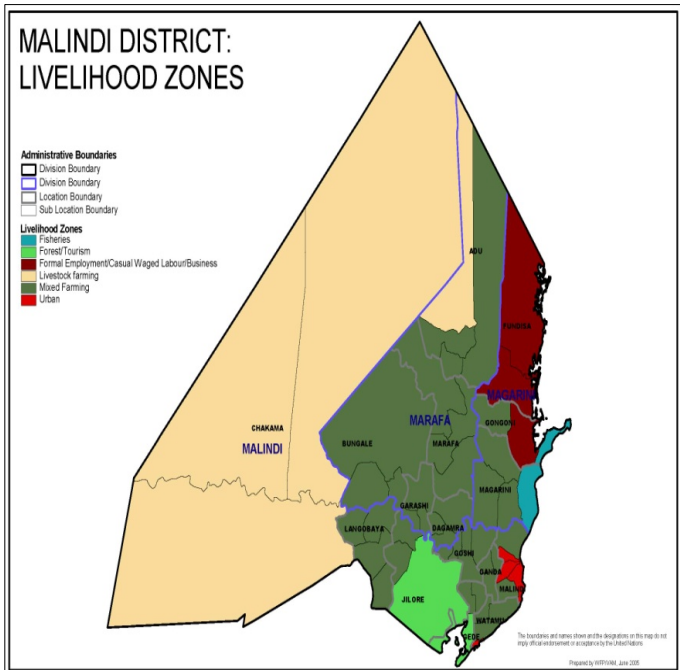




**OFFICE OF THE PRIME MINISTER**  
**MINISTRY OF STATE FOR THE DEVELOPMENT OF NORTHERN KENYA AND OTHER ARID LANDS**  
**ARID LANDS RESOURCE MANAGEMENT PROJECT II**

**DROUGHT MONITORING BULLETIN, JULY 2009**

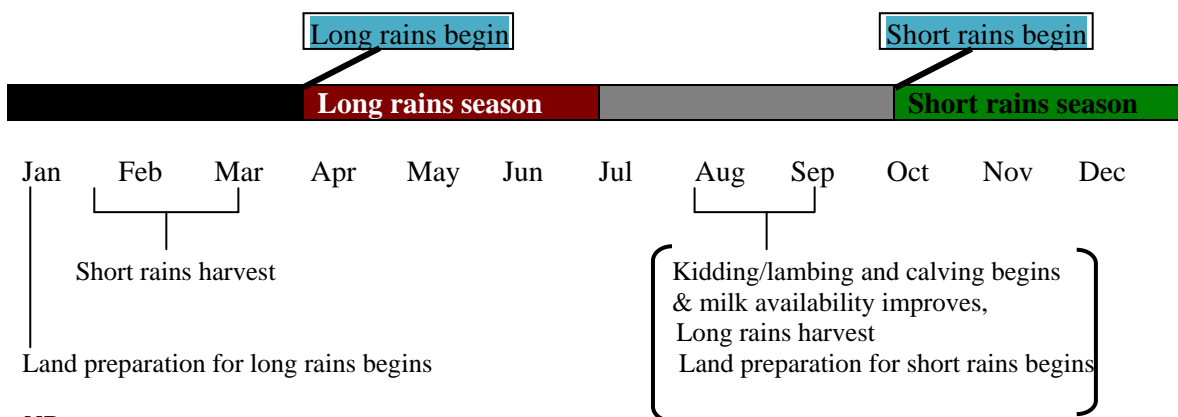
**Malindi District**



**Warning Stages**

Livelihood Zone	Stage	Trend
Mixed Farming	Alarm	Worsening
Ranching/Livestock	Alarm	Worsening
District	Alarm	Worsening
* Livelihood Zones Monitored By Ews Data.		

**Seasonal calendar**



**NB.**

- Malindi district has a bimodal rainfall pattern
- Long rains fall between April and July while short rains fall between October and December

## **Situation overview**

- The month under review marked the end of the 2009 long rains whose performance in the district was, on average, very poor. An average of 43.6mm of rainfall with a temporal distribution of 7 days was received in the district in July 2009 compared to 75.3mm received in June 2009. Most of the rains were received along the coastal belt.
- There was a marked deterioration in the quality and quantity of pasture and natural vegetation during the month owing to poor rains in both mixed farming and livestock farming livelihood zones. Consequently, the average distance to the nearest grazing fields increased from 6.7 km in the previous month to 9.1km
- There was a reduction in the number of community earth dams which provided water to households during the month, in both mixed and livestock farming livelihood zones, since most of them dried up. The average distance from households/livestock concentration point to the nearest water source increased from 3.9km in June 2009 to 5.3km in the month under review.
- Despite long distances to grazing areas, coupled with shortages of water, the general body condition of all livestock types was fair in many areas of the mixed farming zone as animals were able to access pasture and water in varied distances.
- The local veterinary office imposed quarantine on movement of animals following an outbreak of foot and mouth disease (FMD) in Goshi, Fundissa (Msumarini) Magarini (Mambrui) and Sabaki (Prison farm) locations in the mixed farming zone.
- Maize along the coastal belt in the mixed farming zone was at different stages of development, ranging from tussling to harvesting. Crops in the livestock farming zone and parts of the mixed farming zone wilted beyond possible rejuvenation owing to poor long rains.
- The cholera outbreak which was reported in some parts of the district in the previous month was contained by the district health authorities.
- The district monthly average cattle price reduced from Ksh 8741 in June 2009 to Ksh 7902 during the month under review, thereby representing a 9.6% decrease. Goat price reduced from KES 941 in June 2009 to Ksh 901 in July 2009.
- There was a marginal increase in the district average maize price from Ksh 39.50 in the previous month to Ksh 39.85 in July 2009.
- The number of children who were at risk of malnutrition increased from 8.9% in the previous month to 12.4% in July 2009. This represents a 39.3% increase in the number of 'At Risk' children compared to the previous month.
- The coping strategy index (CSI) slightly decreased from 2.5 in the previous month to 2.4 July 2009. This indicates that the level of household food insecurity remained high during the month as households employed different coping strategies.
- The World Food Programme (WFP) supplied 276.323 metric tons (MT) of relief food to 31,910 beneficiaries in Marafa, Langobaya and Magarini divisions under the EMOP programme in July 2009. i.e. cereals/pulses – 216.974 MT, pulses – 38.290 MT, oil – 11.487 MT, salt – 9.572 MT.

