
|                    |                                 | Transfer per month (KSh)                    |        |        |  |       |       |
|                    |                                 | 1,000                                       | 1,500  | 2,000  | 1,000  | 1,500 | 2,000 |
| Age of eligibility | Number of people of pension age |   |        |        |  |       |       |
| 60                 | 1,926,051                       | 22,947                                      | 34,420 | 45,893 | 0.9  | 1.4   | 1.8   |
| 65                 | 1,332,273                       | 16,285                                      | 24,428 | 32,571 | 0.6  | 1.0   | 1.3   |
| 70                 | 941,510                         | 11,019                                      | 16,529 | 22,039 | 0.4  | 0.7   | 0.9   |

Note: GDP data from International Monetary Fund, World Economic Outlook Database, October 2010. Population data from 2009 Kenya Population and Housing Census, Kenya National Bureau of Statistics

A look at the impacts on poverty among direct beneficiaries can give an initial impression of the scope for a universal pension.

Table 17 and Table 18 show the potential relative reductions in hardcore and absolute poverty, in terms of incidence and depth, among recipients of a universal pension and their families. A universal old age grant could considerably contribute to reducing poverty among older people. A transfer of 1,000KSh per month could decrease the incidence of poverty among older people by 23 per cent, almost doubling to 44 per cent if the grant were set at 2,000KSh. A cash transfer of 2,000KSh to all people aged 70 or over would lead to a reduction in the absolute poverty rate by 23 per cent, but its effect on depth of poverty and hardcore poverty is smaller. For instance, the hardcore poverty rate, in this case, would decrease by 34 per cent compared with a decline of 40 per cent based on a 1,000KSh grant to all people aged 60 or over. This gap widens further in terms of the hardcore poverty gap.

For each level of transfer and pension age, the introduction of a universal social pension would represent a pro-poor measure. The impact on poverty depth and on an extreme form of deprivation, such as hardcore poverty, is greater than the impact on absolute poverty incidence. With a transfer of 1,500KSh per month to all people aged 60 or over, for instance, the absolute poverty rate of this age

group decreases by 34 per cent; the poverty gap index falls by 49 per cent, and the hardcore poverty rate and hardcore poverty gap drop by 55 and 66 per cent respectively.

*Table 17: Percentage reduction in absolute and hardcore poverty rates and poverty gaps of people aged 60+ after a universal pension*

|              |          | Age of eligibility | Transfer 1 | Transfer 2 | Transfer 3 |
|--------------|----------|--------------------|------------|------------|------------|
| Poverty rate | Absolute | 60                 | 23.1       | 34.1       | 44.1       |
|              | Hardcore |                    | 39.8       | 55.3       | 65.1       |
|              | Absolute | 65                 | 16.9       | 25.8       | 33.8       |
|              | Hardcore |                    | 29.4       | 40.9       | 49.1       |
|              | Absolute | 70                 | 12.3       | 18.7       | 23.7       |
|              | Hardcore |                    | 21.0       | 27.6       | 34.3       |
| Poverty gap  | Absolute | 60                 | 36.2       | 48.7       | 58.0       |
|              | Hardcore |                    | 52.9       | 65.8       | 74.5       |
|              | Absolute | 65                 | 27.7       | 37.4       | 44.6       |
|              | Hardcore |                    | 40.3       | 50.5       | 57.8       |
|              | Absolute | 70                 | 20.1       | 27.1       | 32.3       |
|              | Hardcore |                    | 28.6       | 35.6       | 40.7       |

To the extent that household income sources are equally distributed, pension transfers can benefit all members of recipient households. Table 18 reports percentage changes in poverty rates of people living in a household with at least one person aged 60 or over. The impact on poverty reduction is smaller but still considerable, suggesting that the impact of universal pensions goes beyond their effect on the older people who are the direct recipients.

The introduction of an old age pension could also reduce child poverty, although to a lesser extent (see Figure 1). In contrast, a universal old age grant could considerably improve economic conditions of an important vulnerable group: people living in a household with children under 15 and with older members. More than 61 per cent of people in this group, which accounts for almost one-fifth of Kenya's population, are poor compared with the national poverty rate of 46 per cent. A universal monthly pension of 1,500KSh to all people aged 65 and over could reduce poverty incidence among this group by 13 per cent. The impact would increase to 18 per cent if the pension rate were set at 2,000KSh.

*Table 18: Percentage reduction in absolute and hardcore poverty rates and poverty gaps of people living in a household with at least one person aged 60+ after a universal pension*

|              |          | Age of eligibility | Transfer 1 | Transfer 2 | Transfer 3 |
|--------------|----------|--------------------|------------|------------|------------|
| Poverty rate | Absolute | 60                 | 14.3       | 21.7       | 29.4       |
|              | Hardcore |                    | 27.3       | 40.4       | 50.8       |
|              | Absolute | 65                 | 10.0       | 15.6       | 21.3       |
|              | Hardcore |                    | 19.5       | 29.8       | 36.9       |
|              | Absolute | 70                 | 6.6        | 10.1       | 13.4       |
|              | Hardcore |                    | 13.1       | 18.5       | 24.3       |
| Poverty gap  | Absolute | 60                 | 25.1       | 35.4       | 44.1       |
|              | Hardcore |                    | 39.9       | 53.1       | 63.0       |
|              | Absolute | 65                 | 18.1       | 25.5       | 31.8       |
|              | Hardcore |                    | 28.2       | 37.6       | 44.6       |
|              | Absolute | 70                 | 12.2       | 17.1       | 21.4       |
|              | Hardcore |                    | 18.9       | 25.1       | 30.0       |

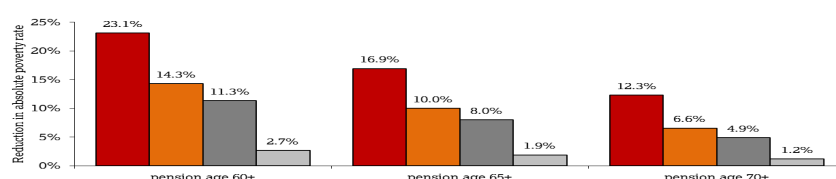
## Impact on poverty among the overall population

Our findings suggest that a universal pension could have an important impact in terms of reducing poverty, not only among direct recipients but the broader population. Moreover, the poverty reduction impact is greater for households experiencing the most severe forms and dimensions of deprivation such as hardcore poverty and greater depth of poverty. Figures 1 and 2 show the impact on poverty rates for the general population after the introduction of a universal old age pension. Table 18 reports poverty reduction impacts as a percentage and in percentage points. A transfer of 2,000KSh per month to all people aged 60 or over, for instance, could produce a decline in the overall absolute poverty headcount by almost 9 per cent, and a reduction in the hardcore poverty rate that is almost double (about 17 per cent) (Figure 2). In absolute terms, these changes correspond to a decrease of 4 and 3.2 percentage points respectively. Under the same scenario, our simulations find a decline in the poverty gap index by 14 per cent (corresponding to 2.3 percentage points) and a reduction in the hardcore poverty gap index by 21 per cent (corresponding to 1.3 percentage points).

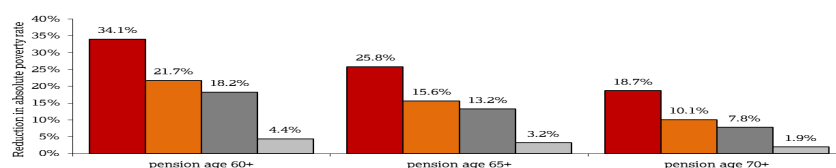
How much do pension age and the level of transfer matter to poverty reduction? The impact of a universal pension on poverty is very sensitive to changes in the pension age and the amount of the cash transfer. Absolute and hardcore poverty rates have a similar and high sensitivity to the choice of eligible age: for each level of transfer, the absolute and relative impact on poverty rates and gaps nearly halves when the eligibility age rises from 60 to 70 years. Also, the level of transfers has a crucial role in shaping the poverty impact of pensions. As shown in Figures 2 and 3, when the transfer rate increases from 1,000KSh (transfer 1) to 2,000KSh per month (transfer 3), the relative impacts on poverty in terms of hardcore and absolute poverty rates are almost doubled.

*Figure 1 (A, B, C): Percentage reduction in poverty after a universal pension across different population groups*

### *A: Transfer 1 (1,000KSh a month)*



### *B: Transfer 2 (1,500KSh a month)*



### *C: Transfer 3 (2,000KSh a month)*

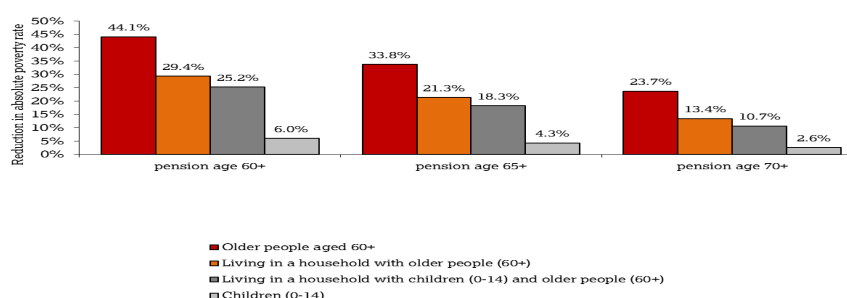
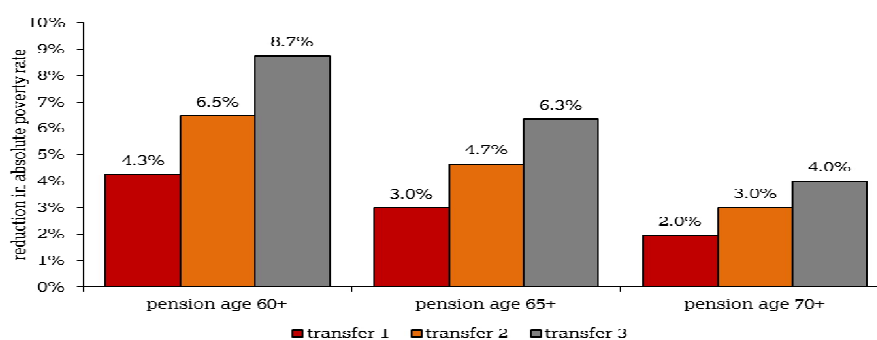


Figure 2 (A, B): Percentage reduction in overall poverty rates after universal pensions

A: Percentage reduction in absolute poverty rate after universal pensions



B: Percentage reduction in hardcore poverty rate after universal pensions

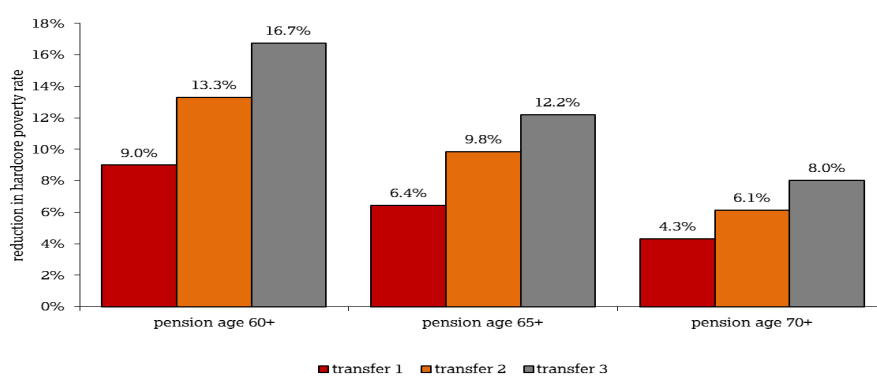
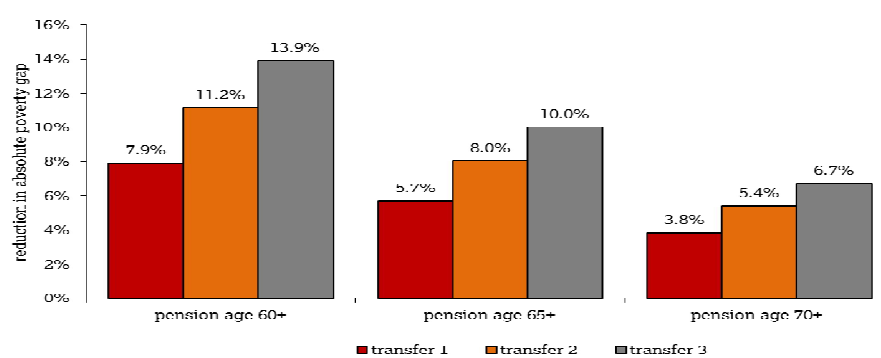
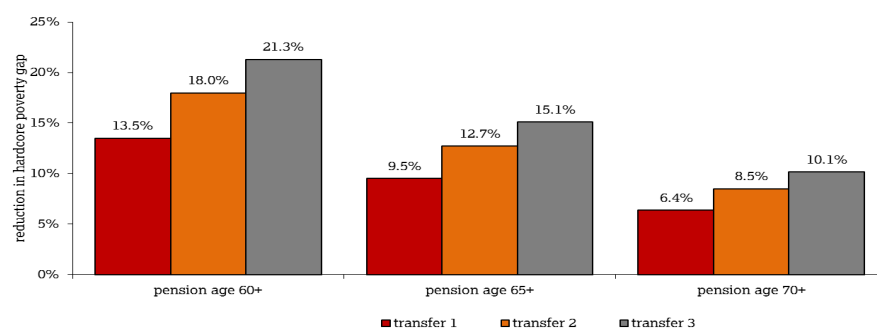


Figure 3 (A, B): Reduction in overall poverty gaps after universal pensions

A: Percentage reduction in absolute poverty gap



B: Percentage reduction in hardcore poverty gap





These initial figures also suggest that a smaller amount of cash transfer paid to a higher number of people would have a similar impact on absolute poverty incidence to a higher amount paid to fewer people, but it has a greater impact on hardcore poverty and on depth of poverty. According to our estimates, both a universal pension of 1,000KSh for all people aged 60 or over and a transfer of 2,000KSh to all those aged 70 or over could generate a decline in the incidence of absolute poverty by some 4 per cent. However, the first scheme would lead to a larger reduction in the hardcore poverty rate than the second (9 per cent compared to 8 per cent), a larger reduction in the hardcore poverty gap (13.5 per cent compared with 10.1 per cent) and a larger reduction in the absolute poverty gap (7.9 per cent compared with 6.7 per cent).

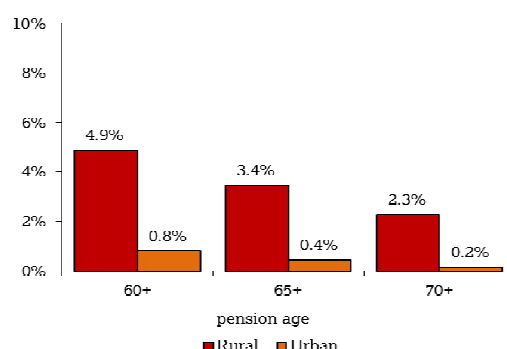
*Geographical distribution of poverty impacts:* our findings suggest that the introduction of a universal old age pension could have a greater impact on reducing poverty in rural areas, which are the most disadvantaged. Figure 4 presents the potential decline in absolute poverty rates by location: a grant of 1,500KSh per month to all people aged 65 or over, for instance, could decrease the incidence of absolute poverty by 5.4 per cent in rural areas compared with 0.6 per cent in urban areas. A similar gap is also found for different transfer amounts and pension ages.

