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Poverty and Employment in Kenya
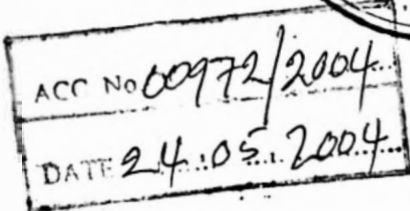
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Abstract

At the time of independence in 1963, the Government of Kenya identified illiteracy, disease, ignorance and poverty as the main problems to be addressed in the post-independence era. In spite of the antipoverty measures implemented since independence, 56 percent of the Kenyan population today remains poor. Further, despite the numerous studies on poverty measurement and profiles in Kenya, little is known about the relationship between poverty and employment. This paper analyses poverty profiles among the employed using household data collected by the Government of Kenya in 1994 and recommends a new strategy for poverty reduction. The findings of the study show that employment in the agricultural and informal sectors is associated with a higher than average probability of being poor. Households engage in subsistence farming and off-farm informal activities primarily to cope with, rather than escape poverty. In common with previous studies, we find a strong negative correlation between schooling and poverty, which supports the current government policy of free primary schooling as an instrument for poverty reduction. We find that although poverty prevalence is insensitive to employment in agricultural and informal sectors, employment in these sectors reduces the depth and severity of poverty. The policy implication of this finding is briefly discussed.

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1. Introduction

Poverty refers to lack of basic necessities of life and opportunities for human development. Poverty is multi-dimensional and manifests itself in various forms, making its definition using one criterion impossible. Poverty is not a new phenomenon in Kenya. At the time of independence in 1963, the Government identified illiteracy, disease, ignorance and poverty as the main problems to be addressed in post-independence era (Government of Kenya, 1965).

Poverty and unemployment have been the focus of various development plans, sessional papers, presidential commissions, task forces and various independent studies, but the solution to these intertwined problems is not in sight. In 2000, the national poverty rate was 56 percent, the Gini index (a measure of income inequality) was 52 percent, and unemployment rate was 25 percent (World Bank, 2001). Although the relationship between poverty and inequality is well established in the literature (see Ali and Thorbecke, 2000), the link between poverty and unemployment is not clear-cut. In a Kenyan study, Collier and Lal (1986) showed that the link between unemployment and household poverty was not strong. In 80 percent of the cases, the unemployed were not principal income earners. Most *unemployed* persons (64 percent) were not members of *poor* households and most poor households had *no* unemployed members. The lowest income group of urban workers was in the informal sector. However, there was a powerful link between low-income self-employment and poverty. People in self-employment tended to be poor, whereas the unemployed were generally above the poverty line. The nature of the linkage between poverty and unemployment described by Collier and Lal (1986) suggests that unemployment in Kenya in the 1980s was short-lived and affected people who could rely on dissaving for consumption or on transfers from relatives and others.

The government intends to combat poverty mainly by creating an environment in which productive employment can be rapidly created. This strategy is based on the stylized fact that the bulk of the population is poor and the main asset that they possess is their own labor. The government anti-poverty measures are articulated in various government documents such as the Eigth National Development Plan, in the National Poverty Eradication Plan, in the Poverty Reduction Strategy Paper, and in the Economic Recovery Plan.

The quality of employment (in terms of its ability to lift people out of poverty) depends on whether it is located in the formal or informal sector and on the nature of the prevailing labor market institutions. The formal sector is small and capital intensive, with limited opportunities for large-scale labor absorption in the short-run. In contrast, the informal sector is large and labor intensive, with highly heterogeneous activities ranging from street vendors to small kiosks, hotels, open-air motor garages, dress making, tailoring units, and small-scale transport operators (Government of Kenya, 2000). Typically, these informal enterprises are semi-organized and unregulated, are largely undertaken by self-employed persons, are often situated in undeveloped plots or on street pavements within urban centers, and usually operate without licenses from local authorities (Government of Kenya, 1998). The self-employed in this sector are individuals who operate survivalist businesses with very low rates of returns. Those employed in the informal sector receive earnings below minimum wage.