## **Recommendations to DSG and KFSM**

- Monitoring of the performance of the long rains crop by the DSG during the harvesting period.
- Continued EMOP GOK/WFP relief food operations. Food-for-asset (FFA) aid distribution to target more beneficiaries.
- Control of foot and mouth disease in Magarini and Malindi divisions.

## **Current interventions**

### **Food aid**

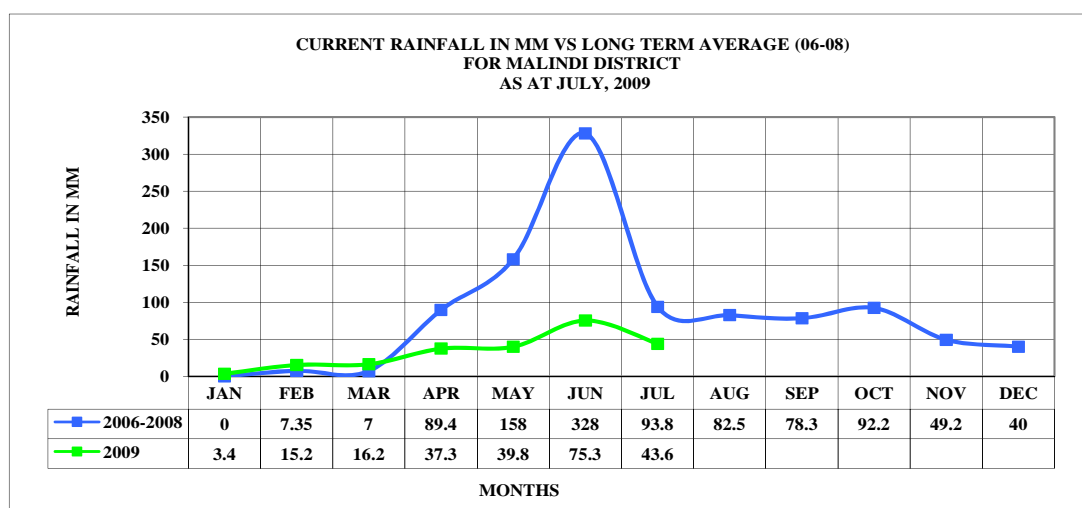
- Supply of relief food to 31,910 beneficiaries in Marafa, Langobaya and Magarini divisions in the EMOP programme.
- School feeding programme targeting 94 primary schools i.e. 41 on regular and 53 on extended programme.

### Non-food interventions

- Quarantine on movement of livestock in Magarini & Sabaki locations to control foot and mouth disease (FMD).
- Promotion of meat goat and beekeeping through the Department of Livestock's ALLPRO programme. 6 farmer groups received cheques worth KES 1.2 million in Marafa & Magarini divisions.
- Water trucking to schools in Marafa division to support school feeding programme.