*Table 19: Reduction in absolute and hardcore overall poverty rates after universal pensions*

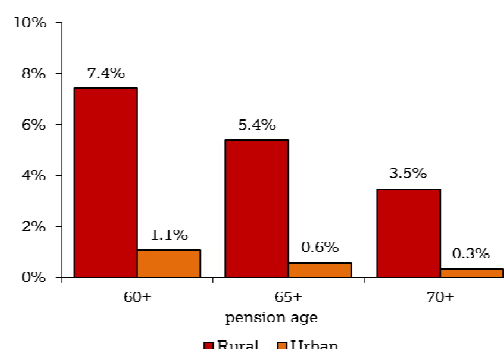
|              |          | Age of eligibility | Poverty reduction (%) |            |            | Poverty reduction (percentage points) |            |            |
|--------------|----------|--------------------|-----------------------|------------|------------|---------------------------------------|------------|------------|
|              |          |                    | Transfer 1            | Transfer 2 | Transfer 3 | Transfer 1                            | Transfer 2 | Transfer 3 |
| Poverty rate | Absolute | 60                 | 4.3                   | 6.5        | 8.7        | 2.0                                   | 3.0        | 4.0        |
|              | Hardcore |                    | 9.0                   | 13.3       | 16.7       | 1.7                                   | 2.5        | 3.2        |
|              | Absolute | 65                 | 3.0                   | 4.7        | 6.3        | 1.4                                   | 2.1        | 2.9        |
|              | Hardcore |                    | 6.4                   | 9.8        | 12.2       | 1.2                                   | 1.9        | 2.3        |
|              | Absolute | 70                 | 2.0                   | 3.0        | 4.0        | 0.9                                   | 1.4        | 1.8        |
|              | Hardcore |                    | 4.3                   | 6.1        | 8.0        | 0.8                                   | 1.2        | 1.5        |
| Poverty gap  | Absolute | 60                 | 7.9                   | 11.2       | 13.9       | 1.3                                   | 1.8        | 2.3        |
|              | Hardcore |                    | 13.5                  | 18.0       | 21.3       | 0.8                                   | 1.1        | 1.3        |
|              | Absolute | 65                 | 5.7                   | 8.0        | 10.0       | 0.9                                   | 1.3        | 1.6        |
|              | Hardcore |                    | 9.5                   | 12.7       | 15.1       | 0.6                                   | 0.8        | 0.9        |
|              | Absolute | 70                 | 3.8                   | 5.4        | 6.7        | 0.6                                   | 0.9        | 1.1        |
|              | Hardcore |                    | 6.4                   | 8.5        | 10.1       | 0.4                                   | 0.5        | 0.6        |

*Figure 4 (A, B, C): Percentage reduction in overall poverty headcount rate after universal pensions, by rural and urban areas*

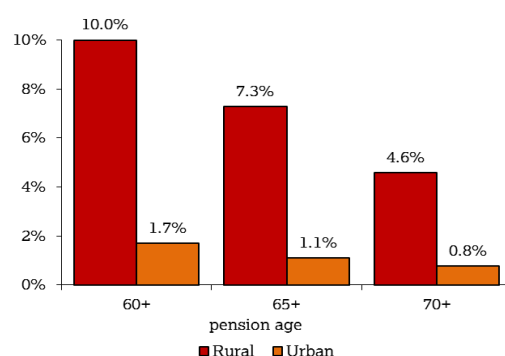
*A: Transfer 1 (1,000KSh a month)*



*B: Transfer 2 (1,500KSh a month)*



### C: Transfer 3 (2,000KSh a month)



The impacts of a universal social pension on poverty vary considerably across districts. Figures 5 and 6 present the scatter plots of initial overall absolute poverty rates and their simulated relative and absolute reductions, by district, after the introduction of a 1,500KSh universal pension. For each threshold of pension age, the figures also show the linear trend. We found a negative correlation between initial poverty rate and its relative variation, but when we look at absolute changes in percentage points, the correlation disappears. This suggests that a scheme targeting the poorest districts does not automatically lead to the best impact in terms of poverty reduction compared with other systems based on different geographical targeting criteria (such as districts with a larger share of older people). The key feature of poverty impacts at district level, however, is represented by their broad variation, as shown by Figure 7: if the pension age were set at 65 years, a universal old age grant of 1,500KSh per month could lead to a reduction of district poverty incidence of between zero and 18 per cent. Therefore, we can surmise that an old age pension that does not cover all districts might further sharpen differences in terms of poverty impact across districts. Against this background, policy makers should consider the risks of using district-based targeting for cash transfers in terms of the potential erosion of social cohesion and associated political costs.<sup>7</sup>

Figure 5: Correlation between overall absolute poverty rate and % poverty reduction after universal pensions (transfer 2 – 1,500KSh a month) by district

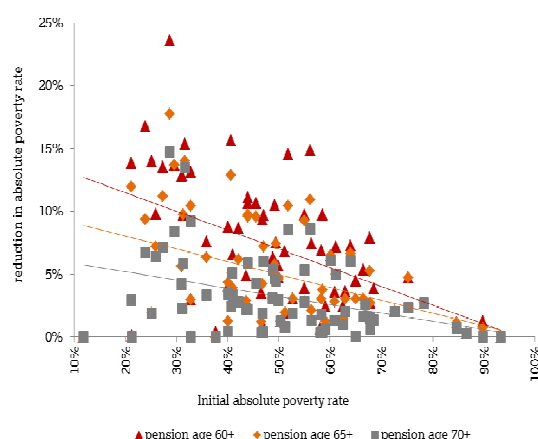
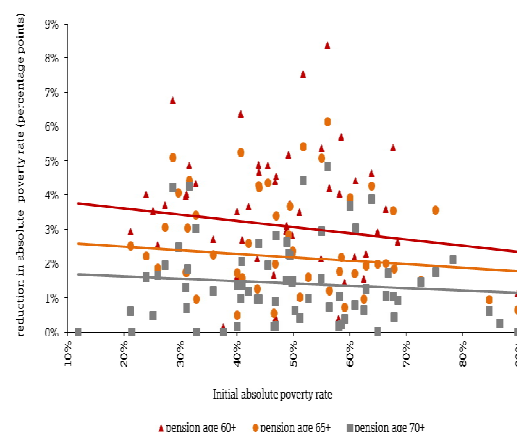


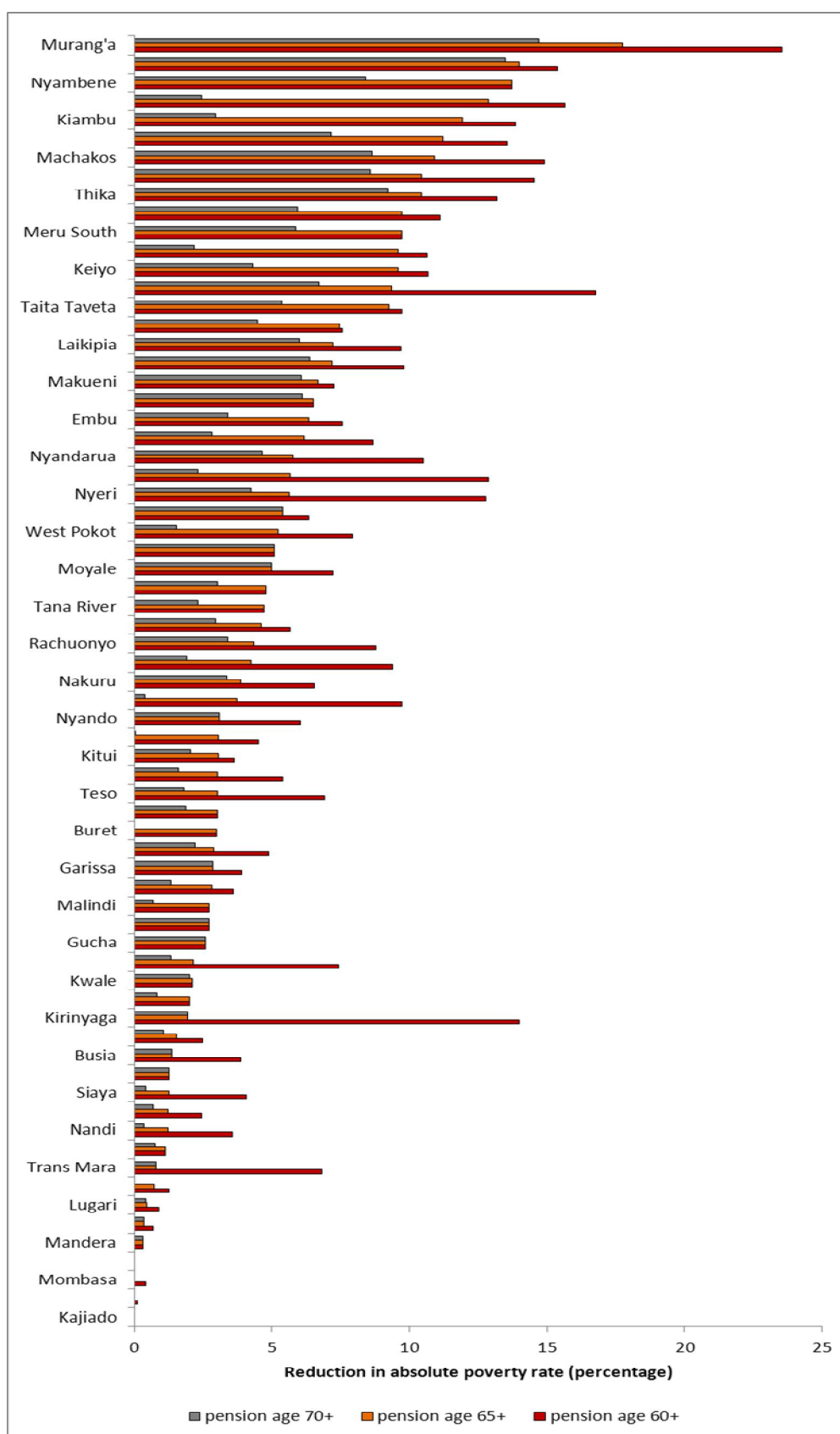
Figure 6: Correlation between overall absolute poverty rate and poverty reduction in percentage points after universal pensions (transfer 2 – 1,500KSh a month), by district



Note: The lines represent linear trends of poverty reduction in percentage point by age threshold

<sup>7</sup> A pension system targeting districts with the highest poverty rates among older people might perform better in terms of poverty reduction. However, data constraints limit the feasibility and application of this targeting mechanism. The KIHBS survey is designed to provide district estimates, but data do not allow creating reliable estimates of poverty rates for sub-population groups within districts because of the small size of the sample for some districts (Kenya National Bureau of Statistics 2007a).

Figure 7: Percentage reduction in overall absolute poverty rate after universal pensions (transfer 2 – 1,500KSh a month) by district



## Universal versus poverty-targeted pension schemes

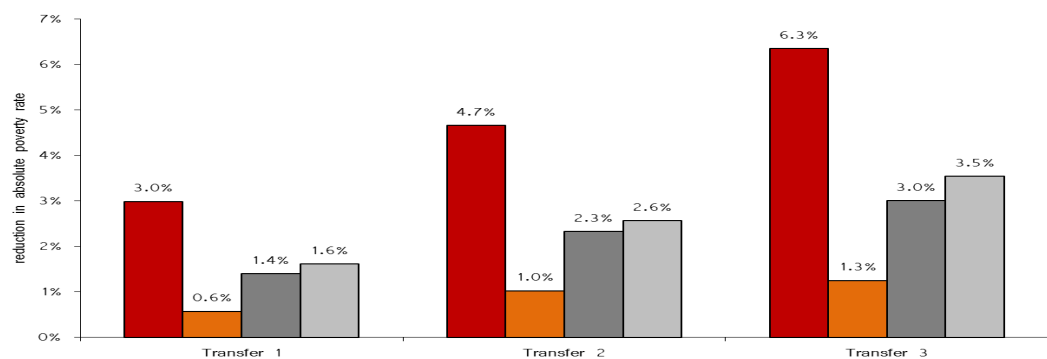
Here, we summarise the impacts of universal old age pensions on poverty across different pension schemes and cash transfers when the eligible age is set at 65. Results for the other pension ages are reported in Appendices 6, 7, 8 and 9.

Figure 8 shows our estimates of percentage reduction in poverty rates for each of the different pension schemes. We can observe the following:

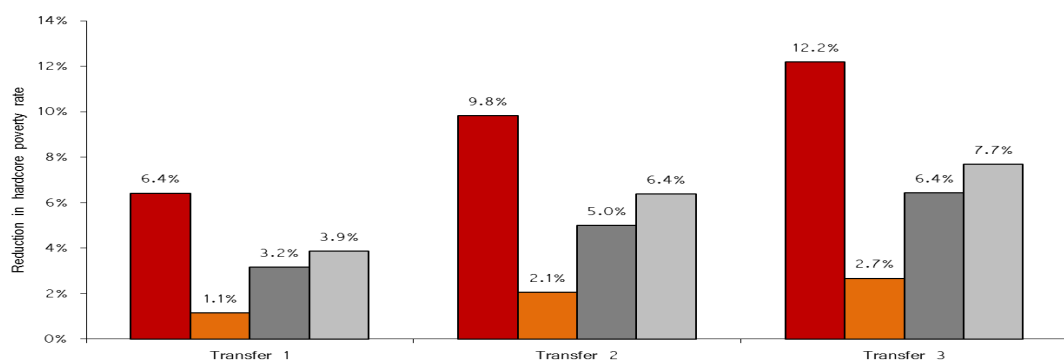
- As in the case of the universal pension, poverty-targeted old age grants have a greater impact on hardcore poverty and depth of poverty than on incidence of absolute poverty. In scenario 2, with a transfer of 1,500KSh, for instance, the reduction in incidence (5 per cent) and depth (7 per cent) of hardcore poverty is, respectively, some two and three times as large as the fall in the absolute poverty rate (2.3 per cent), which is also smaller than the decrease in the poverty gap index (4.2 per cent).
- Other things being equal, the poverty impact of targeted pension schemes is substantially smaller than that of a universal pension. In scenarios 2 and 3, the effect on poverty rates approximately halves in most cases.
- Targeting scenarios 3 and 4 can have the same impact on poverty as a universal pension of 1,000KSh, but only if the amount of the cash transfers is doubled. Targeting scenario 2 would never replicate the minimum poverty impact of a universal pension, even if the amount of the cash transfer was set at 2,000KSh.

*Figure 8 (A, B, C, D): Percentage reduction in poverty rates and poverty gaps among the overall population, based on different targeting scenarios*

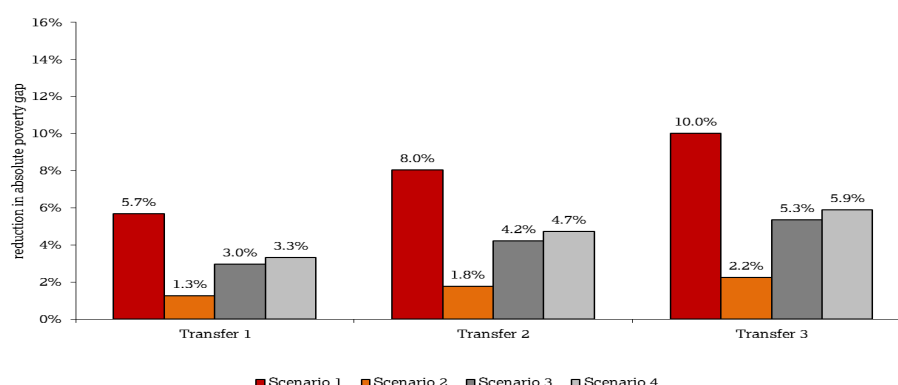
*A: Percentage reduction in absolute poverty rate*



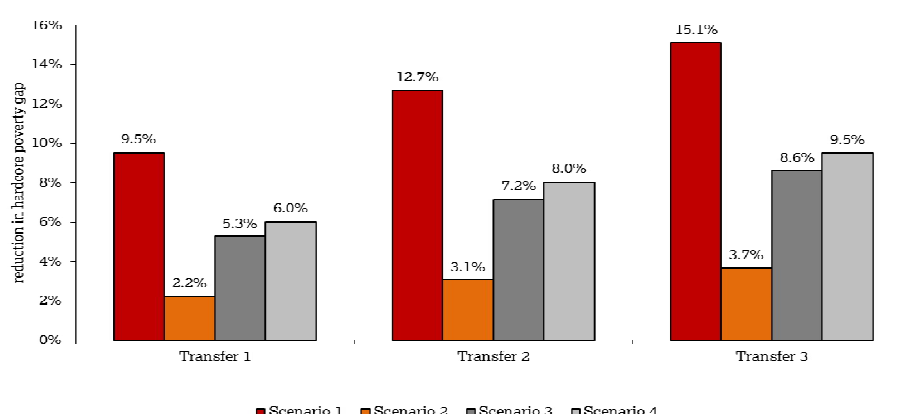
*B: Percentage reduction in hardcore poverty rate*



### C: Percentage reduction in absolute poverty gap



### D: Percentage reduction in hardcore poverty gap

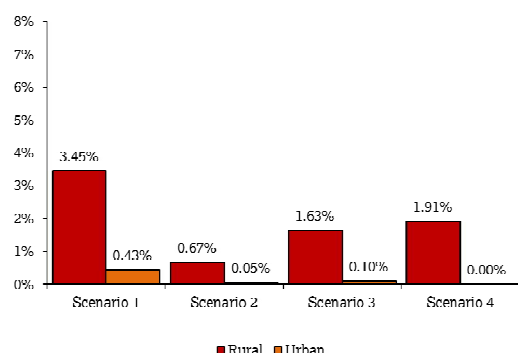


Note: Pension age threshold to be eligible to receive pension benefits is fixed at 65 years.

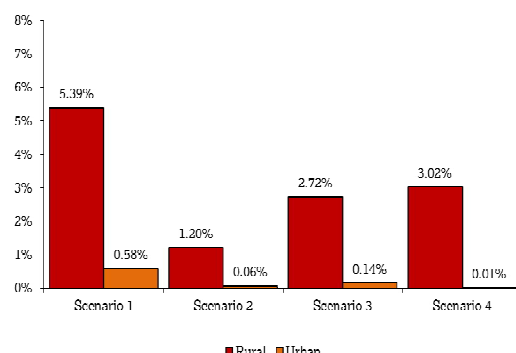
- Results on poverty impacts by area of residence (Figure 9) also confirm that poverty-targeted systems tend to have greater impact in rural than in urban areas. Moreover, in urban areas, the impact is very small and almost negligible when we simulate poverty-targeted programmes.
- For each pension scheme, the impact on poverty amongst older people is greater than the impact on poverty rates of the general population (Figure 10). However, poverty-targeted old age grants only affect poverty incidence to a small extent. When the pension age is 65 years, the highest relative change in poverty among urban older people after the simulated poverty-targeted old age grants is less than 4 per cent. Therefore, though older people represent a vulnerable group among the urban population, poverty-targeted pensions do not appear to be very effective in improving their living conditions. This might be due to the fact that targeting is based on national deciles instead of differentiated deciles for rural and urban areas. Thus, a trade-off can arise between the costs and benefits when designing poverty-targeted old age grant schemes: the use of distinct targeting parameters for rural and urban areas might improve the impact of pensions on alleviating poverty, while at the same time pushing up administrative costs.

Figure 9 (A, B, C): Percentage reduction in absolute poverty within the general population under different targeting scenarios, by area of residence.