During the last decade, growth in the formal sector employment slackened, while informal sector employment recorded a dramatic and sustained expansion. The expansion of informal employment rose from 63.6 percent in 1997 to 70.4 percent in 2000. In the preceding four years, employment in the sector grew by 39 percent, from an estimated 3

million persons in 1997 to 4.2 million (Government of Kenya, 2001). In contrast, growth in the wage employment within the modern sector decelerated from 1.1 percent in 1998 to 0.5 percent in 1999. Wage employees numbered 1,676,800, while the self-employed stood at 653,000, accounting for 3.9 percent of the modern sector employment (Government of Kenya, 2001). This sluggish growth was largely attributed to economic recession and retrenchment reforms in the public sector.

The nature of the labor market is crucial for the performance of an economic system. The operations of the labor market determine the rate of growth, income distribution, extent of labor force participation and the poverty status of households. Therefore, it is important to understand how the labor market functions before designing and implementing anti-poverty measures.

Economic reforms have had a great impact on the structure of the Kenyan labor market. Parastatal enterprises used to account for a big share of public sector employment, but parastatal reforms resulted in a considerable personnel reduction in these enterprises. The size of the civil service has also been reduced through voluntary early retirement schemes and retrenchment programs. At the same time, the private sector has been changing to cope with increased competition as well as with advances in information technology. This voluntary restructuring has resulted in labor lay-off in the banking, textile, leather, motor and several other industries.

The informal sector constitutes an important segment of the Kenyan labor market. However, there is controversy as to whether informal sector activities are a means for coping with or getting out of poverty. There is some evidence that the self-employed in the informal sector are involved dominantly in low earning, survivalist activities (Bhorat and Leibbrandt, 1998), suggesting that informal sector employment

mainly helps the poor to cope with poverty. There is little information about the Kenyan situation on this point. Furthermore, existing studies on poverty have not examined the link between poverty and employment. Although there is evidence that unemployment is positively correlated with poverty (Manda *et al*, 2001), the extent of poverty among the employed remains unknown.

The key question in this study is: who are the poor among the employed? We examine the poverty status of the employed and construct poverty profiles for wage and non-wage employment sectors. Such poverty profiles will help in understanding the poverty status of the employed and help in implementing appropriate poverty reduction interventions in the labor market. The remainder of the paper is organized as follows. Section 2 presents formulae for poverty identification and measurement. Section 3 discusses the data and presents the main findings of the study followed by a conclusion in Section 4.

2. Poverty Measurement and Data

Food poverty is the inability to meet the basic minimum nutrient requirements for a healthy growth and maintenance of human body. The FAO/WHO minimum nutrient requirement is 2,250 Kcalories per day per adult equivalent. In 1994, monthly food and absolute poverty lines per adult equivalent in rural and urban areas were estimated at Ksh 702.99 and 978.27; and 874.72 and 1,489.63, respectively. This constitutes the minimum monthly consumption expenditure required to meet the recommended daily energy intake (of 2,250 Kcalories) from the chosen basket of food items (Government of Kenya, 1998).

The FGT index is the most widely used and comprehensive measure of income poverty (Foster, Greer and Thorbecke, 1984). To date, poverty profiles in Kenya have been constructed showing how the FGT index varies with social and economic characteristics of households and individuals (see for example Foster, Greer and Thorbecke, 1984; Greer and Thorbecke, 1986a, 1986b; Mwabu *et al*, 2000; Alemayehu *et al*, 2001; and Oyugi *et al*, 2001). However, detailed poverty profiles conditional on being in employment are lacking. Following Foster *et al* (1984), Gustafsson and Makonnen (1994), Boateng and Kanbur (1994), Kakwani (1980), Sen (1976), we decompose poverty by region and employment sector using the expression:

$$C_j = \left[\frac{\left(\frac{n_j}{N}\right) P_{\alpha j}\left(Y^{(j)} \mid Z_j\right)}{P_{\alpha}(Y \mid Z)} \right] \times 100$$

Where,

C_j = Percentage contribution of subgroup j to total poverty.

$P_{\alpha j}$ = Poverty measure for a given value of FGT parameter in subgroup or employment category j, where the values of the FGT parameter, α, range from 0 to 2.

Z_j = Poverty line for subgroup j, which might be the same as the overall poverty line Z.

n_j = Total number of households (poor and non-poor) in subgroup j.