## 1.0 Environmental indicators (Stability)

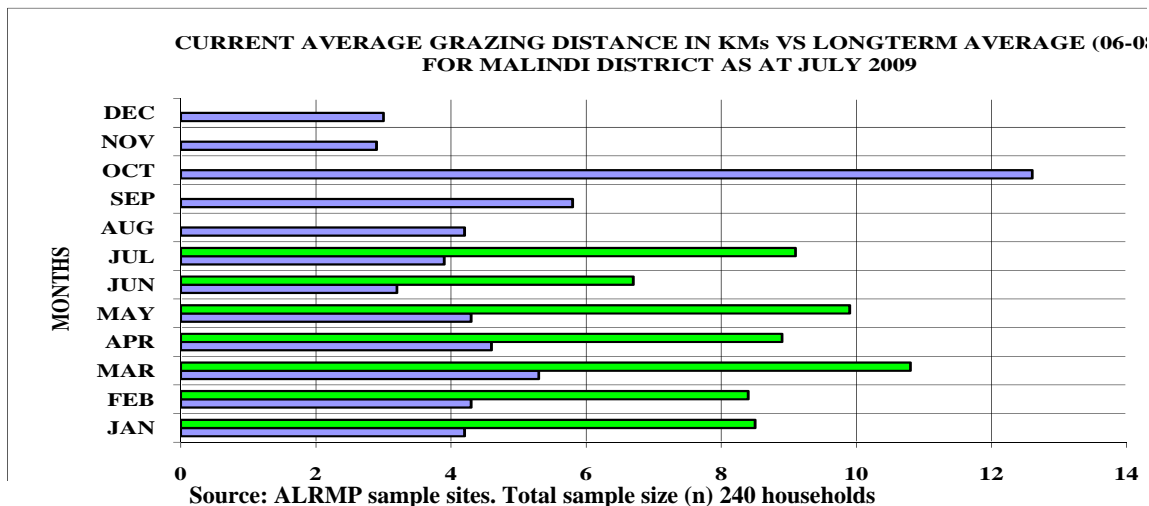
### 1.1 Rainfall



Source: ALRMP sample sites. Total sample size (n) – 12 sites

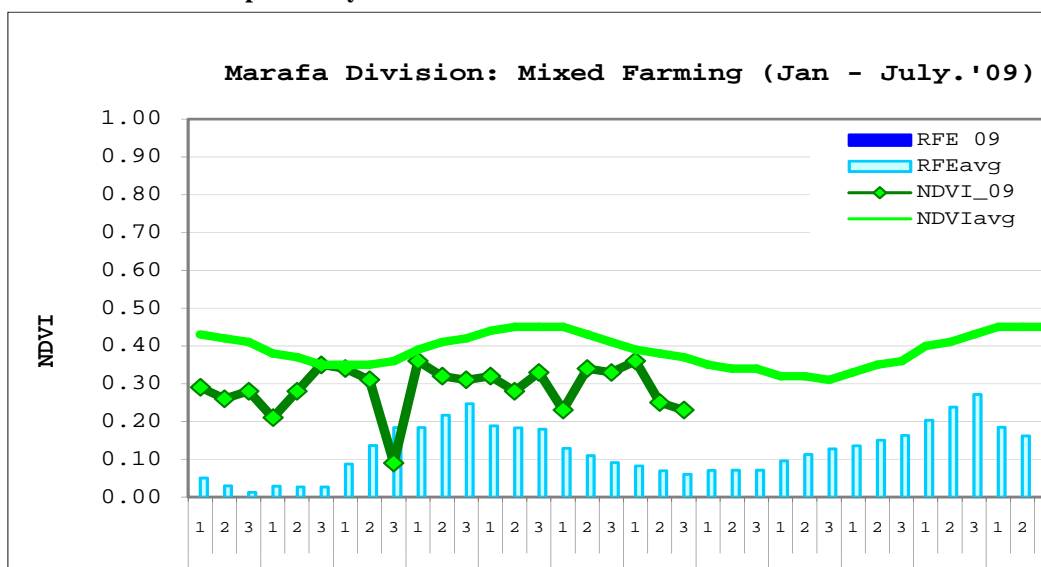
- An average of 43.6mm of rainfall with a temporal distribution of 7 days was received in the district during the month compared to 75.3mm received in June 2009. This represents an 42% decrease in the amount of rainfall compared to the previous month.
- The amount received was 46.5% below the long term mean of 93.8mm during this time in a normal year (long term).
- Most of the rains were received along the coastal belt.
- As in the previous month, the livestock farming zone recorded the lowest amounts of rainfall during the month i.e. Kisiki cha Wagiriama – 7mm.

## 1.2 Condition of natural vegetation and pasture



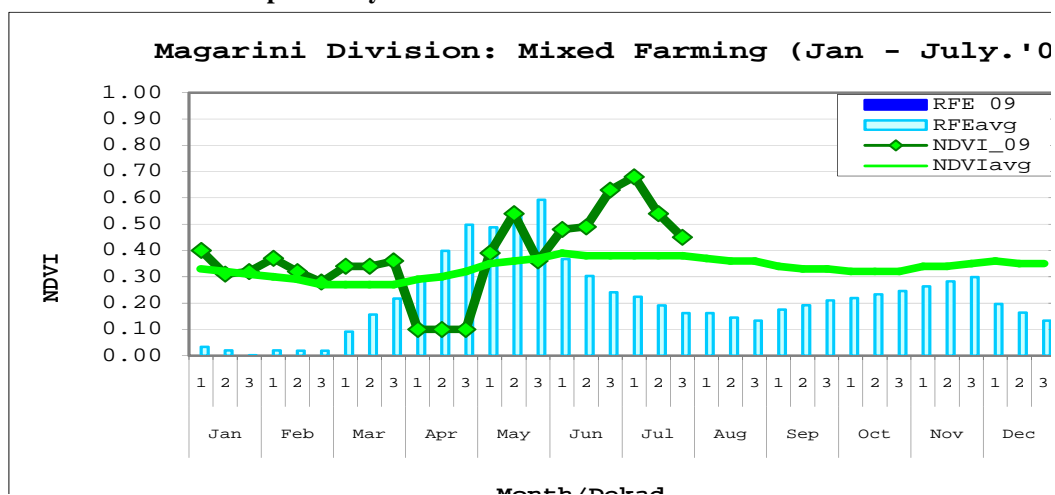
- There was a marked deterioration in the quality and quantity of pasture and natural vegetation during the month owing to poor rains in both mixed farming and livestock farming livelihood zones.
- As a result, the average distance to the nearest grazing fields increased from 6.7 km in the previous month to 9.1km in July.
- The scenario is not normal during this time of the year as the average grazing distance was longer than the long term mean.

