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## **Alleviating Food Insecurity and Landlessness Through Pelis in Kenya**

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# **71- ALLEVIATING FOOD INSECURITY AND LANDLESSNESS THROUGH PELIS IN KENYA**

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## **Abstract**

Although PELIS was established mainly to promote forest plantation development through enhancing forest establishment and the survival of plantation trees, it has also provided other significant benefits such as making available arable land for the landless and contributing to food production. This study investigated the contribution of PELIS towards alleviating food insecurity and landlessness. Selected forest zones, where PELIS is practiced were used. Communities residing near the forests were served with questionnaires to document arable lands given and food produced. Results showed that PELIS provided an annual average of upto 2,000 hectares of arable land to the landless, which contributed an annual total average of upto 3 million bags of potatoes from the forest zones investigated. This study recommends that management considers establishing PELIS in the other remaining forest zones in order to provide more arable land and consequently increase food production.

**Key Words:** *Food Insecurity, Landlessness, Pelis*

## **1 Introduction**

Plantation Establishment and Livelihood Improvement Scheme (PELIS) is a modified form of non-residential cultivation that was practiced in earlier years in Kenya as a method of plantation establishment (GOK, 2005; GOK, 2006; FAO, 2006). PELIS was initiated with the objectives of fully rehabilitating and protecting the forest and improving the livelihood of the forest adjacent communities (GOK, 2005).

According to Kafu (2000), the expected benefits from PELIS were numerous. First, there would be increased forest cover; increased volume of water from the catchment areas; increased food production, and there would be improvement in living standards of the communities living adjacent to forests due to increase in household incomes (GOK, 1994).

The introduction of PELIS started in 2008 in some forest zones and is to be continued in other forest stations. Therefore there is need to take stock of the contributions of PELIS on its expected benefits. This paper presents the findings of a study conducted to document the contributions of PELIS in the forest zones that it is being practiced.

## 2 Materials and Methods

Purposive sampling was used to identify Forest zones that practice PELIS in Kenya. These formed the study area. This area includes Nyandarua, Nyeri, Meru, Baringo and Kiambu. Questionnaires were served to the communities residing near the forests, who have formed Community Forest Associations (CFAs), to document the arable land that was given to CFAs and the resulting food produced from these lands.

## 3 Results and Discussion

### 3.1 Land given to CFAs

The land given to CFSs in the five counties is shown in Table 1.

Table 1: Total land area given to CFAs per County in Hectares

County	2008	2009	2010	2011	2012	Total
Baringo	109.0	84.8	19.8	25.0	15.0	253.6
Nyeri	200.0	200.0	200.0	200.0	200.0	1,000
Nyandarua	453.6	453.6	903.6	1,053.6	1,624.6	4,489
Kiambu	-	250.0	320.0	-	-	570
Meru	90.0	90.0	150.0	150.0	210.0	690
<b>Total (PELIS Totals)</b>	<b>852.6</b>	<b>1,078.4</b>	<b>1,593.4</b>	<b>1,428.6</b>	<b>2,049.6</b>	

Results showed that during the period 2008 to 2012, Nyandarua County gave the highest hectareage of arable land to CFAs (4,489 Ha), followed by Nyeri (1,000 Ha), Meru (690 Ha) and Kiambu (570 Ha) (Table 1). Results also showed that the total annual arable land given to CFAs over the years increased from 852.6 Ha in 2008 to 2,049.6 Ha in 2012.

### 3.2 New arable land made available to Households/Landless people

The percentage of new arable land made available to the people who are landless is shown in Table 2.

Table 2: Percentage new arable land made available

	2008	2009	2010	2011	2012
PELIS Totals	852.6	1,078.4	1,593.4	1,428.6	2,049.6
National arable land	5,300,000	5,400,000	5,400,000	5,400,000	5,400,000
<b>% New arable Land</b>	<b>0.016</b>	<b>0.020</b>	<b>0.030</b>	<b>0.026</b>	<b>0.038</b>

Results showed that the percentage of arable land allocated to CFAs increased from 0.016% in 2008 to 0.038% in 2012 (Table 2).