A: Transfer 1 (1,000KSh a month)



B: Transfer 2 (1,500KSh a month)



C: Transfer 3 (2,000KSh a month)

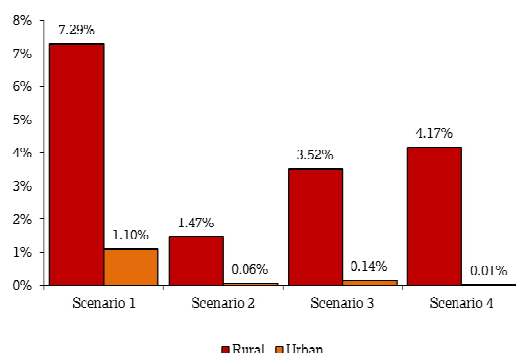
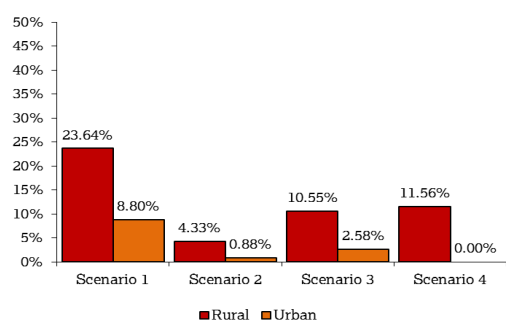
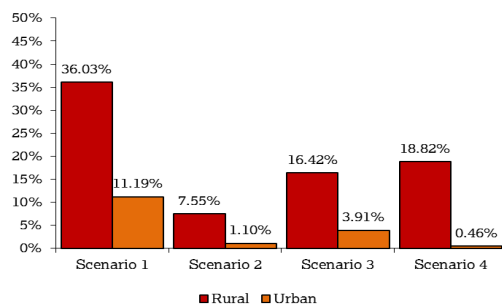


Figure 10 (A, B, C): Percentage reduction in absolute poverty among older people with different targeting scenarios, by area of residence

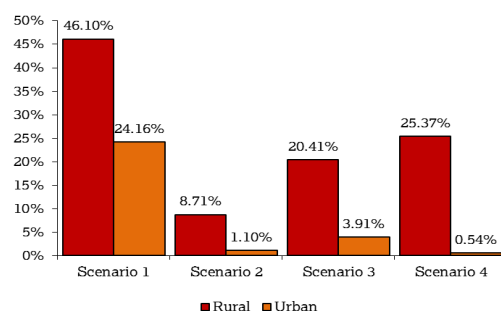
A: Transfer 1 (1,000KSh a month)



B: Transfer 2 (1,500KSh a month)



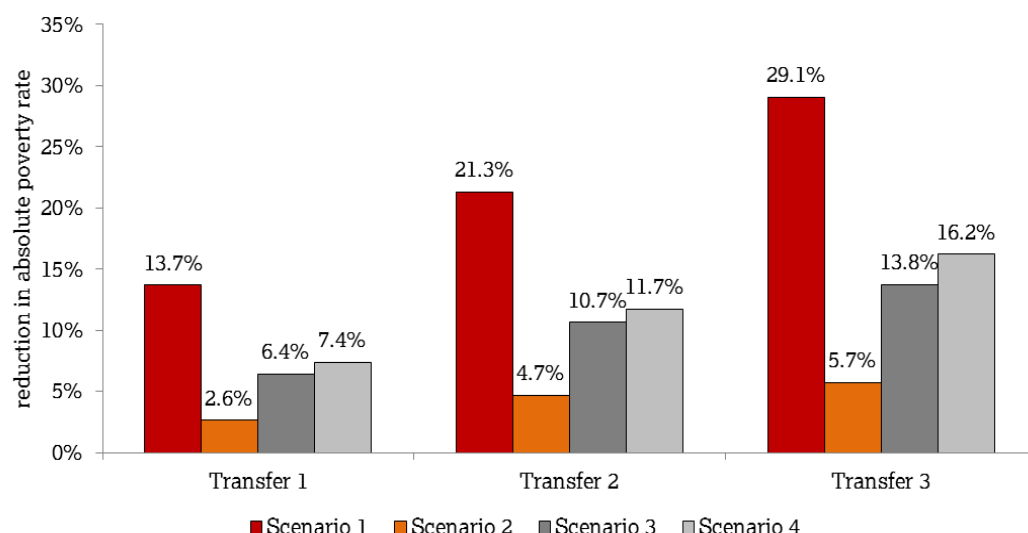
C: Transfer 3 (2,000KSh a month)



Note: For Figures 9 and 10, pension age threshold to be eligible to receive pension benefits is fixed at 65 years

Figure 11 compares the impact of different targeting methods on the incidence of poverty among potential recipient households when the pension age is set at 65 years. In scenario 2, the reduction in poverty is very small, while in scenarios 3 and 4, people living in households with older members can experience a significant reduction in poverty (more than 10 per cent) when the amount of the transfer is at least 1,500KSh per month.

*Figure 11: Percentage reduction in absolute poverty rate among people living in a household with at least one person aged 65 or with different targeting scenarios*



Note: Age of eligibility for pension benefits is set at 65 years.

## Conclusions

This report has studied the potential impacts of alternative social pension schemes on poverty among older people by using micro-simulations based on data from the Kenya Integrated Household Budget Survey (KIHS) 2005/06. This analysis cannot be considered exhaustive as it does not include second-round effects of regular and stable cash transfers on intra-household consumption, saving and investment decisions, as well as on choices around fertility, education and health. Nor does it consider political, economic and fiscal costs of the different pension programmes we have simulated. Our estimates, therefore, should be regarded as a snapshot of the potential short-term impacts on poverty produced by alternative pension systems. Taking into account these limitations, we can summarise our main findings as follows:

- A universal social pension could make an important contribution to poverty alleviation among older people, but its impact would be felt more broadly. Our analysis suggests that a universal pension could have a remarkable impact in reducing poverty, among households with older members as well as among the general population. Moreover, it could improve the economic conditions of households with both children and older people, which are currently at high risk of poverty.
- The choice of pension age and the amount of the cash transfer are crucial in determining the impact of old age pensions on poverty. In most of the scenarios we simulated, all other things being equal, the poverty impacts almost halve when the pension age rises from 60 to 70 or when the amount of the transfer decreases from 2,000KSh to 1,000KSh per month.
- Targeting systems play a key role. All other things being equal, the poverty impact of targeted pension schemes is substantially smaller (half or less than half) than that of a universal pension. Moreover, in several cases, poverty-targeted programmes could not

produce the minimum poverty impact of universal pensions, even when the amount of the cash transfer was higher. Only targeting systems used in scenarios 3 and 4, with a transfer of 2,000KSh per month, can achieve the same impact in terms of reducing poverty that a universal pension of 1,000KSh can. Finally, poverty-targeted pensions have a very small impact on reducing poverty among older people in urban areas, even though they represent a particularly vulnerable group.

- In all scenarios, the impacts of a social pension on poverty are greater in rural areas than in urban areas. In particular, the effectiveness of poverty-targeted old age grants in alleviating urban poverty is very limited. Moreover, we find that the impacts on poverty vary considerably across districts, but the poorest districts do not automatically experience the largest decline in poverty rates.
- For each level of transfer and pension age, the introduction of a universal or a poverty-targeted social pension has a pro-poor effect, since the impact on depth of poverty and on hardcore poverty is greater than the impact on the incidence of absolute poverty.
- Finally, we find that, total disbursements being equal, a small universal transfer with a lower pension age is preferable to a higher universal transfer with a higher pension age. If the effects on incidence of absolute poverty tend to be similar, the first scheme is likely to have a greater impact on hardcore poverty and on depth of poverty.



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## Appendix 1 (A, B): Percentage Poverty Rate and Poverty Gap Index of older people by district (official scales of equivalence)

### A: Poverty rate of older people aged 60+

|              | Poverty rate |      |          | Poverty Gap Index |      |          |
|--------------|--------------|------|----------|-------------------|------|----------|
|              | Absolute     | Food | Hardcore | Absolute          | Food | Hardcore |
| Nairobi      | 22.5         | 26.5 | 0.0      | 5.5               | 5.8  | 0.0      |
| Kiambu       | 17.4         | 14.7 | 3.5      | 4.0               | 4.3  | 0.3      |
| Kirinyaga    | 18.4         | 32.0 | 8.0      | 5.5               | 9.1  | 2.1      |
| Murang'a     | 34.2         | 28.5 | 11.9     | 10.7              | 10.7 | 4.3      |
| Nyandarua    | 48.5         | 32.1 | 15.5     | 14.2              | 11.3 | 4.3      |
| Nyeri        | 36.5         | 31.8 | 14.2     | 12.6              | 10.5 | 5.0      |
| Thika        | 29.5         | 29.6 | 9.9      | 8.4               | 12.4 | 4.2      |
| Maragua      | 24.2         | 23.4 | 8.2      | 7.8               | 6.9  | 2.1      |
| Kilifi       | 59.8         | 47.8 | 19.5     | 18.3              | 15.0 | 3.2      |
| Kwale        | 75.5         | 78.2 | 41.8     | 32.7              | 26.3 | 12.7     |
| Lamu         | 37.7         | 23.3 | 0.4      | 6.5               | 5.5  | 0.1      |
| Mombasa      | 58.5         | 55.8 | 14.8     | 23.8              | 21.8 | 3.3      |
| Taita Taveta | 54.4         | 57.3 | 26.0     | 19.8              | 14.9 | 6.2      |
| Tana River   | 77.4         | 51.5 | 45.1     | 31.0              | 18.4 | 12.2     |
| Malindi      | 70.1         | 58.0 | 35.7     | 29.4              | 23.7 | 13.8     |
| Embu         | 47.7         | 39.1 | 23.2     | 17.9              | 15.0 | 7.3      |
| Isiolo       | 75.8         | 81.5 | 34.8     | 30.3              | 27.1 | 13.0     |
| Kitui        | 61.1         | 52.9 | 23.9     | 21.9              | 18.5 | 7.1      |
| Makueni      | 68.1         | 52.3 | 29.1     | 24.1              | 18.7 | 9.3      |
| Machakos     | 55.7         | 48.9 | 20.8     | 16.2              | 15.1 | 4.9      |
| Marsabit     | 83.7         | 79.6 | 69.2     | 51.6              | 43.9 | 35.8     |
| Mbeere       | 55.3         | 49.7 | 31.9     | 26.4              | 23.8 | 15.8     |
| Meru Central | 23.8         | 10.0 | 0.0      | 3.4               | 3.0  | 0.0      |
| Moyale       | 69.3         | 61.9 | 35.1     | 26.8              | 21.4 | 10.0     |
| Mwingi       | 57.5         | 54.8 | 29.5     | 20.8              | 17.7 | 7.1      |
| Meru North   | 31.5         | 17.2 | 0.0      | 4.1               | 4.5  | 0.0      |
| Tharaka      | 53.8         | 50.3 | 25.4     | 17.8              | 15.5 | 5.7      |
| Meru South   | 31.1         | 24.5 | 12.0     | 9.2               | 5.3  | 2.4      |
| Garissa      | 67.9         | 62.6 | 31.1     | 26.6              | 20.7 | 9.3      |
| Mandera      | 91.5         | 91.1 | 63.9     | 46.8              | 38.9 | 22.5     |
| Wajir        | 83.9         | 58.5 | 53.4     | 37.5              | 23.0 | 14.7     |
| Gucha        | 70.2         | 61.1 | 48.0     | 29.7              | 23.4 | 12.8     |
| Homa Bay     | 50.9         | 42.7 | 31.1     | 19.9              | 20.5 | 9.5      |
| Kisii        | 49.2         | 47.2 | 27.7     | 20.2              | 16.6 | 6.7      |
| Kisumu       | 57.8         | 51.6 | 17.5     | 18.4              | 17.1 | 4.5      |
| Kuria        | 53.6         | 40.6 | 30.2     | 21.8              | 15.1 | 9.1      |
| Migori       | 63.3         | 55.8 | 38.2     | 29.7              | 24.9 | 14.1     |
| Nyamira      | 64.9         | 47.7 | 23.3     | 21.0              | 16.6 | 4.1      |
| Rachuonyo    | 49.7         | 46.3 | 22.9     | 18.6              | 13.5 | 6.9      |
| Siaya        | 34.9         | 25.9 | 15.3     | 12.9              | 10.0 | 4.7      |
| Suba         | 54.6         | 46.9 | 28.8     | 19.4              | 15.5 | 6.4      |
| Bondo        | 23.0         | 19.4 | 7.9      | 7.7               | 5.5  | 1.3      |
| Nyando       | 51.0         | 42.7 | 23.2     | 15.6              | 14.9 | 5.8      |

|               |       |      |      |      |      |      |
|---------------|-------|------|------|------|------|------|
| Baringo       | 75.3  | 66.1 | 43.0 | 30.1 | 29.7 | 14.3 |
| Bomet         | 57.9  | 46.3 | 24.1 | 16.9 | 10.2 | 3.8  |
| Keiyo         | 62.6  | 41.6 | 9.9  | 15.3 | 12.9 | 2.4  |
| Kajiado       | 9.7   | 9.7  | 0.0  | 1.5  | 1.4  | 0.0  |
| Kericho       | 52.0  | 62.6 | 7.7  | 11.5 | 14.7 | 1.9  |
| Koibatek      | 44.1  | 39.8 | 10.7 | 13.6 | 11.1 | 2.8  |
| Laikipia      | 56.3  | 37.6 | 22.1 | 18.1 | 12.7 | 5.4  |
| Marakwet      | 84.3  | 68.9 | 45.5 | 29.8 | 24.7 | 10.6 |
| Nakuru        | 39.7  | 31.1 | 7.9  | 10.7 | 10.1 | 1.7  |
| Nandi         | 37.4  | 35.3 | 10.9 | 11.1 | 12.5 | 2.5  |
| Narok         | 41.4  | 38.5 | 12.2 | 11.2 | 9.4  | 5.0  |
| Samburu       | 78.5  | 69.9 | 57.5 | 46.1 | 40.7 | 29.6 |
| Trans Mara    | 69.8  | 53.7 | 34.9 | 23.4 | 19.0 | 9.1  |
| Trans Nzoia   | 62.6  | 47.9 | 22.3 | 19.6 | 18.9 | 5.5  |
| Turkana       | 100.0 | 94.2 | 94.2 | 80.8 | 73.7 | 70.8 |
| Uasin Gishu   | 47.3  | 47.4 | 14.3 | 13.6 | 16.0 | 3.5  |
| West Pokot    | 81.1  | 61.3 | 37.0 | 28.0 | 21.7 | 9.4  |
| Buret         | 29.9  | 43.3 | 23.6 | 13.2 | 15.9 | 6.5  |
| Bungoma       | 52.9  | 45.7 | 25.2 | 19.6 | 20.7 | 5.7  |
| Busia         | 77.0  | 82.4 | 45.7 | 34.9 | 37.9 | 20.2 |
| Mt. Elgon     | 61.8  | 62.7 | 42.6 | 26.4 | 23.3 | 10.9 |
| Kakamega      | 46.5  | 41.3 | 23.8 | 18.4 | 15.0 | 9.4  |
| Lugari        | 41.9  | 28.7 | 13.0 | 11.8 | 10.6 | 3.5  |
| Teso          | 48.2  | 31.3 | 18.9 | 14.1 | 13.1 | 4.5  |
| Vihiga        | 27.7  | 29.4 | 6.5  | 6.0  | 4.2  | 1.6  |
| Butere/Mumias | 45.4  | 38.0 | 5.8  | 11.2 | 7.5  | 1.4  |

#### B: Poverty rate of older people aged 65+

|              | Poverty rate |      |          | Poverty Gap Index |      |          |
|--------------|--------------|------|----------|-------------------|------|----------|
|              | Absolute     | Food | Hardcore | Absolute          | Food | Hardcore |
| Nairobi      | 23.4         | 28.6 | 0.0      | 7.2               | 6.7  | 0.0      |
| Kiambu       | 16.7         | 13.5 | 4.3      | 4.5               | 4.2  | 0.4      |
| Kirinyaga    | 15.1         | 26.9 | 11.8     | 7.2               | 6.6  | 3.0      |
| Murang'a     | 35.3         | 31.1 | 13.8     | 11.5              | 11.5 | 5.1      |
| Nyandarua    | 56.2         | 32.0 | 16.1     | 15.6              | 11.3 | 4.1      |
| Nyeri        | 30.1         | 26.2 | 14.0     | 10.2              | 8.3  | 3.6      |
| Thika        | 27.8         | 30.0 | 9.5      | 7.3               | 12.4 | 4.2      |
| Maragua      | 21.7         | 20.7 | 6.2      | 6.6               | 5.6  | 1.3      |
| Kilifi       | 55.3         | 41.0 | 16.3     | 15.9              | 14.0 | 2.9      |
| Kwale        | 71.2         | 75.2 | 37.6     | 29.4              | 24.7 | 10.2     |
| Lamu         | 31.0         | 16.0 | 0.6      | 3.2               | 3.2  | 0.2      |
| Mombasa      | 59.8         | 61.2 | 17.2     | 24.6              | 24.1 | 3.8      |
| Taita Taveta | 61.7         | 61.5 | 23.3     | 20.5              | 16.5 | 6.3      |
| Tana River   | 77.2         | 45.1 | 41.0     | 29.0              | 17.2 | 11.3     |
| Malindi      | 73.8         | 51.2 | 33.7     | 29.5              | 23.6 | 14.1     |
| Embu         | 43.8         | 34.0 | 19.1     | 15.6              | 12.2 | 6.0      |
| Isiolo       | 82.5         | 84.4 | 41.0     | 34.4              | 28.7 | 14.7     |
| Kitui        | 59.6         | 53.1 | 26.3     | 21.9              | 19.5 | 8.0      |
| Makueni      | 72.8         | 52.4 | 30.1     | 25.2              | 18.2 | 9.8      |
| Machakos     | 56.8         | 50.1 | 22.5     | 17.3              | 16.1 | 6.1      |