**Normalized Difference Vegetation Index (NDVI) – Marafa Division  
Comparatively Worst Case Scenario**



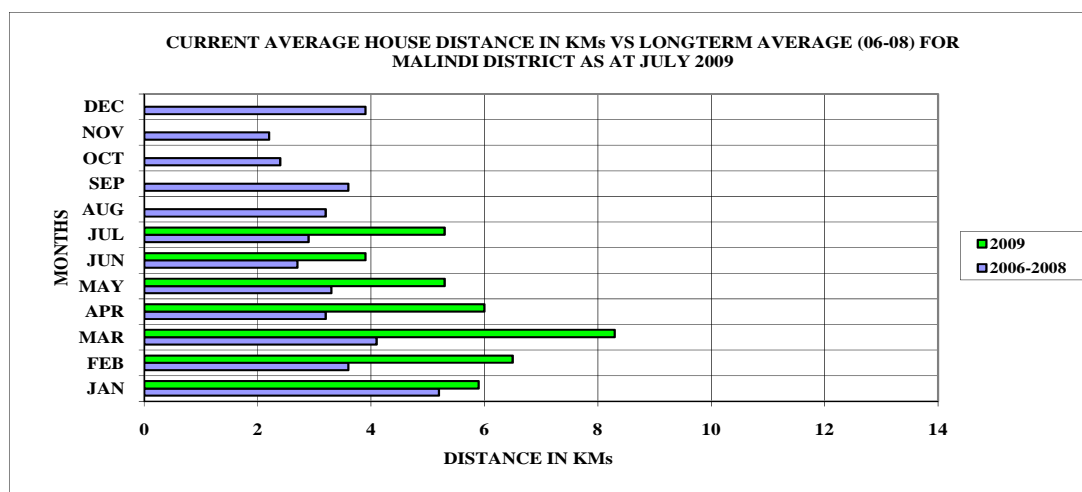
- The quantity of pasture and browse in Marafa division in the upper part of the mixed farming zone bordering the livestock zone slightly deteriorated during the month as shown in the above graph. The division borders the livestock farming zone where pasture and natural vegetation was very poor.
- This was attributed to poor rains in the livestock farming zone and areas bordering it. The overall pasture condition in these areas was therefore below the average.

**Normalized Difference Vegetation Index (NDVI) – Magarini Division  
Comparatively Good Case Scenario**



- The mixed farming areas of Magarini division along the coastal belt received most of the rains in the district during the month under review. The pasture and natural vegetation condition in this division improved significantly in the first dekad of the month but deteriorated in the second and third dekads as indicated in the above graph, owing to reduced amounts of rainfall as the season came to a close.
- However, the overall scenario was still way above the long term average.

**1.3 Distances to water sources**



Source: ALRMP sample sites. Total sample size (n) 240 households

- River Sabaki, boreholes, shallow wells and the main Baricho – Malindi pipeline continued to be the main water sources during the month.
- There was a reduction in the number of community earth dams which provided water to households during the month under review since most of them dried up in both mixed and livestock farming livelihood zones.
- Areas affected by water shortages during the month include Magarini, Chakama, Bungale and Adu locations.
- Consequently, the average distance from households/livestock concentration point to the nearest water source increased from 3.9km in June 2009 to 5.3km in the month under review.
- On average, distances were shorter in the mixed farming zone than in the livestock farming zone

- The above scenario is not normal at this time of the year since the distance was longer than the long term mean.

#### **1.4 Emerging issues**

- The performance of the 2009 long rains in the livestock farming zone and parts of the mixed farming zone was poor. Maize and other cereals have wilted almost beyond possibility of rejuvenation in Langobaya, Chakama, Adu and Bungale locations.
- Wildlife menace in Jilore, Chakama and Sabaki locations. Hippos wrecked havoc in farms along river Sabaki particularly in Jilore and Sabaki locations. Elephants destroyed maize and banana crops in Kisiki sub location.
- Shortages of water in Magarini, Chakama, Bungale and Adu locations. This has affected the school feeding programme in a number of schools.

##### **1.4.1 Insecurity/Conflict/Human displacement**

- Human/wildlife conflicts were reported in Jilore, Sabaki and Chakama locations.

#### **1.5 Implications on food security**

- There is positive outlook on the yields of maize and other cereals and legumes along the coastal belt of the district owing to good rains received during the just ended long rains season. Maize in particular is at all stages of development, ranging from tussling to harvesting.
- The livestock farming zone and other hinterland areas of the district received very poor rains during the long rains season. This scenario will have a very negative impact on household food security. There will be a total crop failure in this zone since a number of households in the zone practice crop farming in addition to livestock rearing.

### **2.0 Rural economy indicators (Food availability)**

#### **2.1 Livestock production**

##### **2.1.1 Livestock body condition**

- Despite long distances to grazing areas, coupled with shortages of water, the general body condition of all livestock types was fair in many areas of the mixed farming zone as animals were able to access pasture and water in varied distances.
- Livestock in the livestock farming zone have started exhibiting signs of deteriorating body condition owing to dwindling pastures and natural vegetation.
- The observed livestock condition was not normal during this time of the year when the district is supposed to have abundant pastures after the long rains.

##### **2.1.2 Livestock diseases**

- Foot and mouth disease (FMD) was reported during the month in Goshi, Fundissa (Msumarini) Magarini (Mambrui) and Sabaki (Prison farm) locations in the mixed farming zone.
- The local veterinary office imposed quarantine on movement of animals in these areas as a preliminary step in arresting the situation.

##### **2.1.3.1 Milk production**

- There was a 96% increase in the amount of milk produced by households during the month, from a daily average of 71 bottles of 750ml capacity in June 2009 to 139 bottles in the month under review. Most of the improvement was registered in the mixed farming zone i.e. a average of 221 bottles compared to 57 bottles in the livestock farming zone.
- The improvement in milk consumption was attributed to improved animal body condition owing to improved pastures and natural vegetation in the mixed farming livelihood zone.