N = Total population.

g_i = z - y_i income shortfall in i^{th} household (see below).

Where,

$$P_\alpha \left(y/z\right) = \frac{1}{n} \sum_{i=1}^{q} \left[\frac{g_i}{z}\right]^\alpha$$

and

$$P_{\alpha j} = \frac{1}{n_j} \sum_{i=1}^{q_j} \left(\frac{g_i}{Z_j}\right)^\alpha$$

The above expression can be used to isolate population groups that are over-represented in the overall poverty of persons in wage and non-wage employment. The resultant poverty profiles can be used to target poverty alleviation programs to population groups that are most affected by poverty. The overall poverty rate, $P_\alpha (Y \mid Z)$, among the employed is a good summary measure of the extent to which employment creation can reduce poverty. For instance, we show that employment in agricultural and informal sector has no effect on poverty incidence but has a significant impact on depth and severity of poverty.

We use data from the Welfare Monitoring Survey (WMS) II collected by the Central Bureau of Statistics, Ministry of Planning and National Development in 1994 to measure poverty and construct poverty profiles (Government of Kenya, 1996). The WMS II covered over 10,000 households and over 50,000 persons in all districts in Kenya. The multi-purpose survey gathered information on a variety of dimensions

including education, health, social amenities, crop production, child nutrition, income, food, and non-food expenditure. The survey was based on a sampling frame consisting of 1,048 rural and 329 urban clusters, which were created using the population information derived from the 1989 census. The frame is multi-purpose in nature and follows a two-stage stratified cluster design. The 1994 survey is representative of population clusters in all the districts in Kenya at the time.

3. Results

3.1 Some Sample Statistics

In this section, we present the main characteristics of the national probability sample before presenting the poverty profiles. Table 3.1 shows that majority (42%) of the employed household heads are involved in subsistence farming, with the next largest employment category being the unskilled private sector workers (11%). Pastoral, commercial and subsistence farmers are the dominant rural activities. It can also be seen from the table that non-agricultural sector employment is dominated by men. It is also evident from the table that approximately 38% of the employed have no education and approximately 96% of these persons are rural residents. Compared with women, men have higher education levels in all employment categories. There are more males with no education at all compared with females because male household heads are more numerous than female heads. Further, the table shows that the majority of the employed (56%) are in the agricultural sector and most of them reside in rural areas. Non-agricultural employment, particularly in the formal sector, is male-dominated.

3.2 Povert Lines

First we present the FEI and CBN absolute poverty lines that we used to construct the poverty profiles we report later[1]. Table 3.2 gives food

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[1] The FEI line was constructed following Greer and Thorbecke (1986a,b). The CBN line was constructed by determining a food basket, which was assumed to be bought by all households. The food basket used consisted of 15 food items. The overall CBN poverty line was obtained by adding to the poverty line a non-food expenditure of the households around the food poverty line. The non-food expenditure was computed for households between 10 percent above the food poverty line and 15 percent below the food poverty line. The results are available from the authors upon request.

Table 3.1: Employment by main occupation, education, industry, gender and location (N=10,834)

Main occupation of household head	%of total no. of workers	Gender (%)		Location (%)	
		Male	Female	Urban	Rural
Unpaid family worker	0.83	57.78	42.22	43.33	56.67
Commercial farmer	3.89	77.67	22.33	1.43	98.57
Subsistence farmer	42.10	64.70	35.30	1.40	98.60
Pastoralist	10.13	80.67	19.33	1.00	99.00
Skilled public sector worker	9.56	86.58	13.42	38.80	61.20
Unskilled public sector worker	3.83	86.27	13.73	31.33	68.67
Skilled private sector worker	8.57	95.26	4.74	37.46	62.54
Unskilled private sector worker	11.00	85.15	14.85	25.59	74.41
Business person	10.09	73.10	26.90	34.03	65.97
Education level of household head					
Pre-school	0.38	80.49	19.51	17.07	82.93
Std 1-8	24.37	80.16	19.84	12.31	87.69
KCPE	12.81	83.29	16.71	18.52	81.48
Form 1-4	10.03	81.28	18.72	28.62	71.38
KCSE/KCE/KACE	10.06	88.79	11.21	35.90	64.10
Trade test Cert. I-III	0.77	90.36	9.64	36.14	63.86
Post-secondary Certificate	1.80	80.00	20.00	43.08	56.92
University	0.94	94.12	5.88	59.80	40.20
None	38.23	63.49	36.51	4.60	95.40
Employment sector of household head					
Public sector	13.39	86.49	13.51	36.66	63.34
Formal sector, own business	0.11	91.67	8.33	8.33	91.67
Formal sector, employee	13.99	90.83	9.18	34.50	65.50
Informal sector, own business	11.06	74.79	25.21	32.80	67.20
Informal sector, employee	1.17	92.91	7.09	35.43	64.57
Casual labour	3.13	82.89	17.11	16.22	83.78
Unpaid family labour	0.83	57.78	42.22	43.33	56.67
Agriculture	56.11	68.48	31.52	1.33	98.67