|               |       |      |      |      |      |      |
|---------------|-------|------|------|------|------|------|
| Marsabit      | 82.6  | 84.3 | 71.9 | 48.8 | 43.1 | 31.7 |
| Mbeere        | 59.1  | 48.2 | 31.3 | 26.5 | 23.7 | 15.3 |
| Meru Central  | 25.5  | 10.0 | 0.0  | 3.3  | 2.4  | 0.0  |
| Moyale        | 67.1  | 62.7 | 37.3 | 27.0 | 21.3 | 10.7 |
| Mwingi        | 48.6  | 45.8 | 24.3 | 17.4 | 14.7 | 6.1  |
| Meru North    | 31.7  | 22.0 | 0.0  | 5.3  | 5.8  | 0.0  |
| Tharaka       | 57.1  | 49.1 | 28.1 | 18.8 | 15.2 | 6.0  |
| Meru South    | 28.8  | 19.8 | 6.0  | 7.3  | 4.2  | 1.8  |
| Garissa       | 65.0  | 65.0 | 33.0 | 26.4 | 21.7 | 8.5  |
| Mandera       | 91.3  | 94.2 | 61.1 | 44.7 | 37.3 | 19.3 |
| Wajir         | 79.6  | 52.4 | 48.2 | 34.8 | 20.8 | 13.5 |
| Gucha         | 79.4  | 62.3 | 46.4 | 30.3 | 22.9 | 11.6 |
| Homa Bay      | 52.6  | 45.2 | 34.0 | 21.7 | 22.8 | 10.8 |
| Kisii         | 50.6  | 47.5 | 28.1 | 21.9 | 16.6 | 9.5  |
| Kisumu        | 50.0  | 44.0 | 9.6  | 12.9 | 12.7 | 1.8  |
| Kuria         | 53.0  | 36.1 | 32.5 | 23.0 | 15.1 | 9.2  |
| Migori        | 65.9  | 59.9 | 45.9 | 33.0 | 28.7 | 17.5 |
| Nyamira       | 63.4  | 44.8 | 20.9 | 19.9 | 16.3 | 3.4  |
| Rachuonyo     | 54.0  | 54.9 | 28.3 | 22.5 | 15.4 | 8.8  |
| Siaya         | 38.6  | 32.3 | 17.7 | 14.5 | 11.5 | 5.0  |
| Suba          | 53.9  | 48.0 | 25.1 | 18.6 | 15.4 | 6.5  |
| Bondo         | 25.9  | 21.2 | 9.9  | 8.9  | 6.3  | 1.7  |
| Nyando        | 50.6  | 46.4 | 22.0 | 15.5 | 14.0 | 4.4  |
| Baringo       | 78.6  | 72.8 | 49.4 | 33.1 | 33.0 | 15.1 |
| Bomet         | 71.9  | 46.6 | 25.2 | 20.6 | 10.0 | 4.9  |
| Keiyo         | 65.5  | 51.2 | 3.9  | 15.2 | 15.3 | 2.5  |
| Kajiado       | 11.2  | 11.2 | 0.0  | 1.7  | 1.6  | 0.0  |
| Kericho       | 50.6  | 62.1 | 0.0  | 6.3  | 14.0 | 0.0  |
| Koibatek      | 41.0  | 31.4 | 11.8 | 13.1 | 10.2 | 3.2  |
| Laikipia      | 65.3  | 35.7 | 25.5 | 20.2 | 13.0 | 5.8  |
| Marakwet      | 85.6  | 77.1 | 48.8 | 33.1 | 28.3 | 12.2 |
| Nakuru        | 34.2  | 30.1 | 9.4  | 8.8  | 11.7 | 2.1  |
| Nandi         | 38.1  | 37.5 | 14.3 | 12.7 | 14.1 | 3.3  |
| Narok         | 42.5  | 39.1 | 16.2 | 12.7 | 10.5 | 6.7  |
| Samburu       | 81.6  | 72.8 | 63.2 | 49.4 | 45.3 | 33.2 |
| Trans Mara    | 60.8  | 71.0 | 42.9 | 24.3 | 21.4 | 9.6  |
| Trans Nzoia   | 57.7  | 43.8 | 18.7 | 17.4 | 16.2 | 4.5  |
| Turkana       | 100.0 | 97.0 | 97.0 | 85.1 | 81.0 | 78.3 |
| Uasin Gishu   | 40.2  | 45.2 | 5.7  | 8.1  | 11.6 | 0.7  |
| West Pokot    | 78.9  | 61.9 | 33.7 | 27.1 | 23.9 | 10.0 |
| Buret         | 26.0  | 42.2 | 18.3 | 9.6  | 13.9 | 3.8  |
| Bungoma       | 63.7  | 49.5 | 24.1 | 21.9 | 21.9 | 5.5  |
| Busia         | 79.8  | 83.5 | 45.0 | 37.0 | 39.3 | 21.8 |
| Mt. Elgon     | 63.8  | 67.0 | 46.2 | 28.2 | 24.9 | 11.8 |
| Kakamega      | 53.1  | 42.8 | 21.7 | 18.2 | 13.9 | 7.9  |
| Lugari        | 39.5  | 26.5 | 16.9 | 12.7 | 11.6 | 4.4  |
| Teso          | 42.4  | 31.9 | 17.8 | 13.5 | 11.2 | 4.4  |
| Vihiga        | 28.3  | 29.1 | 6.2  | 6.3  | 4.0  | 1.8  |
| Butere/Mumias | 47.1  | 39.7 | 3.6  | 11.1 | 7.9  | 1.0  |

Appendix 2: Percentage reduction in absolute poverty rate by district after Scenario 1 (universal pension), entire population

| Age of Eligibility | 60              |      |      | 65              |      |      | 70              |      |      | Initial poverty rate |
|--------------------|-----------------|------|------|-----------------|------|------|-----------------|------|------|----------------------|
|                    | Transfer level: |      |      | Transfer level: |      |      | Transfer level: |      |      |                      |
| District           | 1               | 2    | 3    | 1               | 2    | 3    | 1               | 2    | 3    |                      |
| Nairobi            | 0.1             | 0.1  | 0.8  | 0.0             | 0.0  | 0.7  | 0.0             | 0.0  | 0.7  | 21.3                 |
| Kiambu             | 9.4             | 13.9 | 20.3 | 7.4             | 11.9 | 15.1 | 2.9             | 2.9  | 2.9  | 21.2                 |
| Kirinyaga          | 12.1            | 14.0 | 14.0 | 0.0             | 1.9  | 1.9  | 0.0             | 1.9  | 1.9  | 25.2                 |
| Murang’a           | 16.2            | 23.6 | 31.5 | 14.0            | 17.8 | 19.0 | 10.3            | 14.7 | 14.7 | 28.7                 |
| Nyandarua          | 8.3             | 10.5 | 12.4 | 5.0             | 5.8  | 9.4  | 3.9             | 4.6  | 7.6  | 49.2                 |
| Nyeri              | 8.6             | 12.8 | 12.8 | 4.7             | 5.6  | 6.2  | 4.2             | 4.2  | 4.8  | 31.0                 |
| Thika              | 11.8            | 13.2 | 13.2 | 10.4            | 10.4 | 10.4 | 9.2             | 9.2  | 9.2  | 32.7                 |
| Maragua            | 6.9             | 12.9 | 15.7 | 5.6             | 5.6  | 8.5  | 2.3             | 2.3  | 2.3  | 31.1                 |
| Kilifi             | 2.5             | 4.5  | 7.9  | 1.1             | 3.1  | 4.3  | 0.1             | 0.1  | 1.3  | 65.0                 |
| Kwale              | 0.5             | 2.1  | 4.5  | 0.5             | 2.1  | 2.2  | 0.5             | 2.0  | 2.0  | 72.6                 |
| Lamu               | 9.1             | 15.4 | 15.4 | 7.7             | 14.0 | 15.4 | 7.7             | 13.5 | 14.9 | 31.6                 |
| Mombasa            | 0.0             | 0.4  | 0.4  | 0.0             | 0.0  | 0.0  | 0.0             | 0.0  | 0.0  | 37.6                 |
| Taita Taveta       | 7.9             | 9.7  | 12.7 | 7.9             | 9.2  | 11.2 | 5.4             | 5.4  | 7.4  | 55.0                 |
| Tana River         | 3.5             | 4.7  | 4.7  | 3.5             | 4.7  | 4.7  | 2.2             | 2.3  | 2.3  | 75.2                 |
| Malindi            | 1.0             | 2.7  | 5.6  | 1.0             | 2.7  | 4.6  | 0.2             | 0.7  | 2.6  | 67.9                 |
| Embu               | 5.4             | 7.6  | 11.4 | 5.4             | 6.3  | 11.4 | 0.0             | 3.4  | 7.2  | 35.9                 |
| Isiolo             | 1.4             | 2.5  | 4.3  | 1.1             | 1.5  | 2.4  | 1.1             | 1.1  | 1.9  | 62.5                 |
| Kitui              | 1.6             | 3.6  | 9.2  | 1.1             | 3.1  | 6.8  | 1.1             | 2.0  | 5.7  | 62.9                 |
| Makueni            | 4.1             | 7.2  | 8.4  | 2.9             | 6.7  | 7.8  | 2.3             | 6.1  | 6.8  | 63.9                 |
| Machakos           | 12.6            | 14.9 | 14.9 | 8.4             | 10.9 | 11.0 | 8.4             | 8.6  | 8.6  | 56.1                 |
| Marsabit           | 0.7             | 1.2  | 1.7  | 0.7             | 0.7  | 1.0  | 0.0             | 0.0  | 0.2  | 89.8                 |
| Mbeere             | 1.6             | 4.8  | 9.6  | 1.6             | 4.8  | 7.4  | 1.6             | 3.0  | 5.7  | 49.9                 |
| Meru Central       | 16.8            | 16.8 | 22.2 | 9.4             | 9.4  | 14.8 | 6.7             | 6.7  | 12.1 | 23.9                 |
| Moyale             | 5.7             | 7.2  | 12.1 | 4.2             | 5.0  | 6.9  | 4.2             | 5.0  | 6.3  | 61.1                 |
| Mwingi             | 3.2             | 3.6  | 7.7  | 2.4             | 2.8  | 5.6  | 0.9             | 1.3  | 4.2  | 60.9                 |
| Meru North         | 3.9             | 13.7 | 16.0 | 3.9             | 13.7 | 16.0 | 3.9             | 8.4  | 10.7 | 29.6                 |
| Tharaka            | 4.1             | 6.3  | 7.6  | 3.1             | 5.4  | 5.4  | 3.1             | 5.4  | 5.4  | 48.9                 |
| Meru South         | 4.1             | 9.7  | 9.7  | 4.1             | 9.7  | 9.7  | 4.1             | 5.9  | 5.9  | 31.3                 |
| Garissa            | 3.8             | 3.9  | 12.3 | 2.8             | 2.8  | 4.6  | 2.8             | 2.8  | 4.6  | 55.0                 |
| Mandera            | 0.0             | 0.3  | 1.8  | 0.0             | 0.3  | 1.8  | 0.0             | 0.3  | 0.6  | 86.6                 |
| Wajir              | 0.7             | 1.1  | 2.8  | 0.7             | 1.1  | 2.3  | 0.7             | 0.7  | 1.9  | 84.7                 |
| Gucha              | 2.1             | 2.6  | 3.5  | 2.1             | 2.6  | 3.5  | 2.1             | 2.6  | 3.3  | 66.8                 |
| Homa Bay           | 3.9             | 11.1 | 11.6 | 3.9             | 9.7  | 10.2 | 3.4             | 5.9  | 6.4  | 43.9                 |
| Kisii              | 2.7             | 5.7  | 10.2 | 1.7             | 4.6  | 9.2  | 0.0             | 3.0  | 3.0  | 49.8                 |
| Kisumu             | 3.8             | 4.9  | 6.7  | 0.7             | 2.9  | 4.7  | 0.7             | 2.2  | 4.0  | 43.6                 |
| Kuria              | 0.7             | 2.4  | 5.8  | 0.7             | 1.2  | 1.5  | 0.7             | 0.7  | 0.7  | 59.1                 |
| Migori             | 7.2             | 8.7  | 11.1 | 4.7             | 6.2  | 9.7  | 2.2             | 2.8  | 2.8  | 42.1                 |
| Nyamira            | 3.5             | 9.4  | 12.4 | 1.8             | 4.3  | 7.2  | 1.1             | 1.9  | 1.9  | 46.8                 |
| Rachuonyo          | 4.6             | 8.8  | 10.6 | 2.5             | 4.3  | 6.2  | 1.4             | 3.4  | 5.2  | 40.0                 |
| Siaya              | 4.1             | 4.1  | 9.9  | 1.3             | 1.3  | 2.7  | 0.4             | 0.4  | 1.9  | 40.0                 |

|               |      |      |      |      |      |      |     |     |      |      |
|---------------|------|------|------|------|------|------|-----|-----|------|------|
| Suba          | 2.0  | 2.0  | 6.4  | 0.8  | 2.0  | 5.7  | 0.8 | 0.8 | 2.7  | 51.2 |
| Bondo         | 3.6  | 9.8  | 9.8  | 1.0  | 7.2  | 9.8  | 1.0 | 6.4 | 6.4  | 26.0 |
| Nyando        | 3.1  | 6.1  | 6.1  | 3.1  | 3.1  | 3.1  | 3.1 | 3.1 | 3.1  | 48.8 |
| Baringo       | 4.6  | 6.5  | 9.7  | 4.6  | 6.5  | 9.7  | 4.6 | 6.1 | 7.9  | 60.1 |
| Bomet         | 8.6  | 9.7  | 13.6 | 3.7  | 3.7  | 5.9  | 0.4 | 0.4 | 0.4  | 58.5 |
| Keiyo         | 8.8  | 10.7 | 11.5 | 6.9  | 9.6  | 9.6  | 1.6 | 4.3 | 4.3  | 45.5 |
| Kajiado       | 0.0  | 0.0  | 8.7  | 0.0  | 0.0  | 8.7  | 0.0 | 0.0 | 8.7  | 11.9 |
| Kericho       | 3.3  | 5.1  | 5.1  | 3.3  | 5.1  | 5.1  | 3.3 | 5.1 | 5.1  | 40.8 |
| Koibatek      | 1.7  | 7.4  | 8.4  | 1.0  | 2.1  | 3.1  | 0.2 | 1.3 | 2.3  | 56.4 |
| Laikipia      | 7.2  | 9.7  | 14.6 | 7.2  | 7.2  | 12.1 | 4.0 | 6.0 | 10.4 | 47.0 |
| Marakwet      | 3.7  | 5.4  | 8.6  | 2.5  | 3.0  | 5.3  | 1.1 | 1.6 | 2.8  | 66.4 |
| Nakuru        | 2.5  | 6.6  | 8.7  | 1.9  | 3.9  | 6.0  | 1.4 | 3.4 | 4.1  | 41.0 |
| Nandi         | 1.6  | 3.6  | 9.9  | 0.4  | 1.2  | 5.6  | 0.4 | 0.4 | 2.7  | 46.6 |
| Narok         | 2.3  | 13.6 | 13.7 | 0.0  | 11.2 | 11.2 | 0.0 | 7.2 | 7.2  | 27.3 |
| Samburu       | 1.9  | 2.7  | 2.7  | 1.9  | 2.7  | 2.7  | 1.9 | 2.7 | 2.7  | 78.3 |
| Trans Mara    | 6.8  | 6.8  | 7.6  | 0.8  | 0.8  | 3.3  | 0.8 | 0.8 | 1.6  | 51.2 |
| Trans Nzoia   | 5.8  | 7.5  | 7.9  | 5.2  | 7.4  | 7.4  | 3.0 | 4.5 | 4.5  | 49.4 |
| Turkana       | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0 | 0.0 | 0.0  | 93.3 |
| Uasin Gishu   | 6.6  | 10.7 | 12.6 | 5.6  | 9.6  | 9.6  | 0.0 | 2.2 | 2.2  | 44.0 |
| West Pokot    | 3.3  | 7.9  | 8.9  | 1.8  | 5.2  | 6.2  | 0.4 | 1.5 | 2.5  | 67.8 |
| Buret         | 0.0  | 3.0  | 3.0  | 0.0  | 3.0  | 3.0  | 0.0 | 0.0 | 0.0  | 32.8 |
| Bungoma       | 0.8  | 1.3  | 4.3  | 0.8  | 1.3  | 3.9  | 0.3 | 1.3 | 2.3  | 50.3 |
| Busia         | 1.4  | 3.9  | 6.8  | 1.4  | 1.4  | 4.3  | 1.4 | 1.4 | 1.4  | 68.6 |
| Mt. Elgon     | 0.2  | 0.7  | 3.2  | 0.2  | 0.3  | 2.9  | 0.2 | 0.3 | 2.9  | 58.0 |
| Kakamega      | 2.9  | 3.0  | 8.1  | 2.9  | 3.0  | 7.9  | 1.7 | 1.9 | 2.4  | 52.7 |
| Lugari        | 0.9  | 0.9  | 5.3  | 0.5  | 0.5  | 1.8  | 0.4 | 0.4 | 0.4  | 46.9 |
| Teso          | 6.9  | 6.9  | 7.6  | 3.0  | 3.0  | 3.7  | 1.8 | 1.8 | 1.8  | 58.2 |
| Vihiga        | 13.7 | 15.6 | 17.6 | 12.9 | 12.9 | 14.9 | 2.4 | 2.4 | 7.2  | 40.7 |
| Butere/Mumias | 8.4  | 14.6 | 15.1 | 4.3  | 10.4 | 12.0 | 4.0 | 8.6 | 10.1 | 51.8 |