## **2.2 Crop production**

### **2.2.1 Timeliness and status of crop production activities**

- As indicated above, crops in the livestock farming zone have wilted beyond possible rejuvenation owing to poor long rains. This condition is exhibited in Langobaya and Chakama and Adu locations.
- Maize along the coastal belt in the mixed farming zone is at different stages of development, ranging from tussling to harvesting.
- The following were the main field activities in the mixed farming zone during the month;
  - Planting of pulses i.e. cowpeas and beans along the coastal belt.
  - Transplanting of vegetables in both irrigated and rain-fed areas along the coastal belt.
  - Harvesting and marketing of mangoes and green leafy vegetables along riverine areas.
  - Pest and disease control in irrigated crops in vegetables and perennial crops
  - Nursery management for vegetables

### **2.2.2 Pests and diseases**

- Maize aphids affected tussling maize in the mixed farming zone. Farmers were advised accordingly by the department of Agriculture.

### **2.2.3 Harvest**

- Early planted maize was harvested during the month, mostly along the coastal belt of the mixed farming zone.
- Mangoes in the mixed farming zone are in season. Most mangoes are sold in local markets while others are sold in Mombasa.
- Green vegetables were also harvested from farms along the river (Sabaki ) and rain-fed areas in the mixed farming zone.

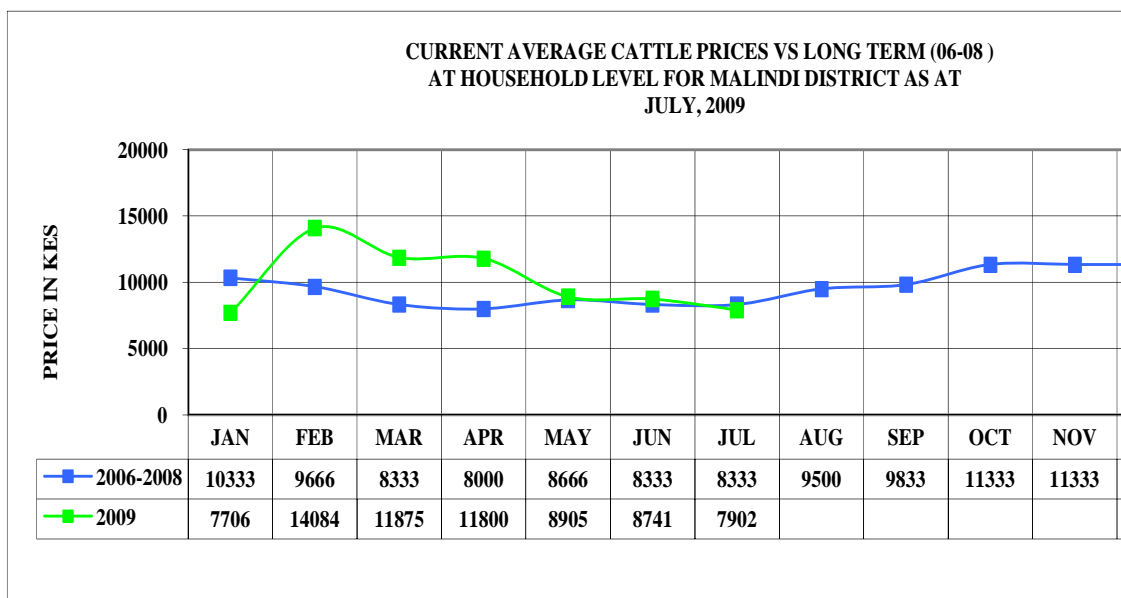
## **2.3 Implications on food security**

- Harvesting of early planted maize in the mixed farming zone heralded an improvement in household food security along the coastal belt of the mixed farming zone.
- Good livestock body condition and a resultant significant increase in milk production in the mixed farming livelihood zones impacted positively on household food security as more milk was available for domestic consumption and also for sale.
- Food security situation of most households in the livestock farming zone due to the poor performance of the long rains which have affected pastures and crop yields.