Source: Computed from the Welfare Monitoring Survey II of 1994
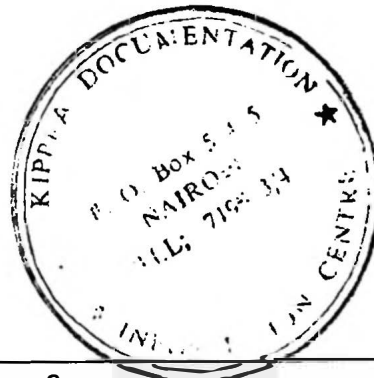
and overall poverty lines for all provinces and for the whole country. The national absolute poverty lines are Ksh 875 (CBN) and Ksh 820 (FEI) per month per capita. At the national level, the FEI line is lower than the CBN line, which is probably because the calculation of FEI-based poverty line takes into account substitution of cheaper goods for more expensive goods, which is not possible with the CBN method. However, the FEI method also allows for choice of more expensive food items for a given calorie level so that a "preference effect" on the composition of the food basket may outweigh the "price effect", therefore making the FEI line higher than the CBN line. In the case of food poverty lines, the price effect may be dominating the preference effect in most regions apart from Central, Rift Valley, and Nyanza regions. In the case of absolute poverty lines, the preference effect may be dominating the price effect in Central, Rift Valley and Western regions. In this analysis, we shall use the national poverty lines.

Table 3.2: Food and absolute poverty lines by region

Region	Food poverty lines (Ksh per month per capita)			Overall poverty lines (Ksh per month per capita)		
	CBN	FEI	N	CBN	FEI	N
National	602	571	7,834	875	820	7,833
Eastern	540	505	1,187	810	749	1,187
Central	627	640	1,471	899	954	1,471
Rift Valley	522	551	857	793	858	856
Nyanza	533	543	1,360	737	735	1,360
Western	594	567	570	836	973	570
North Eastern	707	566	397	951	924	397
Nairobi	852	804	198	1,743	1,180	198
Coast	731	631	678	1,009	828	678
Urban	839	792	1,245	1,391	1,348	1,245
Rural	567	536	6,589	812	780	6,588

Source: Computed from Welfare Monitoring Survey II of 1994

Furthermore, we shall use poverty lines unadjusted for regional variations in prices since no comparisons between regions will be made.

The poverty lines in Table 3.2 differ slightly from those reported by Mwabu *et al* (2000) due to differences in data in the two studies. First, different calorie conversion factors used as the sources of calorie nutrients were different. Secondly, in controlling for outliers, a range of 1000-5500 Kcalories were used in the present study compared with a range of 550-5500 Kcalories used by Mwabu *et al* (2000). Thirdly, the welfare measure in our study is consumption expenditure per capita, while in Mwabu *et al* (2000) the welfare measure is consumption per adult equivalent.

The FEI and CBN poverty lines have inherent weaknesses as the bases for welfare comparisons. The FEI poverty line is computed under the strong assumption that food expenditure and calorie are not independently observed (Bouis and Haddad, 1992). As noted by Greer and Thorbecke (1986a), the use of fixed food weight-to-calorie factor for the whole country over time and over the entire income profile might be inappropriate due to changing food quality and food preparation methods. Bouis and Haddad (1992) state that household calorie availability has to be adjusted for due to various food losses that occur before the food is consumed.