### 3.3 Food contributions of PELIS

The yield of the various crops grown on the arable land given to CFAs is shown in Table 3.

Table 3: Food contributions from Land allocated to CFAs under PELIS in bags (b)

	2008	2009	2010	2011	2012
Nyandarua	Potatoes- 7,257.6 b Maize- 3,628.8 b Cabbage- 5,040 b Peas- 151.2 b	Potatoes- 9,072 b Maize- 3,628.8 b Cabbage- 6,047.8 b Peas- 81.4 b	Potatoes- 21,686.4 b Maize- 9,036 b Cabbage- 1,389.3 b Peas- 502 b	Potatoes- 21,072 b Maize- 8,428.8 b Cabbage- 14,633.3 b Peas- 526.8 b	Potatoes- 29,242.8 b Maize- 12,184.5 b Cabbage- 1,949.5 b Peas- 64,984 b
Nyeri	Potatoes- 5,000 b Maize- 1,200 b Beans- 800 b	Potatoes- 5,600 b Maize- 1,200 b Beans- 900 b	Potatoes- 6,000 b Maize- 1,400 b Beans- 1,000 b	Potatoes- 5,000 b Maize- 1,000 b Beans- 800 b	Potatoes- 5,000 b Maize- 1,200 b Beans- 800 b
Meru	Potatoes- 6,120 b Beans- 900 b	Potatoes- 5,850 b Beans- 720 b	Potatoes- 5,130 b Beans- 630 b	Potatoes- 5,850 b Beans- 900 b	Potatoes- 5,400 b Beans- 630 b
Baringo	Potatoes- 1,744 b Maize- 1,090 b Cabbage- 1,816.7 b Peas- 54.5 b Beans- 327 b	Potatoes- 1,526.4 b Maize- 848 b Cabbage- 997.3 b Peas- 37.7 b Beans- 2,544.4 b	Potatoes- 475.2 b Maize- 198 b Cabbage- 308 b Peas- 8.8 b Beans- 59.4 b	Potatoes- 500 b Maize- 200 b Cabbage- 555.6 b Peas- 12.5 b Beans- 25 b	Potatoes- 270 b Maize- 105 b Cabbage- 200 b Peas- 5 b Beans- 15 b
Kiambu	-	Potatoes- 244,444.4 b Cabbage- 555,555.6 b Carrots- 75,000 b Peas- 5,555.6 b Sukuma-750,000b	Potatoes- 3,128,888.9 b Cabbage- 1,422,222.2 b Carrots-160,000 b Peas- 28,444.4 b Sukuma-1,920,000b	-	-
<b>Total</b>	Potatoes- 20,121.6 b Maize- 5,918.8 b Cabbage- 6,856.7 b Peas- 205.7 b Beans- 2,027 b	Potatoes- 266,492.8 b Maize- 5,676.8 b Cabbage- 562,600.7 b Peas- 5,774.7 b Beans- 4,164.4 b Sukuma- 750,000b	Potatoes- 3,162,180.5 b Maize- 10,634 b Cabbage- 1,423,919.5 b Peas- 28,955.2 b Beans- 1,689.4 b Carrots- 160,000 b Sukuma- 1,920,000b	Potatoes- 32,422 b Maize- 9,628.8 b Cabbage- 15,188.9 b Peas- 539.3 b Beans- 1,725 b	Potatoes- 39,912.8 b Maize- 13,489.5 b Cabbage- 2,149.5 b Peas- 64,989 b Beans- 1,445 b

Results showed that the CFAs grew 7 types of crops namely Potatoes, Maize, Cabbage, Peas, Beans, Carrots and Sukuma Wiki (Table 3). Results also showed that PELIS in some stations produced up to 3 million bags of potatoes per year.

## 4 Conclusions and Recommendations

It is concluded that PELIS contributed upto 2,049 hectares of arable land to the landless and upto 3 million bags of maize. This is a significant contribution and therefore the study recommends that PELIS should be introduced to the remaining many forests in the Country.

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