## **3.0 Access to food**

### **3.1 Livestock marketing**

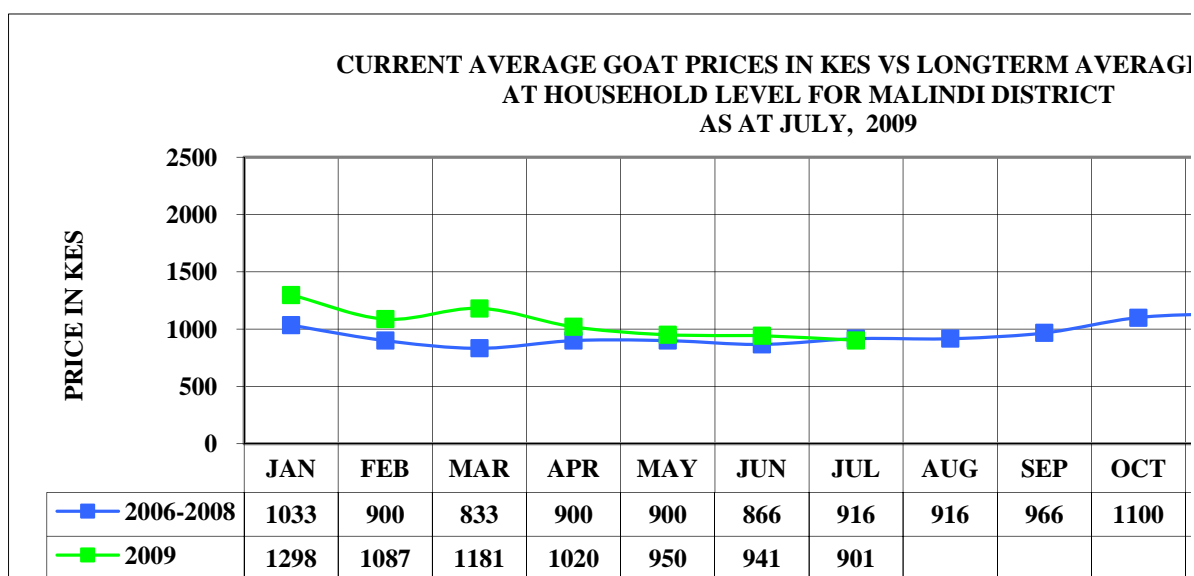
#### **3.1.1 Cattle prices**



Source: ALRMP sample sites. Total sample size (n) 240 households

- The district monthly average cattle price reduced from Ksh 8,741 in June to Ksh7,902 during the month under review, thereby representing a 9.6% decrease. The average price was also 5.2% below the long term average.
- The drop in the average price could be attributed to low supply of animals offered for sale by households particularly in the mixed farming zone and low demand for cattle. Livestock keepers are now also holding onto their animals in anticipation of better prices.
- Inter and intra livelihood price differences with the average price being Ksh 9,555 and Ksh 6,250 in the livestock farming zone and mixed farming zone respectively.
- Compared to the long term mean, the decrease in price was normal during this time of the year.

### 3.1.2 Goat prices



Source: ALRMP sample sites. Total sample size (n) 240 households

- The district average goat price reduced from Ksh 941 in June to Ksh 901 in the month under review. This represents a 4.3% decline in the average price for the month.

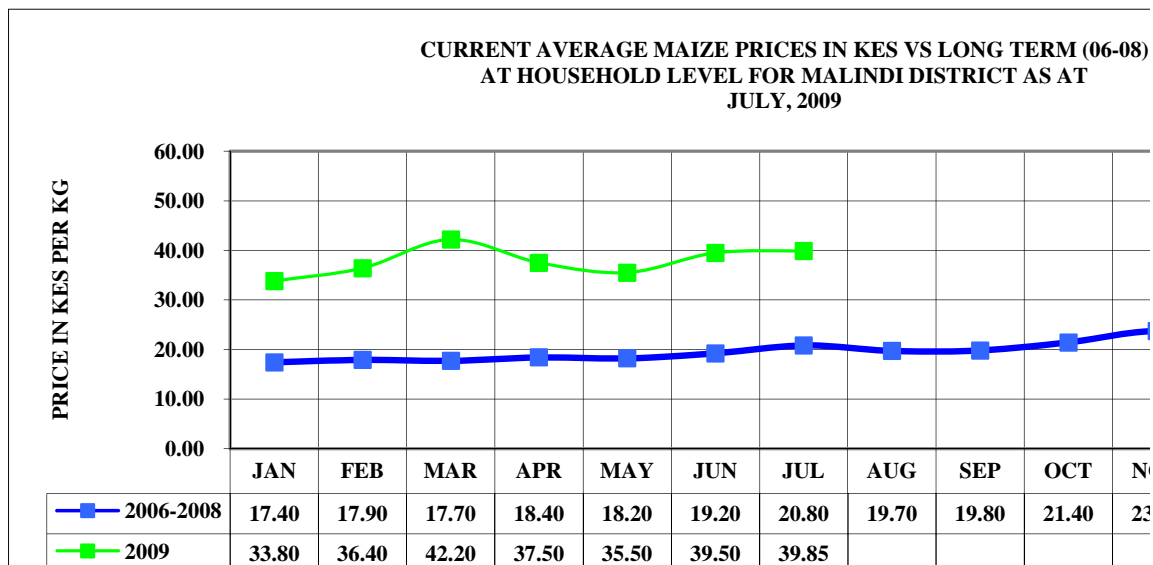
- The slight price decrease could be attributed to a drop in supply of goats offered for sale in the local markets by households and low demand for goats.
- The prices were lower than the long term mean remained higher in the livestock farming zone at Ksh 927 compared to Ksh 875 in the mixed farming zone. The price was within the acceptable seasonal ranges and therefore normal during this time of the year.

### **3.2 Milk consumption**

- There was a significant increase in the consumption of milk by households during the month across the district, from a daily average of 53.5 bottles in June 2009 to 73.5 bottles in July 2009. This represents a 37.4% increase in consumption of milk at the household level.
- More milk was consumed in the mixed farming zone than in the livestock farming zone at 92 bottles and 55 bottles respectively. More milk was also produced in the mixed farming zone.