Appendix 3: Percentage reduction in absolute poverty rate by district after Scenario 2 (poverty targeted - poorest 21 per cent of households with an older person), entire population

| Age of Eligibility | 60              |     |     | 65              |     |     | 70              |     |      | Initial poverty rate |
|--------------------|-----------------|-----|-----|-----------------|-----|-----|-----------------|-----|------|----------------------|
|                    | Transfer level: |     |     | Transfer level: |     |     | Transfer level: |     |      |                      |
| District           | 1               | 2   | 3   | 1               | 2   | 3   | 1               | 2   | 3    |                      |
| Nairobi            | 0.0             | 0.0 | 0.0 | 0.0             | 0.0 | 0.0 | 0.0             | 0.0 | 0.0  | 21.3                 |
| Kiambu             | 2.9             | 2.9 | 6.3 | 0.0             | 0.0 | 0.0 | 2.9             | 2.9 | 2.9  | 21.2                 |
| Kirinyaga          | 3.5             | 3.5 | 3.5 | 0.0             | 0.0 | 0.0 | 0.0             | 0.0 | 0.0  | 25.2                 |
| Murang'a           | 4.6             | 9.0 | 9.0 | 0.0             | 0.0 | 0.0 | 2.0             | 2.0 | 2.0  | 28.7                 |
| Nyandarua          | 1.8             | 3.2 | 4.9 | 1.0             | 1.8 | 1.8 | 1.9             | 1.9 | 1.9  | 49.2                 |
| Nyeri              | 2.9             | 2.9 | 2.9 | 0.5             | 1.4 | 1.4 | 0.0             | 0.0 | 0.0  | 31.0                 |
| Thika              | 1.9             | 1.9 | 1.9 | 7.8             | 7.8 | 7.8 | 0.0             | 0.0 | 0.0  | 32.7                 |
| Maragua            | 2.3             | 5.6 | 5.6 | 0.7             | 0.7 | 2.3 | 0.0             | 0.0 | 0.0  | 31.1                 |
| Kilifi             | 0.0             | 0.0 | 0.0 | 0.0             | 0.0 | 0.0 | 0.0             | 0.0 | 0.0  | 65.0                 |
| Kwale              | 0.5             | 0.5 | 1.6 | 0.5             | 1.4 | 1.4 | 0.5             | 0.5 | 0.5  | 72.6                 |
| Lamu               | 0.0             | 0.0 | 0.0 | 0.0             | 0.5 | 1.9 | 5.0             | 5.0 | 6.4  | 31.6                 |
| Mombasa            | 0.0             | 0.0 | 0.0 | 0.0             | 0.0 | 0.0 | 0.0             | 0.0 | 0.0  | 37.6                 |
| Taita Taveta       | 0.0             | 0.3 | 0.3 | 0.0             | 0.0 | 0.0 | 0.7             | 0.7 | 0.7  | 55.0                 |
| Tana River         | 1.4             | 1.4 | 1.4 | 0.0             | 0.0 | 0.0 | 1.3             | 1.4 | 1.4  | 75.2                 |
| Malindi            | 0.0             | 0.0 | 1.0 | 0.8             | 1.7 | 1.7 | 0.0             | 0.0 | 1.0  | 67.9                 |
| Embu               | 0.0             | 0.0 | 0.0 | 0.0             | 0.0 | 0.0 | 0.0             | 3.4 | 3.4  | 35.9                 |
| Isiolo             | 0.5             | 0.5 | 0.5 | 0.9             | 0.9 | 0.9 | 0.0             | 0.0 | 0.0  | 62.5                 |
| Kitui              | 0.0             | 0.0 | 0.0 | 0.0             | 0.9 | 0.9 | 0.0             | 0.0 | 0.0  | 62.9                 |
| Makueni            | 0.0             | 0.4 | 0.4 | 0.0             | 3.5 | 4.3 | 0.0             | 0.7 | 0.7  | 63.9                 |
| Machakos           | 3.4             | 4.1 | 4.1 | 0.4             | 0.9 | 0.9 | 0.0             | 0.0 | 0.0  | 56.1                 |
| Marsabit           | 0.0             | 0.0 | 0.3 | 0.0             | 0.0 | 0.0 | 0.0             | 0.0 | 0.0  | 89.8                 |
| Mbeere             | 0.9             | 2.4 | 2.4 | 0.0             | 0.0 | 0.0 | 0.3             | 0.3 | 1.7  | 49.9                 |
| Meru Central       | 0.0             | 5.3 | 5.3 | 0.0             | 0.0 | 5.4 | 1.4             | 6.7 | 12.1 | 23.9                 |
| Moyale             | 3.7             | 3.7 | 5.2 | 2.8             | 2.8 | 2.8 | 0.2             | 0.7 | 0.7  | 61.1                 |
| Mwingi             | 0.0             | 0.0 | 0.0 | 0.2             | 0.2 | 0.2 | 0.0             | 0.0 | 0.9  | 60.9                 |
| Meru North         | 1.5             | 1.5 | 1.5 | 0.0             | 0.0 | 0.0 | 0.0             | 0.0 | 0.0  | 29.6                 |
| Tharaka            | 2.5             | 2.5 | 3.8 | 0.6             | 0.6 | 0.6 | 0.0             | 0.0 | 0.0  | 48.9                 |
| Meru South         | 0.0             | 0.0 | 0.0 | 0.0             | 0.0 | 0.0 | 0.8             | 2.6 | 2.6  | 31.3                 |
| Garissa            | 1.0             | 1.0 | 1.0 | 0.9             | 0.9 | 0.9 | 1.0             | 1.1 | 1.1  | 55.0                 |
| Mandera            | 0.0             | 0.0 | 0.0 | 0.0             | 0.3 | 0.3 | 0.0             | 0.0 | 0.0  | 86.6                 |
| Wajir              | 0.0             | 0.0 | 0.0 | 0.0             | 0.0 | 0.0 | 0.0             | 0.0 | 0.0  | 84.7                 |
| Gucha              | 1.1             | 1.1 | 1.3 | 0.0             | 0.5 | 0.5 | 0.0             | 0.0 | 0.3  | 66.8                 |
| Homa Bay           | 1.0             | 2.4 | 2.4 | 1.5             | 1.5 | 1.5 | 0.0             | 0.0 | 0.0  | 43.9                 |
| Kisii              | 0.5             | 1.6 | 1.6 | 0.0             | 0.0 | 0.0 | 0.0             | 0.0 | 0.0  | 49.8                 |
| Kisumu             | 0.4             | 0.4 | 0.4 | 0.0             | 0.0 | 0.0 | 0.4             | 0.4 | 0.4  | 43.6                 |
| Kuria              | 0.7             | 0.7 | 0.7 | 0.0             | 0.0 | 0.0 | 0.0             | 0.0 | 0.0  | 59.1                 |
| Migori             | 0.4             | 0.4 | 0.4 | 0.0             | 0.0 | 0.0 | 0.0             | 0.0 | 0.0  | 42.1                 |
| Nyamira            | 0.7             | 0.7 | 1.8 | 0.7             | 2.3 | 2.3 | 0.0             | 0.0 | 0.0  | 46.8                 |
| Rachuonyo          | 0.0             | 2.0 | 2.0 | 0.0             | 0.0 | 0.0 | 1.4             | 1.4 | 1.4  | 40.0                 |
| Siaya              | 3.2             | 3.2 | 4.0 | 0.0             | 0.0 | 0.0 | 0.4             | 0.4 | 1.1  | 40.0                 |
| Suba               | 0.0             | 1.2 | 1.2 | 0.8             | 2.0 | 2.9 | 0.0             | 0.0 | 0.0  | 51.2                 |

|               |     |     |     |     |     |     |     |     |     |      |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Bondo         | 0.0 | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 26.0 |
| Nyando        | 0.2 | 3.2 | 3.2 | 1.6 | 1.6 | 1.6 | 0.0 | 0.0 | 0.0 | 48.8 |
| Baringo       | 1.7 | 1.7 | 1.7 | 2.0 | 2.0 | 3.8 | 2.6 | 3.3 | 3.3 | 60.1 |
| Bomet         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 58.5 |
| Keiyo         | 0.8 | 1.6 | 1.6 | 5.3 | 5.3 | 5.3 | 0.0 | 0.0 | 0.0 | 45.5 |
| Kajiado       | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8.7 | 0.0 | 0.0 | 0.0 | 11.9 |
| Kericho       | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 | 1.9 | 40.8 |
| Koibatek      | 1.0 | 2.5 | 3.5 | 0.0 | 0.8 | 0.8 | 0.0 | 0.8 | 0.8 | 56.4 |
| Laikipia      | 1.2 | 2.3 | 7.2 | 1.5 | 3.5 | 4.1 | 3.7 | 5.7 | 5.7 | 47.0 |
| Marakwet      | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 | 0.0 | 0.0 | 0.0 | 66.4 |
| Nakuru        | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 | 0.0 | 41.0 |
| Nandi         | 0.0 | 0.0 | 6.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3 | 46.6 |
| Narok         | 2.3 | 2.3 | 2.3 | 0.0 | 7.2 | 7.2 | 0.0 | 7.2 | 7.2 | 27.3 |
| Samburu       | 0.0 | 0.0 | 0.0 | 0.8 | 0.8 | 0.8 | 0.8 | 1.6 | 1.6 | 78.3 |
| Trans Mara    | 1.4 | 1.4 | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 51.2 |
| Trans Nzoia   | 0.0 | 0.8 | 0.8 | 2.2 | 3.4 | 3.4 | 1.6 | 2.1 | 2.1 | 49.4 |
| Turkana       | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 93.3 |
| Uasin Gishu   | 0.0 | 0.0 | 0.0 | 1.4 | 1.4 | 1.4 | 0.0 | 0.0 | 0.0 | 44.0 |
| West Pokot    | 1.5 | 3.9 | 3.9 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 67.8 |
| Buret         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 32.8 |
| Bungoma       | 0.0 | 0.0 | 0.4 | 0.0 | 0.5 | 0.5 | 0.3 | 0.3 | 0.3 | 50.3 |
| Busia         | 0.0 | 0.0 | 0.0 | 0.4 | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 | 68.6 |
| Mt. Elgon     | 0.0 | 0.3 | 1.8 | 0.0 | 0.0 | 1.1 | 0.2 | 0.2 | 0.2 | 58.0 |
| Kakamega      | 0.7 | 0.7 | 1.4 | 1.1 | 1.1 | 1.1 | 0.0 | 0.0 | 0.0 | 52.7 |
| Lugari        | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 1.4 | 0.0 | 0.0 | 0.0 | 46.9 |
| Teso          | 0.5 | 0.5 | 1.7 | 0.9 | 0.9 | 0.9 | 0.0 | 0.0 | 0.0 | 58.2 |
| Vihiga        | 0.0 | 0.0 | 0.0 | 1.4 | 1.4 | 1.4 | 0.0 | 0.0 | 2.0 | 40.7 |
| Butere/Mumias | 0.0 | 0.0 | 1.6 | 3.5 | 4.5 | 4.5 | 1.0 | 2.0 | 2.0 | 51.8 |



Appendix 4: Percentage reduction in absolute poverty rate by district after Scenario 3 (poverty targeted – poorest 51 per cent of households with an older person), entire population

| Age of Eligibility | 60              |      |      | 65              |     |      | 70              |      |      | Initial poverty rate |
|--------------------|-----------------|------|------|-----------------|-----|------|-----------------|------|------|----------------------|
| District           | Transfer level: |      |      | Transfer level: |     |      | Transfer level: |      |      |                      |
|                    | 1               | 2    | 3    | 1               | 2   | 3    | 1               | 2    | 3    |                      |
| Nairobi            | 0.0             | 0.0  | 0.0  | 0.0             | 0.0 | 0.0  | 0.0             | 0.0  | 0.0  | 21.3                 |
| Kiambu             | 7.4             | 7.4  | 10.8 | 0.0             | 0.0 | 0.0  | 2.9             | 2.9  | 2.9  | 21.2                 |
| Kirinyaga          | 7.3             | 7.3  | 7.3  | 0.0             | 0.0 | 0.0  | 0.0             | 0.0  | 0.0  | 25.2                 |
| Murang’a           | 8.7             | 16.2 | 16.2 | 4.4             | 4.4 | 4.4  | 6.3             | 7.0  | 7.0  | 28.7                 |
| Nyandarua          | 4.6             | 6.0  | 7.7  | 2.8             | 3.6 | 6.4  | 3.4             | 3.4  | 3.4  | 49.2                 |
| Nyeri              | 5.2             | 5.2  | 5.2  | 3.9             | 4.9 | 5.5  | 0.0             | 0.0  | 0.0  | 31.0                 |
| Thika              | 3.2             | 4.6  | 4.6  | 9.2             | 9.2 | 9.2  | 7.2             | 7.2  | 7.2  | 32.7                 |
| Maragua            | 3.5             | 6.9  | 6.9  | 2.3             | 2.3 | 3.8  | 0.0             | 0.0  | 0.0  | 31.1                 |
| Kilifi             | 1.0             | 1.0  | 1.0  | 0.1             | 0.1 | 0.1  | 0.0             | 0.0  | 0.0  | 65.0                 |
| Kwale              | 0.5             | 0.5  | 1.7  | 0.5             | 1.4 | 1.4  | 0.5             | 0.5  | 0.5  | 72.6                 |
| Lamu               | 0.4             | 2.6  | 2.6  | 0.0             | 5.0 | 6.4  | 5.4             | 11.2 | 12.5 | 31.6                 |
| Mombasa            | 0.0             | 0.0  | 0.0  | 0.0             | 0.0 | 0.0  | 0.0             | 0.0  | 0.0  | 37.6                 |
| Taita Taveta       | 7.2             | 7.5  | 10.4 | 3.2             | 3.2 | 5.2  | 5.4             | 5.4  | 5.4  | 55.0                 |
| Tana River         | 1.4             | 2.6  | 2.6  | 2.5             | 2.5 | 2.5  | 1.4             | 1.6  | 1.6  | 75.2                 |
| Malindi            | 1.0             | 2.4  | 3.3  | 0.8             | 2.5 | 2.5  | 0.2             | 0.7  | 1.6  | 67.9                 |
| Embu               | 0.0             | 3.4  | 3.4  | 0.0             | 3.4 | 3.4  | 0.0             | 3.4  | 3.4  | 35.9                 |
| Isiolo             | 1.4             | 1.9  | 1.9  | 1.1             | 1.1 | 1.1  | 0.9             | 0.9  | 1.7  | 62.5                 |
| Kitui              | 0.6             | 0.6  | 0.6  | 0.1             | 1.0 | 1.9  | 0.1             | 1.0  | 1.0  | 62.9                 |
| Makueni            | 1.9             | 2.9  | 2.9  | 2.3             | 5.8 | 6.9  | 0.0             | 2.1  | 2.9  | 63.9                 |
| Machakos           | 5.7             | 8.0  | 8.0  | 0.4             | 2.1 | 2.1  | 4.3             | 4.3  | 4.3  | 56.1                 |
| Marsabit           | 0.7             | 0.7  | 1.0  | 0.7             | 0.7 | 1.0  | 0.0             | 0.0  | 0.0  | 89.8                 |
| Mbeere             | 0.9             | 4.1  | 4.1  | 1.0             | 2.8 | 4.1  | 1.0             | 2.4  | 3.8  | 49.9                 |
| Meru Central       | 2.7             | 8.0  | 8.0  | 2.7             | 8.0 | 13.4 | 1.4             | 6.7  | 12.1 | 23.9                 |
| Moyale             | 3.7             | 4.1  | 5.7  | 2.8             | 2.8 | 2.8  | 2.8             | 3.3  | 3.3  | 61.1                 |
| Mwingi             | 0.0             | 0.0  | 3.3  | 2.4             | 2.4 | 4.3  | 0.7             | 0.7  | 3.5  | 60.9                 |
| Meru North         | 3.9             | 9.2  | 9.2  | 3.9             | 3.9 | 3.9  | 1.5             | 1.5  | 3.7  | 29.6                 |
| Tharaka            | 3.5             | 3.5  | 4.8  | 0.6             | 0.6 | 0.6  | 1.7             | 1.7  | 1.7  | 48.9                 |
| Meru South         | 1.8             | 1.8  | 1.8  | 1.8             | 1.8 | 1.8  | 3.3             | 5.0  | 5.0  | 31.3                 |
| Garissa            | 1.4             | 1.5  | 2.3  | 1.7             | 1.7 | 1.7  | 1.9             | 1.9  | 1.9  | 55.0                 |
| Mandera            | 0.0             | 0.0  | 0.1  | 0.0             | 0.3 | 0.3  | 0.0             | 0.1  | 0.1  | 86.6                 |
| Wajir              | 0.0             | 0.0  | 0.0  | 0.0             | 0.4 | 0.7  | 0.0             | 0.0  | 0.4  | 84.7                 |
| Gucha              | 2.1             | 2.6  | 3.1  | 1.1             | 1.6 | 2.4  | 0.0             | 0.5  | 1.2  | 66.8                 |
| Homa Bay           | 3.4             | 8.0  | 8.5  | 2.9             | 6.2 | 6.2  | 1.9             | 1.9  | 1.9  | 43.9                 |
| Kisii              | 2.1             | 3.2  | 5.9  | 1.7             | 1.7 | 6.2  | 0.0             | 0.0  | 0.0  | 49.8                 |
| Kisumu             | 2.3             | 3.4  | 3.4  | 0.0             | 1.8 | 1.8  | 0.7             | 1.8  | 1.8  | 43.6                 |
| Kuria              | 0.7             | 1.9  | 2.2  | 0.0             | 0.6 | 0.8  | 0.7             | 0.7  | 0.7  | 59.1                 |
| Migori             | 2.6             | 2.6  | 2.6  | 2.2             | 2.2 | 2.2  | 2.2             | 2.8  | 2.8  | 42.1                 |
| Nyamira            | 0.7             | 2.3  | 3.5  | 0.7             | 2.3 | 2.3  | 0.0             | 0.0  | 1.1  | 46.8                 |
| Rachuonyo          | 0.0             | 2.0  | 3.0  | 1.4             | 2.4 | 2.4  | 1.4             | 2.5  | 3.5  | 40.0                 |
| Siaya              | 3.2             | 3.2  | 4.7  | 0.0             | 0.0 | 0.7  | 0.4             | 0.4  | 1.9  | 40.0                 |
| Suba               | 0.8             | 2.0  | 3.9  | 0.8             | 2.0 | 5.7  | 0.8             | 0.8  | 1.9  | 51.2                 |