A number of recent studies have questioned the reliability of calorie content as surrogate for calorie intake. Schiff and Valdes (1990) postulate that the nutrient intake is affected by many variables such as non-nutrient food attributes–freshness of food product purchased, their cleanliness, to mention a few. The weaknesses of the CBN poverty line are described in Aigbokhan (2000). Because there is no agreement on an anchor for estimating the non-food component of the poverty line, there tends to be a lot of arbitrariness in determining the level of poverty. This means that there may be as many poverty lines as there are

variations in the assumptions used to determine the level of non-food component even for the same dataset. It is evident that the main ingredients for poverty measure–the caloric requirement, the food bundle to achieve that requirement and the allowance for non-food goods entail normative judgments.

3.3   Poverty Profiles

In Table 3.3, using both CBN and FEI poverty lines, it is shown that pastoralists have the highest incidence of poverty, followed by subsistence farmers. However, it is surprising that skilled private sector workers have a higher incidence of poverty than skilled public sector workers. This finding can be explained by the fact that skilled public sector workers receive fringe benefits such as free or highly subsidized housing and medical care. Furthermore, workers in the public sector have greater opportunities to earn extra income from rent-seeking activities.

Household heads without any education have a slightly lower incidence of poverty as compared with households with pre-school education (Table 3.3). It is quite clear that as education level rises, the incidence of poverty falls, which has the implication that in order to eradicate poverty, the government should invest more in education. The current government policy of free primary schooling receives strong support from this finding.

Agricultural workers have the highest incidence of poverty (Table 3.3) followed by persons engaged in casual work. Although there are pockets of better-remunerated persons in agriculture, it is clear from Table 3.3 that the agricultural sector contains a large portion of the working poor.

Poverty is a rural occurrence, with households headed by males and females facing the same risks of being poor. Evidence based on this

Table 3.3: Poverty profiles of household heads

	Poverty line (FEI)		Poverty line (CBN)	
	Non-poor	Poor	Non-poor	Poor
Main Occupation of household head				
Unpaid family worker	62.8	37.2	60.5	39.5
Commercial farmer	57.5	42.5	55.8	44.2
Subsistence farmer	41.8	58.2	39.6	60.4
Pastoralist	28.8	71.2	28.1	71.9
Skilled public sector worker	79.5	22.5	76.1	23.9
Unskilled public sector worker	59.3	40.7	57.8	42.2
Skilled private sector worker	68.9	31.1	67.9	32.9
Unskilled private sector worker	52.4	47.6	50.3	49.7
Business person	68.8	31.2	67.1	32.9
Education level of household head				
Pre-school	41.0	59.0	41.0	59.0
Std 1-8	40.8	59.2	45.1	54.9
KCPE	55.8	44.2	53.1	46.9
Form 1-4	65.4	35.5	62.3	37.7
KCSE/KCE/KACE	75.3	24.7	73.6	26.4
Trade test cert. I-III	74.4	25.6	72.0	28.0
Post secondary certificate	86.6	13.4	85.0	15.0
University and above	90.1	9.9	90.1	9.9
None	40.4	59.6	38.8	61.2
Employment sector of household head				
Public sector	72.3	27.7	70.9	29.1
Formal sector, own business	91.6	8.3	8.3	16.7
Formal sector, employee	63.7	36.3	61.9	38.1
Informal sector, own business	67.3	32.7	65.7	34.3
Informal sector, employee	64.2	35.8	61.0	39.0
Casual labour	42.2	57.8	39.8	60.2
Unpaid family labour	62.8	37.2	60.5	39.5
Agriculture	40.7	59.3	38.8	61.2
Gender of household head				
Male	51.7	48.3	49.6	50.4
Female	52.2	47.8	50.3	49.7
Location of household head				
Urban	46.2	53.8	44.2	55.8
Rural	82.2	17.8	80.9	19.1

Source: Computed from Welfare Monitoring Survey II of 1994

data shows that employed persons in the different sectors who are non-poor have other sources of income, better pay, and own property as well. This provides an explanation as to why they live above the poverty line.

3.4   Occupational Patterns and Poverty Decomposition

It can be seen from Table 3.4 that pastoralists have the highest headcount index of approximately 71 percent, followed by subsistence farmers. The lowest incidence of poverty using the headcount index is found among skilled public sector workers.