### 3.3 Crop prices

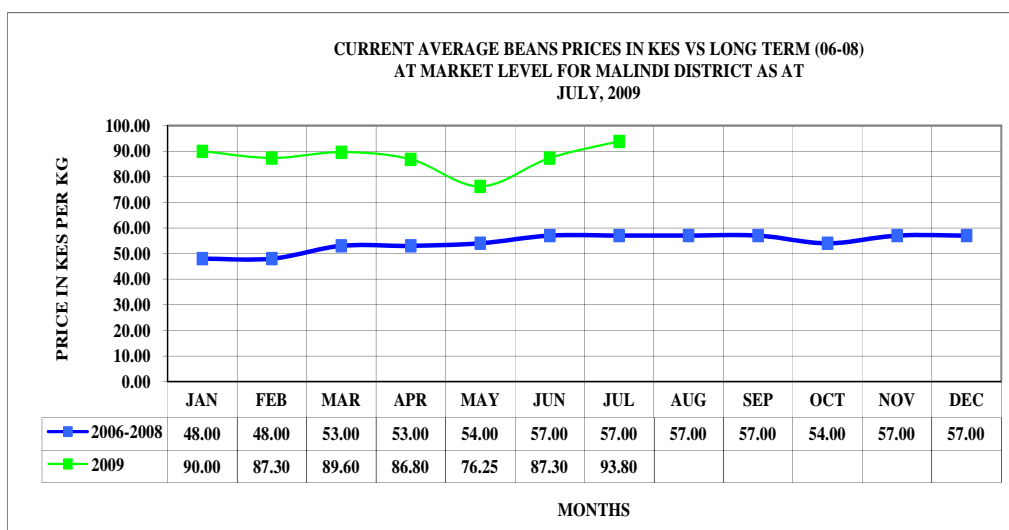
#### 3.3.1 Maize prices



Source: ALRMP sample sites. Total sample size (n) 240 households

- There was a marginal increase in the district average maize price from Ksh 39.50 in the previous month to Ksh 39.85 in July 2009, representing a 0.9% increase.
- Although the scenario was in tandem with the long term trend, the price was 91.6% higher than the long term average.
- The current state shows the scarcity of maize still persists in the district. Although a number of farmers along the coastal belt harvested maize during the month, the amounts were insignificant to make any positive impression on maize prices. No maize was sold in the livestock farming zone.
- At the market level, most local markets in sample areas did not have maize stocks.

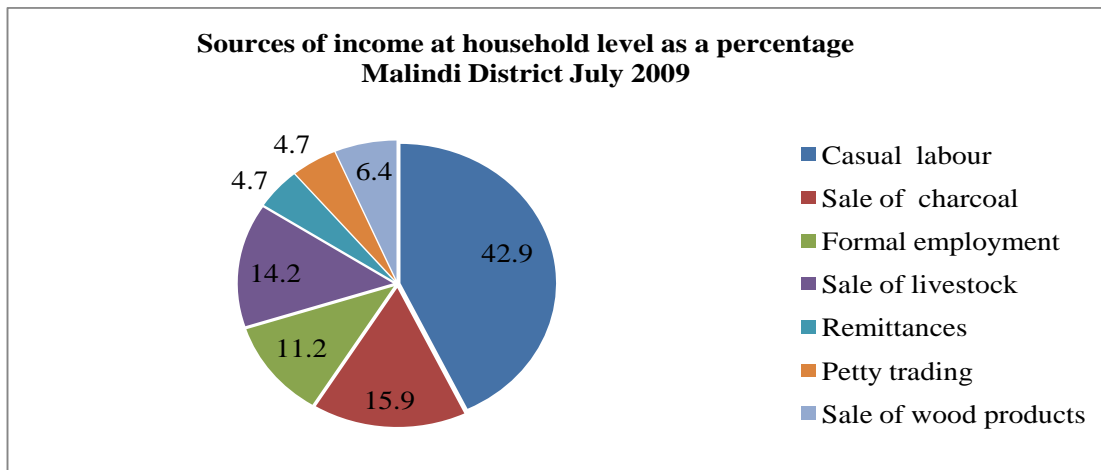
#### 3.3.2 Beans prices



Source: Retail markets in 8 EWS sample areas

- The district average price of beans reached an all time high during the month. On average the price increased by 7.4% from Ksh 87.30 in the previous month to Ksh 93.80 in July 2009.
- This is attributed to dwindling supplies in local markets during the month compared to the previous month.
- According to the collected data, beans were sold in the mixed farming livelihood zone only whereas the livestock farming zone did not record any sales. The district does not produce adequate amounts of beans and therefore depends on external sources for its requirements.

### 3.4 Income



*Source: ALRMP sample sites. Total sample size (n) 240 households*

#### 3.5.1 Income

- Casual labour was the major source of income for many households across all livelihood zones, followed by sale of charcoal and sale of livestock products.
- The number of households which engaged in casual labour increased from 38% in June 2009 to 42.9% in July 2009. In total, 64 households in the mixed farming derived their income from casual labour compared to 36 in the livestock farming zone.
- As in the previous month, there was a drop in the number of households who traded in charcoal from 19.8% in June 2009 to 15.9% in July 2009, mostly in the mixed farming zone, as a result of the long rains. It is difficult to burn charcoal during the rains and moreover households concentrated mainly on farming activities, either in own farms or as casuals.
- More households in the livestock farming zone engaged in charcoal burning and selling and sale of livestock products than in the mixed farming zone.