|               |     |     |     |     |      |      |     |     |     |      |
|---------------|-----|-----|-----|-----|------|------|-----|-----|-----|------|
| Bondo         | 0.0 | 0.6 | 3.3 | 0.0 | 0.0  | 2.6  | 0.0 | 0.0 | 0.0 | 26.0 |
| Nyando        | 0.2 | 3.2 | 3.2 | 1.6 | 1.6  | 1.6  | 0.0 | 0.0 | 0.0 | 48.8 |
| Baringo       | 4.6 | 4.6 | 4.6 | 4.6 | 5.3  | 7.1  | 4.6 | 6.1 | 7.9 | 60.1 |
| Bomet         | 0.0 | 0.4 | 0.4 | 0.0 | 0.0  | 0.0  | 0.0 | 0.4 | 0.4 | 58.5 |
| Keiyo         | 2.4 | 3.2 | 4.0 | 5.3 | 5.3  | 5.3  | 1.6 | 1.6 | 1.6 | 45.5 |
| Kajiado       | 0.0 | 0.0 | 8.7 | 0.0 | 0.0  | 8.7  | 0.0 | 0.0 | 8.7 | 11.9 |
| Kericho       | 0.0 | 0.0 | 0.0 | 2.0 | 3.7  | 3.7  | 1.3 | 3.1 | 3.2 | 40.8 |
| Koibatek      | 1.0 | 3.3 | 4.3 | 1.0 | 1.9  | 1.9  | 0.2 | 1.1 | 2.1 | 56.4 |
| Laikipia      | 1.5 | 2.6 | 7.5 | 1.5 | 3.5  | 6.6  | 3.7 | 5.7 | 8.3 | 47.0 |
| Marakwet      | 2.6 | 2.6 | 2.6 | 1.4 | 1.4  | 1.4  | 0.0 | 0.0 | 0.0 | 66.4 |
| Nakuru        | 1.7 | 1.7 | 3.0 | 0.3 | 0.3  | 1.6  | 0.0 | 0.0 | 0.0 | 41.0 |
| Nandi         | 0.4 | 0.4 | 7.0 | 0.4 | 0.4  | 2.5  | 0.0 | 0.0 | 2.3 | 46.6 |
| Narok         | 2.3 | 2.3 | 2.5 | 0.0 | 11.2 | 11.2 | 0.0 | 7.2 | 7.2 | 27.3 |
| Samburu       | 1.1 | 1.1 | 1.1 | 1.9 | 1.9  | 1.9  | 0.8 | 1.6 | 1.6 | 78.3 |
| Trans Mara    | 1.4 | 1.4 | 1.4 | 0.0 | 0.0  | 1.7  | 0.8 | 0.8 | 0.8 | 51.2 |
| Trans Nzoia   | 1.6 | 3.5 | 3.9 | 3.8 | 7.4  | 7.4  | 1.6 | 2.3 | 2.3 | 49.4 |
| Turkana       | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 93.3 |
| Uasin Gishu   | 1.1 | 1.1 | 1.1 | 5.6 | 5.6  | 5.6  | 0.0 | 0.0 | 0.0 | 44.0 |
| West Pokot    | 2.1 | 5.5 | 5.5 | 0.9 | 2.6  | 3.6  | 0.4 | 0.4 | 0.4 | 67.8 |
| Buret         | 0.0 | 0.0 | 0.0 | 0.0 | 3.0  | 3.0  | 0.0 | 0.0 | 0.0 | 32.8 |
| Bungoma       | 0.3 | 0.8 | 1.2 | 0.3 | 0.8  | 0.8  | 0.3 | 0.8 | 0.8 | 50.3 |
| Busia         | 0.9 | 0.9 | 0.9 | 0.4 | 0.4  | 0.4  | 0.0 | 0.0 | 0.0 | 68.6 |
| Mt. Elgon     | 0.2 | 0.6 | 2.0 | 0.0 | 0.1  | 1.2  | 0.2 | 0.2 | 1.4 | 58.0 |
| Kakamega      | 2.9 | 3.0 | 8.1 | 1.5 | 1.5  | 1.5  | 0.0 | 0.0 | 0.0 | 52.7 |
| Lugari        | 0.4 | 0.4 | 0.4 | 0.1 | 0.1  | 1.4  | 0.4 | 0.4 | 0.4 | 46.9 |
| Teso          | 2.5 | 2.5 | 3.8 | 0.9 | 0.9  | 0.9  | 0.9 | 0.9 | 0.9 | 58.2 |
| Vihiga        | 4.0 | 4.0 | 4.0 | 2.4 | 2.4  | 4.4  | 0.0 | 0.0 | 2.0 | 40.7 |
| Butere/Mumias | 5.9 | 5.9 | 8.0 | 3.9 | 8.5  | 10.1 | 3.9 | 8.5 | 8.5 | 51.8 |

Appendix 5: Percentage reduction in absolute poverty rate by district after Scenario 4 (poverty targeted – with an exclusion error of 43 per cent and no inclusion error), entire population

| Age of Eligibility | 60              |      |      | 65              |      |      | 70              |     |     | Initial poverty rate |
|--------------------|-----------------|------|------|-----------------|------|------|-----------------|-----|-----|----------------------|
| District           | Transfer level: |      |      | Transfer level: |      |      | Transfer level: |     |     |                      |
|                    | 1               | 2    | 3    | 1               | 2    | 3    | 1               | 2   | 3   |                      |
| Nairobi            | 0.0             | 0.0  | 0.7  | 0.0             | 0.0  | 0.0  | 0.0             | 0.0 | 0.7 | 21.3                 |
| Kiambu             | 7.4             | 11.9 | 15.3 | 1.9             | 6.4  | 9.6  | 1.9             | 1.9 | 1.9 | 21.2                 |
| Kirinyaga          | 4.8             | 4.8  | 4.8  | 0.0             | 0.0  | 0.0  | 0.0             | 1.9 | 1.9 | 25.2                 |
| Murang’a           | 7.4             | 8.1  | 8.1  | 5.1             | 5.1  | 6.3  | 8.9             | 9.6 | 9.6 | 28.7                 |
| Nyandarua          | 5.3             | 7.4  | 7.4  | 2.5             | 2.5  | 4.4  | 2.9             | 3.1 | 4.2 | 49.2                 |
| Nyeri              | 3.5             | 3.5  | 3.5  | 3.5             | 4.4  | 4.4  | 0.8             | 0.8 | 0.8 | 31.0                 |
| Thika              | 6.3             | 7.7  | 7.7  | 8.5             | 8.5  | 8.5  | 7.2             | 7.2 | 7.2 | 32.7                 |
| Maragua            | 3.4             | 6.7  | 9.6  | 0.0             | 0.0  | 0.0  | 1.6             | 1.6 | 1.6 | 31.1                 |
| Kilifi             | 1.4             | 1.4  | 2.7  | 1.0             | 3.0  | 4.3  | 0.0             | 0.0 | 1.3 | 65.0                 |
| Kwale              | 0.5             | 1.1  | 3.4  | 0.5             | 1.1  | 1.1  | 0.0             | 0.9 | 0.9 | 72.6                 |
| Lamu               | 1.7             | 2.2  | 2.2  | 7.7             | 11.9 | 11.9 | 0.0             | 5.7 | 7.1 | 31.6                 |
| Mombasa            | 0.0             | 0.4  | 0.4  | 0.0             | 0.0  | 0.0  | 0.0             | 0.0 | 0.0 | 37.6                 |
| Taita Taveta       | 7.9             | 8.4  | 10.4 | 0.7             | 1.8  | 1.8  | 5.4             | 5.4 | 5.4 | 55.0                 |
| Tana River         | 3.2             | 4.3  | 4.3  | 2.0             | 3.3  | 3.3  | 1.3             | 1.4 | 1.4 | 75.2                 |
| Malindi            | 0.2             | 0.6  | 1.5  | 0.8             | 1.3  | 2.2  | 0.0             | 0.5 | 1.4 | 67.9                 |
| Embu               | 3.4             | 3.4  | 3.4  | 3.4             | 3.4  | 7.2  | 0.0             | 0.0 | 3.8 | 35.9                 |
| Isiolo             | 1.1             | 1.7  | 2.6  | 1.1             | 1.1  | 1.1  | 1.1             | 1.1 | 1.1 | 62.5                 |
| Kitui              | 1.6             | 1.8  | 5.5  | 0.0             | 1.8  | 4.6  | 1.0             | 1.7 | 5.5 | 62.9                 |
| Makueni            | 1.9             | 4.4  | 4.4  | 2.6             | 4.1  | 5.2  | 0.4             | 0.4 | 0.4 | 63.9                 |
| Machakos           | 10.3            | 12.2 | 12.3 | 6.3             | 7.6  | 7.6  | 4.7             | 4.7 | 4.7 | 56.1                 |
| Marsabit           | 0.0             | 0.0  | 0.3  | 0.7             | 0.7  | 0.7  | 0.0             | 0.0 | 0.0 | 89.8                 |
| Mbeere             | 1.3             | 2.7  | 6.2  | 1.0             | 4.2  | 6.9  | 1.2             | 1.2 | 3.9 | 49.9                 |
| Meru Central       | 10.7            | 10.7 | 16.2 | 9.4             | 9.4  | 9.4  | 6.7             | 6.7 | 6.7 | 23.9                 |
| Moyale             | 4.2             | 5.0  | 7.8  | 2.3             | 2.6  | 4.5  | 1.2             | 2.0 | 2.0 | 61.1                 |
| Mwingi             | 0.8             | 0.8  | 4.9  | 0.9             | 1.3  | 3.3  | 0.9             | 1.3 | 3.3 | 60.9                 |
| Meru North         | 1.5             | 6.8  | 9.0  | 2.4             | 2.4  | 4.7  | 2.4             | 5.2 | 7.5 | 29.6                 |
| Tharaka            | 2.5             | 2.5  | 3.8  | 2.0             | 2.0  | 2.0  | 2.0             | 2.0 | 2.0 | 48.9                 |
| Meru South         | 2.3             | 2.3  | 2.3  | 1.2             | 5.1  | 5.1  | 3.5             | 3.5 | 3.5 | 31.3                 |
| Garissa            | 0.0             | 0.1  | 8.4  | 1.7             | 1.8  | 3.5  | 2.8             | 2.8 | 4.6 | 55.0                 |
| Mandera            | 0.0             | 0.0  | 1.2  | 0.0             | 0.1  | 0.3  | 0.0             | 0.3 | 0.5 | 86.6                 |
| Wajir              | 0.0             | 0.4  | 1.7  | 0.0             | 0.0  | 1.1  | 0.7             | 0.7 | 1.1 | 84.7                 |
| Gucha              | 0.7             | 0.7  | 1.0  | 0.0             | 0.5  | 1.4  | 0.4             | 0.4 | 0.8 | 66.8                 |
| Homa Bay           | 3.4             | 6.7  | 7.2  | 0.5             | 5.6  | 6.1  | 1.0             | 1.0 | 1.5 | 43.9                 |
| Kisii              | 2.1             | 2.8  | 2.8  | 0.0             | 3.0  | 5.6  | 0.0             | 2.3 | 2.3 | 49.8                 |
| Kisumu             | 3.0             | 3.0  | 3.0  | 0.4             | 2.1  | 2.1  | 0.4             | 0.4 | 0.4 | 43.6                 |
| Kuria              | 0.0             | 0.0  | 0.3  | 0.0             | 0.6  | 0.8  | 0.7             | 0.7 | 0.7 | 59.1                 |
| Migori             | 6.8             | 7.4  | 9.2  | 4.7             | 6.2  | 8.2  | 0.0             | 0.7 | 0.7 | 42.1                 |
| Nyamira            | 2.8             | 8.7  | 11.6 | 1.1             | 1.9  | 1.9  | 0.0             | 0.8 | 0.8 | 46.8                 |
| Rachuonyo          | 3.2             | 7.3  | 9.2  | 1.0             | 2.0  | 3.8  | 1.4             | 2.4 | 2.4 | 40.0                 |
| Siaya              | 3.2             | 3.2  | 4.7  | 1.3             | 1.3  | 2.0  | 0.0             | 0.0 | 1.4 | 40.0                 |
| Suba               | 0.0             | 0.0  | 1.9  | 0.0             | 0.0  | 3.8  | 0.0             | 0.0 | 1.0 | 51.2                 |
| Bondo              | 2.6             | 8.0  | 8.0  | 1.0             | 6.4  | 9.0  | 1.0             | 6.4 | 6.4 | 26.0                 |

|               |     |      |      |     |     |     |     |     |     |      |
|---------------|-----|------|------|-----|-----|-----|-----|-----|-----|------|
| Nyando        | 1.5 | 1.5  | 1.5  | 2.8 | 2.8 | 2.8 | 1.5 | 1.5 | 1.5 | 48.8 |
| Baringo       | 2.9 | 4.0  | 4.0  | 0.0 | 1.3 | 4.4 | 4.6 | 6.1 | 7.9 | 60.1 |
| Bomet         | 0.8 | 0.8  | 2.5  | 0.0 | 0.0 | 2.1 | 0.4 | 0.4 | 0.4 | 58.5 |
| Keiyo         | 7.2 | 9.1  | 9.9  | 5.3 | 8.0 | 8.0 | 1.6 | 1.6 | 1.6 | 45.5 |
| Kajiado       | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 8.7 | 0.0 | 0.0 | 0.0 | 11.9 |
| Kericho       | 3.3 | 5.1  | 5.1  | 2.0 | 2.0 | 2.0 | 0.0 | 0.0 | 0.1 | 40.8 |
| Koibatek      | 1.0 | 3.3  | 4.3  | 0.0 | 0.2 | 1.2 | 0.2 | 1.3 | 1.3 | 56.4 |
| Laikipia      | 5.2 | 7.6  | 10.0 | 4.9 | 4.9 | 7.3 | 4.0 | 4.0 | 5.8 | 47.0 |
| Marakwet      | 1.1 | 2.8  | 4.9  | 1.4 | 1.9 | 4.2 | 1.1 | 1.1 | 1.1 | 66.4 |
| Nakuru        | 1.4 | 5.5  | 5.5  | 0.0 | 1.6 | 1.7 | 1.4 | 3.4 | 4.1 | 41.0 |
| Nandi         | 0.4 | 2.3  | 5.4  | 0.4 | 1.2 | 2.1 | 0.0 | 0.0 | 2.3 | 46.6 |
| Narok         | 2.3 | 13.6 | 13.6 | 0.0 | 7.2 | 7.2 | 0.0 | 7.2 | 7.2 | 27.3 |
| Samburu       | 1.9 | 1.9  | 1.9  | 0.8 | 1.6 | 1.6 | 0.8 | 1.6 | 1.6 | 78.3 |
| Trans Mara    | 4.3 | 4.3  | 4.3  | 0.8 | 0.8 | 3.3 | 0.0 | 0.0 | 0.0 | 51.2 |
| Trans Nzoia   | 5.5 | 6.2  | 6.2  | 5.0 | 6.7 | 6.7 | 1.6 | 2.1 | 2.1 | 49.4 |
| Turkana       | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 93.3 |
| Uasin Gishu   | 4.2 | 8.2  | 8.2  | 1.4 | 3.6 | 3.6 | 0.0 | 2.2 | 2.2 | 44.0 |
| West Pokot    | 2.5 | 4.8  | 4.8  | 0.6 | 3.0 | 3.0 | 0.0 | 1.1 | 2.1 | 67.8 |
| Buret         | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 32.8 |
| Bungoma       | 0.0 | 0.5  | 0.9  | 0.0 | 0.5 | 0.5 | 0.3 | 0.3 | 1.3 | 50.3 |
| Busia         | 0.9 | 3.3  | 6.3  | 0.4 | 0.4 | 3.4 | 0.9 | 0.9 | 0.9 | 68.6 |
| Mt. Elgon     | 0.0 | 0.3  | 1.8  | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 | 2.5 | 58.0 |
| Kakamega      | 1.6 | 1.6  | 5.9  | 1.9 | 1.9 | 6.3 | 0.3 | 0.3 | 0.3 | 52.7 |
| Lugari        | 0.4 | 0.4  | 1.8  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 46.9 |
| Teso          | 5.5 | 5.5  | 6.2  | 1.2 | 1.2 | 1.2 | 0.0 | 0.0 | 0.0 | 58.2 |
| Vihiga        | 9.7 | 9.7  | 9.7  | 5.2 | 5.2 | 7.2 | 2.4 | 2.4 | 5.2 | 40.7 |
| Butere/Mumias | 2.9 | 8.0  | 8.0  | 2.7 | 5.4 | 6.9 | 0.5 | 0.5 | 2.1 | 51.8 |

Appendix 6 (A, B, C, D): Percentage reduction in absolute poverty rate and poverty gap of different groups after pension scenarios 1, 2, 3 and 4.