In terms of poverty gap (P_a=1), the pastoralists have the highest poverty rate (35.95%) based on the FEI poverty line and a rate of 38.18% when the CBN poverty line is used to identify the poor. Subsistence farmers have a poverty gap of 22.94% and 25.19% based on the FEI and CBN

Table 3.4: Poverty by sector of employment and main occupation

	Poverty measure (%)				% contribution to total poverty			
	P_a=0		P_a=1		P_a=2		P_a=0	
Main occupation	FEI	CBN	FEI	CBN	FEI	CBN	FEI	CBN
Unpaid family worker	37.2	39.5	13.34	14.89	6.98	7.85	0.55	0.63
Commercial farmer	42.5	44.2	12.39	14.32	5.38	6.35	2.05	2.42
Subsistence farmer	58.2	60.4	22.94	25.19	12.53	13.94	51.6	57.40
Pastoralist	71.2	70.9	35.95	38.18	23.02	24.74	21.09	22.67
Skilled public sector worker	22.5	23.9	6.11	7.16	2.68	3.16	2.48	2.92
Unskilled public sector worker	40.7	42.2	14.47	16.13	7.48	8.44	2.74	3.10
Skilled private sector worker	31.2	32.9	9.83	11.20	4.63	5.35	3.83	4.42
Unskilled private sector worker	47.6	49.7	17.43	19.37	9.23	10.35	9.82	11.00
Business person	31.2	32.9	11.27	12.55	5.95	6.68	5.86	6.57
Sector of employment								
Agricultural sector	59.28	61.24	24.39	26.62	13.80	15.23	74.74	82.47
Formal sector	31.97	33.63	10.23	11.63	4.93	5.66	13.07	15.01
Informal sector	33.26	35.07	11.94	13.32	6.31	7.08	8.02	9.00
Casual labour	57.71	60.00	23.40	25.35	12.99	14.36	4.19	4.63
Overall employment	48.31	50.18	18.83	20.71	10.35	11.50		

Source: Computed from Welfare Monitoring Survey II data of 1994

poverty lines, respectively. Skilled public sector workers have the lowest poverty gap of 6.11% and 7.16% based on the FEI and CBN poverty lines, respectively. For severity index, (P_a=2), pastoralists are still ranked first, followed by subsistence farmers. As in P_a=1, business persons have the lowest incidence of poverty.

Subsistence farmers contribute approximately 52% to total poverty because they have a large share in total population. Skilled private sector workers contribute more to total poverty than skilled public sector workers. The agricultural sector has the highest headcount index of 59.28% based on the FEI poverty line and 61.24% when CBN poverty line is used. The poverty gaps of 24.39% (FEI) and 26.62% (CBN) are also among the highest.

Workers in the informal sector have higher poverty indices compared with their counterparts in the formal sector. Persons in casual wage employment have the next highest poverty incidence after those in agriculture. For overall employment, approximately 50 percent of the employed live below the poverty line. Since subsistence and informal activities could be coping activities adopted, policies that enhance productivity in subsistence and informal sectors (or expand employment in the sectors) would generally tend to reduce poverty severity and inequality without affecting the headcount index.

4. Conclusion

It is clear from the findings of this paper that as education level rises, poverty incidence falls. However, it is significant to note that an individual who has attended primary school has a 59 percent chance of being poor compared with a primary school certificate holder who has a 44 percent chance of being poor. The large difference in poverty status between the two levels of education shows that the certificate has a 'threshold effect' on poverty reduction. The same effect emerges at the secondary school level where people with a secondary education certificate have a much lower probability of being poor compared with their counterparts who have the same level of education but lack the certificate.

Agriculture and informal activities are the dominant occupations in the country. The agricultural sector accounts for the highest percentage of national poverty, with pastoral, commercial and subsistence farming being the main activities that are carried out by the poor in that sector. Employment in agriculture and in the informal sector seems to be a means for coping with poverty. However, while expansion in agricultural and informal employment may not reduce the headcount ratio, other things being equal, it reduces poverty inequality and severity as it narrows poverty gaps. Therefore, low-wage employment in informal sectors in rural and urban areas alleviates the suffering associated with poverty and should be encouraged and supported by public policy.

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