#### 3.5.2 Livestock income

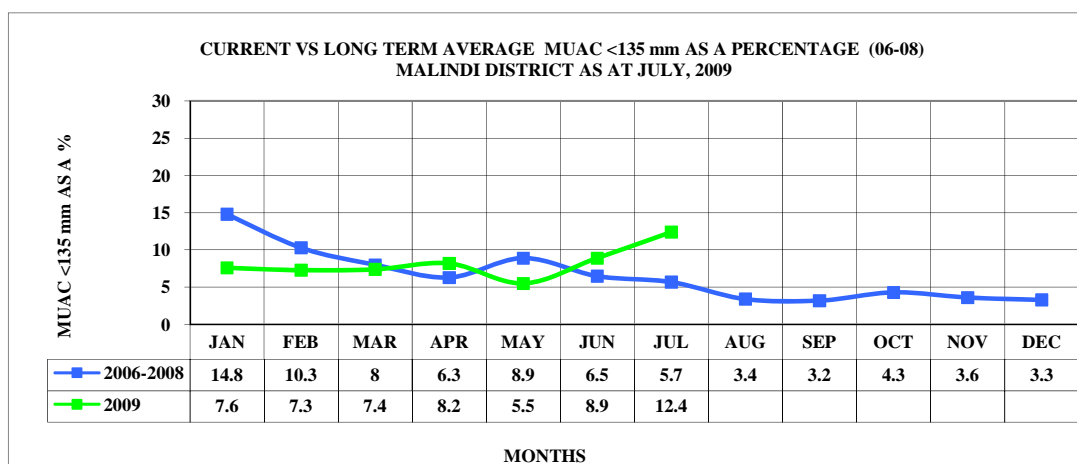
- Although there was an increase in the number of sampled households which traded in livestock and livestock products during the month from 10% to 14.2%, there was a sharp drop in the number of livestock sold. This therefore indicates that there was a drop in income obtained from livestock.
- On average, sampled households sold 19 heads of cattle, 84 goats and 75 poultry in July 2009 compared to 30 heads of cattle, 93 goats and 121 poultry in June 2009.
- Most of the animals were sold in the livestock farming zone.

### 3.6 Implications on food security

- Poor livestock prices and increasing prices of maize and beans aggravated the already worsening food insecurity situation in the livestock farming zone during the month.

## 4.0 Human welfare indicators (Utilisation of food)

### 4.1 Nutritional status



Source: ALRMP sample sites. Total sample size (n) 240 households

- The above graph shows that the number of children who were at risk of malnutrition during the month increased from 8.9% the previous month to 12.4% in July. This represents a 39.3% increase in the number of 'At Risk' children compared to the previous month.
- 90% of the children who were at risk of malnutrition during the month were in the livestock farming zone i.e Langobaya and Chakama location.
- The increase in malnutrition rates during the month is attributed to a worsening food security situation in the livestock farming zone (Langobaya division) and some parts of the mixed farming zone (Marafa division).
- Shortage of water in some areas also hampered the preparation of meals in schools, thereby further affecting the health status of children.

### 4.2 Health

- The cholera outbreak reported the previous month was contained by the district health authorities.

### 4.3 Flagged areas

The following were the flagged areas during the month;

- Chakama location (livestock farming zone) and Adu, Bungale, and Langobaya locations (mixed farming zone).
- Other areas include Chamari (inhabited by the Watha community) in Mambasa sublocation in Marafa location in the mixed farming zone.

## 5.0 Current interventions

### 5.1 Non-food interventions

Type of Intervention	Donor/Implementing Agency
Quarantine on movement of livestock in Magarini, Sabaki locations to control foot and mouth disease (FMD)	Department Veterinary Services
Promotion of meat goat, poultry and beekeeping through the ALLPRO programme. 6 farmer groups received cheques worth Ksh 1.2 million in Marafa & Magarini divisions	Department of Livestock Production
Excavation of Bofu kwa Binzaro community dam in	Ministry of Water & Irrigation

Chakama location under Kazi kwa Vijana programme	
Food for assets (FFA) activities in Langobaya, Marafa and Magarini divisions. 23 community water pans, 7 road projects and construction of zai-pits for water harvesting in 7 community farms undertaken by EMOP beneficiaries	Kenya Red Cross Society
Water trucking to schools in Marafa division to support school feeding programme	ALRMP

## 5.2 Food aid

Type of Intervention	Donor/Implementing Agency
Supply of relief food to 31,910 beneficiaries in Marafa, Langobaya and Magarini divisions in the EMOP programme. <i>i.e. Cereals/pulses – 216.974 MT, pulses – 38.290 MT, oil – 11.487 MT, salt – 9.572 MT. Total - 276,323 MT</i>	WFP/Kenya Red Cross Society
Supplementary feeding programme (SFP) in 11 health facilities, targeting approximately 2892 beneficiaries	ALRMP/MoH
Distribution of 130 metric tons of relief food to 2,317 households in Marafa, Adu and Bungale locations in Marafa division. <i>i.e. maize, beans, vegetable oil and CSB</i>	World Vision International

## 5.3 Coping strategies

- Reduction in number of meals per day.
- Purchase of food on credit.
- Reducing size of meals.
- Restricted consumption of food by adults to allow more for children.
- Going for an entire day without a meal.

## 5.4 Coping Strategy Index (CSI)

- There was no significant change in the coping strategy index (CSI) during the month.
- The CSI slightly decreased from 2.5 in the previous month to 2.4 July 2009. This indicates that the level of household food insecurity remained high during the month as households employed different coping strategies as indicated above.

## 6.0 Recommendations to DSG and KFSM

### a) Food aid

Type of Recommendation	Action
Continued EMOP GOK/WFP relief food operations. Food for assets (FFA) aid distribution to target more beneficiaries	GoK/WFP
Supplementary and therapeutic feeding for under fives, lactating and pregnant mothers and the elderly in flagged locations.	ALRMP, MoH

### b) Non-food interventions

Type of Recommendation	Sector
Promotion of irrigation agriculture in the district along river Sabaki	Water & Irrigation
Encourage farmers to plant drought tolerant crops in the next season	Agriculture
Promotion of alternative livelihoods <i>i.e. bee keeping and local poultry</i>	Livestock