A: Scenario 1 (universal pension)

|   | Age of eligibility | Transfer 1   |             | Transfer 2   |             | Transfer 3   |             |
|---|--------------------|--------------|-------------|--------------|-------------|--------------|-------------|
|   |                    | Poverty rate | Poverty gap | Poverty rate | Poverty gap | Poverty rate | Poverty gap |
| Entire Population                                     | 60                 | 10.5         | 7.9         | 12.6         | 11.2        | 14.7         | 13.9        |
|   | 65                 | 9.3          | 5.7         | 10.9         | 8.0         | 12.4         | 10.0        |
|   | 70                 | 8.3          | 3.8         | 9.3          | 5.4         | 10.3         | 6.7         |
| Older people aged 60+                                 | 60                 | 23.1         | 36.2        | 34.1         | 48.7        | 44.1         | 58.0        |
|   | 65                 | 16.9         | 36.3        | 25.8         | 48.8        | 33.8         | 57.8        |
|   | 70                 | 12.3         | 36.2        | 18.7         | 48.6        | 23.7         | 57.5        |
| Household with older people (60+)                     | 60                 | 14.3         | 25.1        | 21.7         | 35.4        | 29.4         | 44.1        |
|   | 65                 | 10.0         | 25.2        | 15.6         | 35.6        | 21.3         | 44.3        |
|   | 70                 | 6.6          | 24.1        | 10.1         | 34.0        | 13.4         | 42.4        |
| Children (0-14)                                       | 60                 | 2.7          | 22.3        | 4.4          | 32.1        | 6.0          | 40.6        |
|   | 65                 | 1.9          | 16.0        | 3.2          | 23.0        | 4.3          | 29.2        |
|   | 70                 | 1.2          | 10.4        | 1.9          | 15.1        | 2.6          | 19.2        |
| Household with children (0-14) and older people (60+) | 60                 | 11.3         | 24.6        | 18.2         | 35.1        | 25.2         | 44.2        |
|   | 65                 | 8.0          | 22.5        | 13.2         | 32.3        | 18.3         | 41.0        |
|   | 70                 | 4.9          | 14.7        | 7.8          | 21.2        | 10.7         | 42.1        |

B: Scenario 2 (poverty targeted – poorest 21 per cent of households with an older person)

|                                   | Age of eligibility | Transfer 1   |             | Transfer 2   |             | Transfer 3   |             |
|-----------------------------------|--------------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                                   |                    | Poverty rate | Poverty gap | Poverty rate | Poverty gap | Poverty rate | Poverty gap |
| Entire Population                 | 60                 | 7.2          | 1.6         | 7.5          | 2.4         | 8.0          | 3.0         |
|                                   | 65                 | 7.0          | 1.3         | 7.5          | 1.8         | 7.7          | 2.2         |
|                                   | 70                 | 6.8          | 1.5         | 7.1          | 1.3         | 7.3          | 1.6         |
| Older people aged 60+             | 60                 | 4.6          | 7.6         | 6.7          | 10.4        | 9.0          | 12.6        |
|                                   | 65                 | 4.1          | 7.9         | 7.0          | 10.9        | 8.1          | 13.3        |
|                                   | 70                 | 4.1          | 7.2         | 6.2          | 9.9         | 7.6          | 12.3        |
| Household with older people (60+) | 60                 | 2.3          | 5.2         | 3.5          | 7.5         | 5.2          | 9.5         |
|                                   | 65                 | 2.6          | 5.5         | 4.7          | 7.9         | 5.7          | 9.9         |
|                                   | 70                 | 2.4          | 5.6         | 4.2          | 8.0         | 5.4          | 10.2        |

C: Scenario 3 (poverty targeted – poorest 51 per cent of households with an older person)

|                                   | Age of eligibility | Transfer 1   |             | Transfer 2   |             | Transfer 3   |             |
|-----------------------------------|--------------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                                   |                    | Poverty rate | Poverty gap | Poverty rate | Poverty gap | Poverty rate | Poverty gap |
| Entire Population                 | 60                 | 8.3          | 3.9         | 9.1          | 5.6         | 9.9          | 7.2         |
|                                   | 65                 | 7.8          | 3.0         | 8.7          | 4.2         | 9.3          | 5.3         |
|                                   | 70                 | 7.5          | 2.0         | 8.0          | 2.9         | 8.4          | 3.7         |
| Older people aged 60+             | 60                 | 10.9         | 16.5        | 15.0         | 22.8        | 18.3         | 28.3        |
|                                   | 65                 | 9.9          | 17.3        | 15.4         | 23.9        | 19.1         | 29.5        |
|                                   | 70                 | 10.5         | 17.5        | 15.0         | 24.2        | 18.7         | 29.8        |
| Household with older people (60+) | 60                 | 6.5          | 12.4        | 9.2          | 17.8        | 12.0         | 22.7        |
|                                   | 65                 | 6.4          | 13.1        | 10.7         | 18.7        | 13.8         | 23.7        |
|                                   | 70                 | 6.7          | 12.9        | 10.3         | 18.5        | 13.2         | 23.5        |

D: Scenario 4 (poverty targeted – with an exclusion error of 43 per cent and no inclusion error)

|                                   | Age of eligibility | Transfer 1   |             | Transfer 2   |             | Transfer 3   |             |
|-----------------------------------|--------------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                                   |                    | Poverty rate | Poverty gap | Poverty rate | Poverty gap | Poverty rate | Poverty gap |
| Entire Population                 | 60                 | 2.7          | 4.4         | 4.0          | 6.2         | 5.1          | 7.7         |
|                                   | 65                 | 1.6          | 3.3         | 2.6          | 4.7         | 3.5          | 5.9         |
|                                   | 70                 | 1.1          | 2.0         | 1.6          | 2.8         | 2.2          | 3.4         |
| Older people aged 60+             | 60                 | 13.6         | 20.0        | 19.8         | 27.1        | 25.0         | 32.3        |
|                                   | 65                 | 10.7         | 20.6        | 17.4         | 28.1        | 23.4         | 33.4        |
|                                   | 70                 | 11.6         | 19.6        | 17.5         | 26.4        | 23.6         | 31.1        |
| Household with older people (60+) | 60                 | 8.9          | 13.9        | 13.5         | 19.7        | 17.3         | 24.5        |
|                                   | 65                 | 7.4          | 14.8        | 11.7         | 20.9        | 16.2         | 26.1        |
|                                   | 70                 | 7.6          | 12.4        | 10.7         | 17.5        | 14.8         | 21.7        |

Appendix 7 (A, B, C, D): Percentage reduction in hardcore poverty rate and poverty gap of different groups after pension scenarios 1, 2, 3 and 4.

A: Scenario 1 (universal pension)

|   | Age of eligibility | Transfer 1   |             | Transfer 2   |             | Transfer 3   |             |
|---|--------------------|--------------|-------------|--------------|-------------|--------------|-------------|
|   |                    | Poverty rate | Poverty gap | Poverty rate | Poverty gap | Poverty rate | Poverty gap |
| Entire Population                                     | 60                 | 9.0          | 13.5        | 13.3         | 18.0        | 16.7         | 21.3        |
|   | 65                 | 6.4          | 9.5         | 9.8          | 12.7        | 12.2         | 15.1        |
|   | 70                 | 4.3          | 6.4         | 6.1          | 8.5         | 8.0          | 10.1        |
| Older people aged 60+                                 | 60                 | 39.8         | 52.9        | 55.3         | 65.8        | 65.1         | 74.5        |
|   | 65                 | 39.6         | 52.7        | 54.2         | 65.6        | 64.3         | 74.6        |
|   | 70                 | 40.2         | 52.3        | 52.1         | 64.2        | 63.3         | 72.9        |
| Household with older people (60+)                     | 60                 | 27.3         | 39.9        | 40.4         | 53.1        | 50.8         | 63.0        |
|   | 65                 | 27.3         | 40.4        | 41.9         | 53.9        | 51.9         | 64.1        |
|   | 70                 | 26.2         | 38.1        | 37.2         | 50.7        | 48.7         | 60.5        |
| Children (0-14)                                       | 60                 | 6.2          | 10.7        | 9.8          | 14.6        | 12.8         | 17.6        |
|   | 65                 | 4.3          | 7.5         | 7.2          | 10.2        | 9.3          | 12.3        |
|   | 70                 | 3.0          | 5.1         | 4.6          | 6.9         | 6.3          | 8.3         |
| Household with children (0-14) and older people (60+) | 60                 | 23.3         | 37.6        | 36.7         | 51.0        | 47.5         | 61.1        |
|   | 65                 | 16.0         | 25.9        | 26.4         | 35.4        | 33.9         | 42.7        |
|   | 70                 | 10.5         | 17.3        | 15.6         | 23.8        | 21.7         | 28.9        |

B: Scenario 2 (poverty targeted – poorest 21 per cent of households with an older person)

|                                   | Age of eligibility | Transfer 1   |             | Transfer 2   |             | Transfer 3   |             |
|-----------------------------------|--------------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                                   |                    | Poverty rate | Poverty gap | Poverty rate | Poverty gap | Poverty rate | Poverty gap |
| Entire Population                 | 60                 | 2.0          | 3.0         | 2.8          | 4.2         | 3.6          | 5.1         |
|                                   | 65                 | 1.1          | 2.2         | 2.1          | 3.1         | 2.7          | 3.7         |
|                                   | 70                 | 1.2          | 1.5         | 1.7          | 2.0         | 2.2          | 2.4         |
| Older people aged 60+             | 60                 | 7.8          | 11.2        | 10.6         | 14.8        | 13.4         | 17.5        |
|                                   | 65                 | 6.3          | 13.2        | 11.7         | 17.4        | 14.3         | 20.1        |
|                                   | 70                 | 10.2         | 11.6        | 12.4         | 14.6        | 16.1         | 16.7        |
| Household with older people (60+) | 60                 | 6.2          | 8.9         | 8.4          | 12.4        | 11.1         | 15.1        |
|                                   | 65                 | 4.9          | 9.4         | 8.8          | 13.0        | 11.4         | 15.5        |
|                                   | 70                 | 7.4          | 9.0         | 10.2         | 12.0        | 13.3         | 14.2        |

C: Scenario 3 (poverty targeted – poorest 51 per cent of households with an older person)

|                                   | Age of eligibility | Transfer 1   |             | Transfer 2   |             | Transfer 3   |             |
|-----------------------------------|--------------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                                   |                    | Poverty rate | Poverty gap | Poverty rate | Poverty gap | Poverty rate | Poverty gap |
| Entire Population                 | 60                 | 4.6          | 7.0         | 6.8          | 9.6         | 8.7          | 11.7        |
|                                   | 65                 | 3.2          | 5.3         | 5.0          | 7.2         | 6.4          | 8.6         |
|                                   | 70                 | 2.8          | 3.5         | 3.7          | 4.7         | 4.6          | 5.7         |
| Older people aged 60+             | 60                 | 18.3         | 26.3        | 26.6         | 34.2        | 32.1         | 29.0        |
|                                   | 65                 | 17.9         | 28.6        | 26.8         | 37.0        | 32.8         | 31.5        |
|                                   | 70                 | 22.5         | 26.9        | 27.7         | 34.1        | 34.3         | 29.3        |
| Household with older people (60+) | 60                 | 14.0         | 20.8        | 20.7         | 28.4        | 26.4         | 34.5        |
|                                   | 65                 | 13.5         | 22.3        | 21.3         | 30.4        | 27.4         | 36.6        |
|                                   | 70                 | 17.2         | 21.1        | 22.5         | 28.2        | 28.2         | 34.0        |

D: Scenario 4 (poverty targeted – with an exclusion error of 43 per cent and no inclusion error)

|                                   | Age of eligibility | Transfer 1   |             | Transfer 2   |             | Transfer 3   |             |
|-----------------------------------|--------------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                                   |                    | Poverty rate | Poverty gap | Poverty rate | Poverty gap | Poverty rate | Poverty gap |
| Entire Population                 | 60                 | 5.3          | 7.7         | 7.7          | 10.1        | 9.5          | 12.0        |
|                                   | 65                 | 3.9          | 6.0         | 6.4          | 8.0         | 7.7          | 9.5         |
|                                   | 70                 | 2.3          | 3.0         | 3.1          | 3.9         | 3.9          | 4.7         |
| Older people aged 60+             | 60                 | 23.6         | 29.7        | 32.2         | 36.6        | 37.1         | 41.3        |
|                                   | 65                 | 23.7         | 33.0        | 33.8         | 41.2        | 39.7         | 46.9        |
|                                   | 70                 | 22.1         | 27.3        | 27.7         | 32.7        | 31.9         | 36.7        |
| Household with older people (60+) | 60                 | 15.9         | 22.6        | 23.4         | 29.9        | 28.7         | 35.5        |
|                                   | 65                 | 16.5         | 25.5        | 27.2         | 34.1        | 32.8         | 40.4        |
|                                   | 70                 | 14.1         | 17.8        | 18.8         | 23.4        | 23.6         | 27.9        |



Appendix 8 (A, B, C, D): Percentage reduction in absolute poverty rate and poverty gap of different groups, by area of residence after pension scenarios 1, 2, 3 and 4.

A: Scenario 1 (universal pension)

|                       |       | Age of eligibility | Transfer 1   |             | Transfer 2   |             | Transfer 3   |             |
|-----------------------|-------|--------------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                       |       |                    | Poverty rate | Poverty gap | Poverty rate | Poverty gap | Poverty rate | Poverty gap |
| Entire Population     | Rural | 60                 | 4.9          | 8.8         | 7.4          | 12.3        | 10.0         | 15.3        |
|                       |       | 65                 | 3.4          | 6.4         | 5.4          | 9.0         | 7.3          | 11.1        |
|                       |       | 75                 | 2.3          | 4.2         | 3.5          | 6.0         | 4.6          | 7.4         |
|                       | Urban | 60                 | 0.8          | 2.8         | 1.1          | 4.1         | 1.7          | 5.4         |
|                       |       | 65                 | 0.4          | 1.8         | 0.6          | 2.6         | 1.1          | 3.4         |
|                       |       | 70                 | 0.2          | 1.4         | 0.3          | 2.0         | 0.8          | 2.6         |
| Older people aged 60+ | Rural | 60                 | 24.3         | 37.6        | 35.9         | 50.4        | 46.0         | 59.9        |
|                       |       | 65                 | 23.6         | 37.5        | 36.0         | 50.2        | 46.1         | 59.4        |
|                       |       | 70                 | 23.7         | 37.8        | 36.2         | 50.4        | 45.3         | 59.5        |
|                       | Urban | 60                 | 11.4         | 22.9        | 15.2         | 32.3        | 24.3         | 39.9        |
|                       |       | 65                 | 8.8          | 22.5        | 11.2         | 32.5        | 24.2         | 40.6        |
|                       |       | 70                 | 4.0          | 21.0        | 7.1          | 30.9        | 21.6         | 38.3        |

B: Scenario 2 (poverty targeted – poorest 21 per cent of households with an older person)

|                       |       | Age of eligibility | Transfer 1   |             | Transfer 2   |             | Transfer 3   |             |
|-----------------------|-------|--------------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                       |       |                    | Poverty rate | Poverty gap | Poverty rate | Poverty gap | Poverty rate | Poverty gap |
| Entire Population     | Rural | 60                 | 0.8          | 1.8         | 1.2          | 2.6         | 1.8          | 3.3         |
|                       |       | 65                 | 0.7          | 1.4         | 1.2          | 2.0         | 1.5          | 2.6         |
|                       |       | 75                 | 0.4          | 1.0         | 0.7          | 1.4         | 1.0          | 1.8         |
|                       | Urban | 60                 | 0.1          | 0.5         | 0.1          | 0.8         | 0.2          | 1.0         |
|                       |       | 65                 | 0.1          | 0.2         | 0.1          | 0.3         | 0.1          | 0.3         |
|                       |       | 70                 | 0.0          | 0.3         | 0.0          | 0.4         | 0.0          | 0.6         |
| Older people aged 60+ | Rural | 60                 | 5.0          | 8.1         | 7.2          | 11.0        | 9.7          | 13.3        |
|                       |       | 65                 | 4.3          | 8.4         | 7.5          | 11.6        | 8.7          | 14.2        |
|                       |       | 70                 | 4.5          | 7.6         | 6.8          | 10.4        | 8.2          | 12.9        |
|                       | Urban | 60                 | 1.1          | 3.0         | 1.2          | 4.5         | 2.0          | 5.9         |
|                       |       | 65                 | 0.9          | 1.5         | 1.1          | 2.3         | 1.1          | 3.0         |
|                       |       | 70                 | 0.1          | 3.4         | 0.5          | 5.0         | 0.7          | 6.5         |

C: Scenario 3 (poverty targeted – poorest 51 per cent of households with an older person)

|                       |       | Age of eligibility | Transfer 1   |             | Transfer 2   |             | Transfer 3   |             |
|-----------------------|-------|--------------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                       |       |                    | Poverty rate | Poverty gap | Poverty rate | Poverty gap | Poverty rate | Poverty gap |
| Entire Population     | Rural | 60                 | 2.2          | 4.4         | 3.2          | 6.3         | 4.1          | 8.0         |
|                       |       | 65                 | 1.6          | 3.3         | 2.7          | 4.7         | 3.5          | 6.0         |
|                       |       | 75                 | 1.2          | 2.3         | 1.8          | 3.3         | 2.3          | 4.1         |
|                       | Urban | 60                 | 0.3          | 1.1         | 0.3          | 1.6         | 0.5          | 2.1         |
|                       |       | 65                 | 0.1          | 0.8         | 0.1          | 1.2         | 0.1          | 1.5         |
|                       |       | 70                 | 0.1          | 0.7         | 0.1          | 1.0         | 0.2          | 1.3         |
| Older people aged 60+ | Rural | 60                 | 11.7         | 17.5        | 16.2         | 24.1        | 19.7         | 29.9        |
|                       |       | 65                 | 10.5         | 18.3        | 16.4         | 25.2        | 20.4         | 31.0        |
|                       |       | 70                 | 11.4         | 18.3        | 16.2         | 25.1        | 20.2         | 30.8        |
|                       | Urban | 60                 | 2.3          | 7.0         | 2.9          | 10.3        | 4.3          | 13.4        |
|                       |       | 65                 | 2.6          | 6.8         | 3.9          | 9.9         | 3.9          | 12.8        |
|                       |       | 70                 | 1.3          | 10.4        | 3.0          | 15.3        | 3.5          | 20.1        |

D: Scenario 4 (poverty targeted – with an exclusion error of 43 per cent and no inclusion error)

|                       |       | Age of eligibility | Transfer 1   |             | Transfer 2   |             | Transfer 3   |             |
|-----------------------|-------|--------------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                       |       |                    | Poverty rate | Poverty gap | Poverty rate | Poverty gap | Poverty rate | Poverty gap |
| Entire Population     | Rural | 60                 | 3.1          | 4.9         | 4.7          | 6.9         | 6.0          | 8.6         |
|                       |       | 65                 | 1.9          | 3.8         | 3.0          | 5.4         | 4.2          | 6.7         |
|                       |       | 75                 | 1.4          | 2.2         | 1.9          | 3.1         | 2.6          | 3.8         |
|                       | Urban | 60                 | 0.0          | 1.3         | 0.1          | 1.9         | 0.3          | 2.4         |
|                       |       | 65                 | 0.0          | 0.6         | 0.0          | 0.9         | 0.0          | 1.3         |
|                       |       | 70                 | 0.0          | 0.6         | 0.0          | 0.9         | 0.2          | 1.1         |
| Older people aged 60+ | Rural | 60                 | 14.9         | 21.0        | 21.6         | 28.2        | 26.7         | 33.6        |
|                       |       | 65                 | 11.6         | 22.0        | 18.8         | 29.9        | 25.4         | 35.4        |
|                       |       | 70                 | 12.7         | 20.5        | 19.1         | 27.4        | 24.8         | 32.2        |
|                       | Urban | 60                 | 0.0          | 11.0        | 1.8          | 16.3        | 7.4          | 20.3        |
|                       |       | 65                 | 0.0          | 5.7         | 0.5          | 8.5         | 0.5          | 11.2        |
|                       |       | 70                 | 0.0          | 11.6        | 0.3          | 17.4        | 10.4         | 21.2        |

Appendix 9 (A, B, C, D): Percentage reduction in hardcore poverty rate and poverty gap of different groups, by area of residence after pension scenarios 1, 2, 3 and 4.

A: Scenario 1 (universal pension)

|                       |       | Age of eligibility | Transfer 1   |             | Transfer 2   |             | Transfer 3   |             |
|-----------------------|-------|--------------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                       |       |                    | Poverty rate | Poverty gap | Poverty rate | Poverty gap | Poverty rate | Poverty gap |
| Entire Population     | Rural | 60                 | 9.5          | 14.0        | 14.1         | 18.6        | 17.5         | 22.1        |
|                       |       | 65                 | 6.8          | 10.0        | 10.5         | 13.3        | 13.0         | 15.8        |
|                       |       | 75                 | 4.7          | 6.7         | 6.6          | 8.9         | 8.5          | 10.5        |
|                       | Urban | 60                 | 4.2          | 7.8         | 5.5          | 10.7        | 8.8          | 13.1        |
|                       |       | 65                 | 2.5          | 4.5         | 3.3          | 6.0         | 4.3          | 7.4         |
|                       |       | 70                 | 0.5          | 3.2         | 1.0          | 4.6         | 2.7          | 5.8         |
| Older people aged 60+ | Rural | 60                 | 40.6         | 53.7        | 56.7         | 66.7        | 66.3         | 75.4        |
|                       |       | 65                 | 39.9         | 53.0        | 54.9         | 66.1        | 65.1         | 75.1        |
|                       |       | 70                 | 41.8         | 53.4        | 54.1         | 65.2        | 64.6         | 73.8        |
|                       | Urban | 60                 | 26.2         | 39.4        | 33.1         | 50.6        | 46.4         | 58.9        |
|                       |       | 65                 | 32.4         | 45.6        | 39.1         | 56.5        | 49.4         | 65.1        |
|                       |       | 70                 | 8.6          | 33.5        | 13.7         | 46.9        | 38.6         | 57.4        |

B: Scenario 2 (poverty targeted – poorest 21 per cent of households with an older person)

|                       |       | Age of eligibility | Transfer 1   |             | Transfer 2   |             | Transfer 3   |             |
|-----------------------|-------|--------------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                       |       |                    | Poverty rate | Poverty gap | Poverty rate | Poverty gap | Poverty rate | Poverty gap |
| Entire Population     | Rural | 60                 | 2.2          | 3.1         | 3.0          | 4.3         | 3.9          | 5.2         |
|                       |       | 65                 | 1.3          | 2.3         | 2.2          | 3.2         | 2.9          | 3.8         |
|                       |       | 75                 | 1.3          | 1.5         | 1.8          | 2.0         | 2.3          | 2.4         |
|                       | Urban | 60                 | 0.1          | 2.1         | 0.5          | 3.0         | 0.9          | 3.8         |
|                       |       | 65                 | 0.1          | 1.0         | 0.1          | 1.5         | 0.2          | 2.0         |
|                       |       | 70                 | 0.0          | 1.2         | 0.0          | 1.9         | 1.2          | 2.3         |
| Older people aged 60+ | Rural | 60                 | 8.2          | 11.3        | 11.0         | 14.9        | 13.8         | 17.5        |
|                       |       | 65                 | 6.6          | 13.5        | 12.2         | 17.7        | 15.0         | 20.4        |
|                       |       | 70                 | 10.7         | 11.4        | 13.0         | 14.2        | 15.9         | 16.1        |
|                       | Urban | 60                 | 1.3          | 9.9         | 3.8          | 14.2        | 7.3          | 17.0        |
|                       |       | 65                 | 0.9          | 8.0         | 1.4          | 11.4        | 2.3          | 14.6        |
|                       |       | 70                 | 0.0          | 14.5        | 0.0          | 21.8        | 19.7         | 26.6        |

C: Scenario 3 (poverty targeted – poorest 51 per cent of households with an older person)

|                       |       | Age of eligibility | Transfer 1   |             | Transfer 2   |             | Transfer 3   |             |
|-----------------------|-------|--------------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                       |       |                    | Poverty rate | Poverty gap | Poverty rate | Poverty gap | Poverty rate | Poverty gap |
| Entire Population     | Rural | 60                 | 5.0          | 7.4         | 7.4          | 10.1        | 9.4          | 12.2        |
|                       |       | 65                 | 3.4          | 5.5         | 5.5          | 7.5         | 7.0          | 9.0         |
|                       |       | 75                 | 3.1          | 3.7         | 4.0          | 4.9         | 4.9          | 5.9         |
|                       | Urban | 60                 | 0.7          | 3.3         | 1.2          | 4.9         | 1.6          | 6.2         |
|                       |       | 65                 | 0.4          | 2.2         | 0.5          | 3.2         | 0.7          | 4.3         |
|                       |       | 70                 | 0.4          | 1.8         | 0.4          | 2.7         | 1.6          | 3.4         |
| Older people aged 60+ | Rural | 60                 | 19.2         | 26.9        | 27.9         | 34.9        | 33.5         | 40.7        |
|                       |       | 65                 | 18.6         | 29.2        | 27.9         | 37.7        | 34.1         | 43.6        |
|                       |       | 70                 | 23.4         | 27.3        | 28.8         | 34.3        | 34.8         | 39.6        |
|                       | Urban | 60                 | 3.2          | 15.5        | 6.2          | 22.3        | 10.4         | 27.5        |
|                       |       | 65                 | 4.4          | 16.0        | 5.5          | 22.9        | 7.8          | 29.5        |
|                       |       | 70                 | 5.8          | 21.4        | 5.8          | 30.5        | 26.0         | 37.1        |

D: Scenario 4 (poverty targeted – with an exclusion error of 43 per cent and no inclusion error)

|                       |       | Age of eligibility | Transfer 1   |             | Transfer 2   |             | Transfer 3   |             |
|-----------------------|-------|--------------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                       |       |                    | Poverty rate | Poverty gap | Poverty rate | Poverty gap | Poverty rate | Poverty gap |
| Entire Population     | Rural | 60                 | 5.5          | 7.9         | 8.1          | 10.4        | 9.9          | 12.4        |
|                       |       | 65                 | 4.1          | 6.4         | 6.8          | 8.5         | 8.2          | 10.0        |
|                       |       | 75                 | 2.5          | 3.1         | 3.3          | 4.1         | 4.1          | 4.9         |
|                       | Urban | 60                 | 2.9          | 4.9         | 4.1          | 6.5         | 4.7          | 8.0         |
|                       |       | 65                 | 1.3          | 2.2         | 1.9          | 3.1         | 2.9          | 3.8         |
|                       |       | 70                 | 0.3          | 1.5         | 0.8          | 2.1         | 1.4          | 2.6         |
| Older people aged 60+ | Rural | 60                 | 23.8         | 29.8        | 32.5         | 36.8        | 37.6         | 41.5        |
|                       |       | 65                 | 24.4         | 33.8        | 34.8         | 42.2        | 40.4         | 48.0        |
|                       |       | 70                 | 23.0         | 28.1        | 28.6         | 33.5        | 32.7         | 37.6        |
|                       | Urban | 60                 | 19.7         | 27.5        | 26.4         | 33.8        | 29.3         | 38.9        |
|                       |       | 65                 | 23.7         | 16.5        | 14.9         | 22.3        | 24.7         | 26.4        |
|                       |       | 70                 | 22.1         | 13.3        | 9.8          | 17.6        | 16.8         | 20.9        |

## Appendix 10 (A, B, C): Projections of the Cost of a Universal Pension in KSh (billions), 2010 (constant)

| Age of Eligibility | Year |      |      |      |      |      |      |      |      |
|--------------------|------|------|------|------|------|------|------|------|------|
|                    | 2010 | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |

### A. Transfer level of 1,000 KSh a month

|    |       |       |       |       |       |       |       |       |        |
|----|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 60 | 24.27 | 29.78 | 35.95 | 42.46 | 49.80 | 59.84 | 74.20 | 92.62 | 113.81 |
| 65 | 16.79 | 20.08 | 25.06 | 30.48 | 36.04 | 42.15 | 50.86 | 63.81 | 80.64  |
| 70 | 11.86 | 13.03 | 15.90 | 20.24 | 24.79 | 29.23 | 34.13 | 41.59 | 53.11  |

### B. Transfer level of 1,500 KSh a month

|    |       |       |       |       |       |       |        |        |        |
|----|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 60 | 36.40 | 44.67 | 53.92 | 63.69 | 74.70 | 89.76 | 111.31 | 138.93 | 170.71 |
| 65 | 25.18 | 30.12 | 37.59 | 45.72 | 54.06 | 63.22 | 76.29  | 95.72  | 120.96 |
| 70 | 17.79 | 19.54 | 23.85 | 30.35 | 37.18 | 43.85 | 51.19  | 62.38  | 79.66  |

### C. Transfer level of 2,000 KSh a month

|    |       |       |       |       |       |        |        |        |        |
|----|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| 60 | 48.54 | 59.55 | 71.89 | 84.92 | 99.59 | 119.68 | 148.41 | 185.24 | 227.61 |
| 65 | 33.57 | 40.16 | 50.11 | 60.96 | 72.08 | 84.30  | 101.72 | 127.63 | 161.28 |
| 70 | 23.73 | 26.06 | 31.79 | 40.47 | 49.58 | 58.47  | 68.25  | 83.18  | 106.21 |

## Appendix 11 (A, B, C): Projections of the Cost of a Universal Pension with a monthly benefit of KSh1,000 in 2010, as a proportion of GDP

| Age of Eligibility | Year |      |      |      |      |      |      |      |      |
|--------------------|------|------|------|------|------|------|------|------|------|
|                    | 2010 | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |

### A. Transfers indexed to average income

|    |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|
| 60 | 0.97 | 0.98 | 1.06 | 1.13 | 1.21 | 1.33 | 1.53 | 1.77 | 2.05 |
| 65 | 0.67 | 0.66 | 0.74 | 0.81 | 0.88 | 0.94 | 1.05 | 1.22 | 1.45 |
| 70 | 0.47 | 0.43 | 0.47 | 0.54 | 0.60 | 0.65 | 0.70 | 0.80 | 0.95 |

### B. Transfers indexed to inflation (historic growth assumption)

|    |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|
| 60 | 0.97 | 0.91 | 0.91 | 0.90 | 0.89 | 0.91 | 0.96 | 1.03 | 1.10 |
| 65 | 0.67 | 0.61 | 0.63 | 0.64 | 0.64 | 0.64 | 0.66 | 0.71 | 0.78 |
| 70 | 0.47 | 0.40 | 0.40 | 0.43 | 0.44 | 0.44 | 0.44 | 0.46 | 0.51 |

### C. Transfers indexed to inflation (IMF predicted growth)

|    |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|
| 60 | 0.97 | 0.79 | 0.68 | 0.58 | 0.49 | 0.44 | 0.40 | 0.37 | 0.34 |
| 65 | 0.67 | 0.53 | 0.47 | 0.42 | 0.36 | 0.31 | 0.27 | 0.26 | 0.24 |
| 70 | 0.47 | 0.34 | 0.30 | 0.28 | 0.25 | 0.21 | 0.18 | 0.17 | 0.16 |

Appendix 12 (A, B, C): Projections of the Cost of a Universal Pension with a monthly benefit of KSh1,500 in 2010, as a proportion of GDP

| Age of Eligibility | Year |      |      |      |      |      |      |      |      |
|--------------------|------|------|------|------|------|------|------|------|------|
|                    | 2010 | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |

A. Transfers indexed to average income

|    |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|
| 60 | 1.45 | 1.48 | 1.59 | 1.70 | 1.81 | 2.00 | 2.29 | 2.66 | 3.07 |
| 65 | 1.00 | 1.00 | 1.11 | 1.22 | 1.31 | 1.41 | 1.57 | 1.83 | 2.17 |
| 70 | 0.71 | 0.65 | 0.70 | 0.81 | 0.90 | 0.98 | 1.05 | 1.19 | 1.43 |

B. Transfers indexed to inflation (historic growth assumption)

|    |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|
| 60 | 1.45 | 1.37 | 1.36 | 1.35 | 1.33 | 1.36 | 1.44 | 1.55 | 1.65 |
| 65 | 1.00 | 0.92 | 0.95 | 0.97 | 0.96 | 0.96 | 0.99 | 1.07 | 1.17 |
| 70 | 0.71 | 0.60 | 0.60 | 0.64 | 0.66 | 0.66 | 0.66 | 0.69 | 0.77 |

C. Transfers indexed to inflation (IMF predicted growth)

|    |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|
| 60 | 1.45 | 1.18 | 1.02 | 0.87 | 0.74 | 0.65 | 0.60 | 0.56 | 0.51 |
| 65 | 1.00 | 0.80 | 0.71 | 0.62 | 0.54 | 0.46 | 0.41 | 0.38 | 0.36 |
| 70 | 0.71 | 0.52 | 0.45 | 0.41 | 0.37 | 0.32 | 0.28 | 0.25 | 0.24 |

Appendix 13 (A, B, C): Projections of the Cost of a Universal Pension with a monthly benefit of KSh2,000 in 2010, as a proportion of GDP

| Age of Eligibility | Year |      |      |      |      |      |      |      |      |
|--------------------|------|------|------|------|------|------|------|------|------|
|                    | 2010 | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |

A. Transfers indexed to average income

|    |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|
| 60 | 1.93 | 1.97 | 2.12 | 2.26 | 2.42 | 2.67 | 3.05 | 3.55 | 4.09 |
| 65 | 1.34 | 1.33 | 1.48 | 1.63 | 1.75 | 1.88 | 2.09 | 2.44 | 2.90 |
| 70 | 0.94 | 0.86 | 0.94 | 1.08 | 1.20 | 1.30 | 1.40 | 1.59 | 1.91 |

B. Transfers indexed to inflation (historic growth assumption)

|    |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|
| 60 | 1.93 | 1.82 | 1.82 | 1.80 | 1.78 | 1.81 | 1.92 | 2.06 | 2.20 |
| 65 | 1.34 | 1.23 | 1.27 | 1.29 | 1.28 | 1.27 | 1.31 | 1.42 | 1.56 |
| 70 | 0.94 | 0.80 | 0.80 | 0.86 | 0.88 | 0.88 | 0.88 | 0.93 | 1.03 |

C. Transfers indexed to inflation (IMF predicted growth)

|    |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|
| 60 | 1.93 | 1.57 | 1.36 | 1.16 | 0.99 | 0.87 | 0.80 | 0.74 | 0.68 |
| 65 | 1.34 | 1.06 | 0.95 | 0.83 | 0.72 | 0.61 | 0.55 | 0.51 | 0.49 |
| 70 | 0.94 | 0.69 | 0.60 | 0.55 | 0.49 | 0.43 | 0.37 | 0.33 | 0.32 |

## Appendix 14 (A, B): Projected poverty rates and poverty gaps of entire population following pension scenarios 1 and 2.

### A: Scenario 1 (Universal pension)

|                        | Age of eligibility | Prior to transfer (per cent) | After Transfer 1 (per cent) | After Transfer 2 (per cent) | After Transfer 3 (per cent) |
|------------------------|--------------------|------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Headcount Poverty rate | 60                 | 45.9                         | 44.0                        | 43.0                        | 41.9                        |
|                        | 65                 |                              | 44.6                        | 43.8                        | 43.0                        |
|                        | 70                 |                              | 45.0                        | 44.6                        | 44.1                        |
| Headcount Poverty gap  | 60                 | 16.3                         | 15.0                        | 14.5                        | 14.0                        |
|                        | 65                 |                              | 15.3                        | 15.0                        | 14.6                        |
|                        | 70                 |                              | 15.6                        | 15.4                        | 15.2                        |
| Hardcore Poverty rate  | 60                 | 19.1                         | 17.4                        | 16.5                        | 15.9                        |
|                        | 65                 |                              | 17.9                        | 17.2                        | 16.8                        |
|                        | 70                 |                              | 18.3                        | 17.9                        | 17.6                        |
| Hardcore Poverty Gap   | 60                 | 6.0                          | 5.2                         | 4.9                         | 4.7                         |
|                        | 65                 |                              | 5.4                         | 5.2                         | 5.1                         |
|                        | 70                 |                              | 5.6                         | 5.5                         | 5.4                         |

### B: Scenario 2 (poverty targeted – poorest 21 per cent of households with an older person)

|                        | Age of eligibility | Prior to transfer (per cent) | After Transfer 1 (per cent) | After Transfer 2 (per cent) | After Transfer 3 (per cent) |
|------------------------|--------------------|------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Headcount Poverty rate | 60                 | 45.9                         | 45.6                        | 45.5                        | 45.2                        |
|                        | 65                 |                              | 45.7                        | 45.5                        | 45.4                        |
|                        | 70                 |                              | 45.8                        | 45.7                        | 45.6                        |
| Headcount Poverty gap  | 60                 | 16.3                         | 16.0                        | 15.9                        | 15.8                        |
|                        | 65                 |                              | 16.1                        | 16.0                        | 15.9                        |
|                        | 70                 |                              | 16.1                        | 16.1                        | 16.0                        |
| Hardcore Poverty rate  | 60                 | 19.1                         | 18.7                        | 18.5                        | 18.4                        |
|                        | 65                 |                              | 18.9                        | 18.7                        | 18.6                        |
|                        | 70                 |                              | 18.8                        | 18.8                        | 18.7                        |
| Hardcore Poverty Gap   | 60                 | 6.0                          | 5.8                         | 5.7                         | 5.7                         |
|                        | 65                 |                              | 5.9                         | 5.8                         | 5.8                         |
|                        | 70                 |                              | 5.9                         | 5.9                         | 5.9                         |