

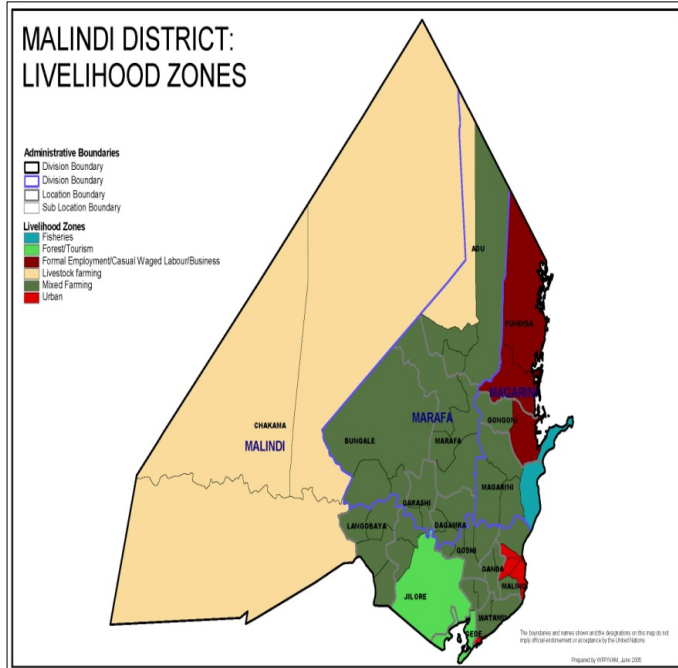


**OFFICE OF THE PRIME MINISTER  
MINISTRY OF STATE FOR THE DEVELOPMENT OF NORTHERN KENYA AND OTHER ARID LANDS  
ARID LANDS RESOURCE MANAGEMENT PROJECT II**

**DROUGHT MONITORING BULLETIN, SEPTEMBER 2009**

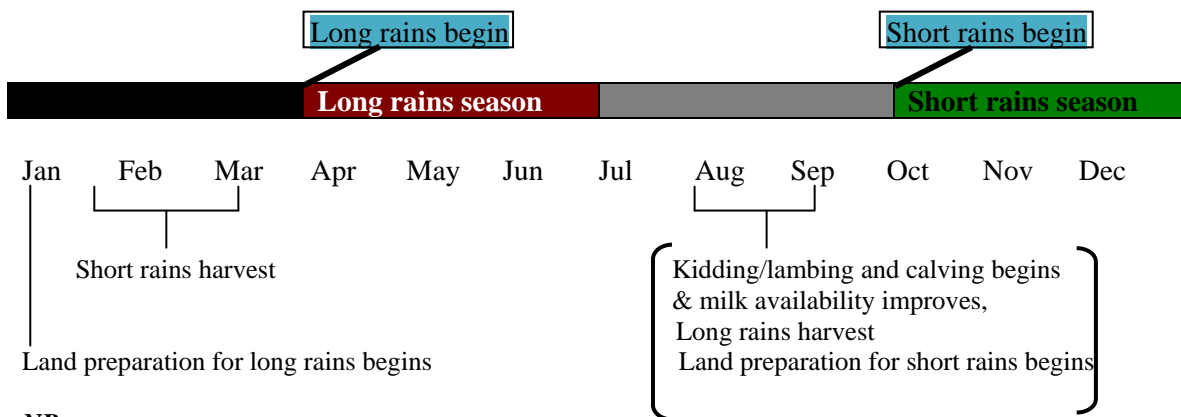
**Malindi & Magarini Districts**

**Warning Stages**



Livelihood Zone	Stage	Trend
Mixed farming	Alarm	Worsening
Ranching/Livestock	Alarm	Worsening
<b>District</b>	Alarm	Worsening

**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**

- Warm conditions prevailed over most parts of the districts. However, cool and cloudy conditions were experienced along the coastal belt with occasional light showers. The amount of rainfall received in the two districts i.e. Malindi & Magarini, slightly reduced by 1.2% during the month, from 16.9mm in August 2009 to 16.7mm in September with a temporal distribution of 4 days.
- The district experienced further deterioration in natural vegetation and pasture condition during the month under review owing to lack of adequate rains in most parts of the district. Consequently, the average distance to the nearest grazing fields increased by 25% i.e. from 10.4km in August to 13km in September.
- The continued dry spell has caused the drying up of most surface water sources across the district i.e. community earth dams and pans. Out of 18 dams and pans, only 3 had water during the month.
- Lack of water and increased distances to water sources led to massive water trucking to areas in the livestock and mixed farming zones. Most of the water was trucked to institutions i.e. schools and health centres and, in some instances, to communities.
- Armed conflict using crude weapons between pastoralists and crop farmers along the riverine areas of Chakama location in the livestock farming zone was witnessed during the month. A peace baraza was held in the area on 30<sup>th</sup> September 2009, facilitated by Arid Lands Resource Management Project (ALRMP).
- The long rains crop harvesting season effectively came to an end during the month only farmers in the coastal belt of the mixed farming zone had crops to harvest. No crop yields were realized in the livestock farming zone.
- There was an increase in the district monthly average cattle and goat prices. Cattle prices increased from Ksh9092 in August to Ksh11,006 in September, representing a 21% increase, while that of goats appreciated marginally from Ksh999 in August to Ksh1,072 in September, thereby representing 7.3% increase. This was attributed to a tremendous increase in demand for goats for Idd celebrations when the Muslim community marked the end of Ramadhan.
- The average district maize price remained stable at Ksh20 per kilogram. The stable price was attributed to improved maize stocks at the household level following the harvesting of the long rains maize crop.
- Although there was a significant reduction in the number of households which derived income from the informal labour market, casual labour was the major source of income for many households across all livelihood zones, followed by sale of charcoal and formal employment.
- There was a sharp increase in the number of children who were at risk of malnutrition during the month, from 9.7% in August to 14.4% in September. This represents a 48% increase.
- Flagged areas include 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 sub location in Marafa location in the mixed farming zone.

## **Recommendations to DSG and KFSM**

- Continued EMOP GOK/WFP relief food operations. Food-for-asset (FFA) aid distribution to target more beneficiaries.
- The department of Agriculture to encourage farmers to increase acreage under food crops to take advantage of the expected above normal El-nino like short rains.

## **Food interventions**

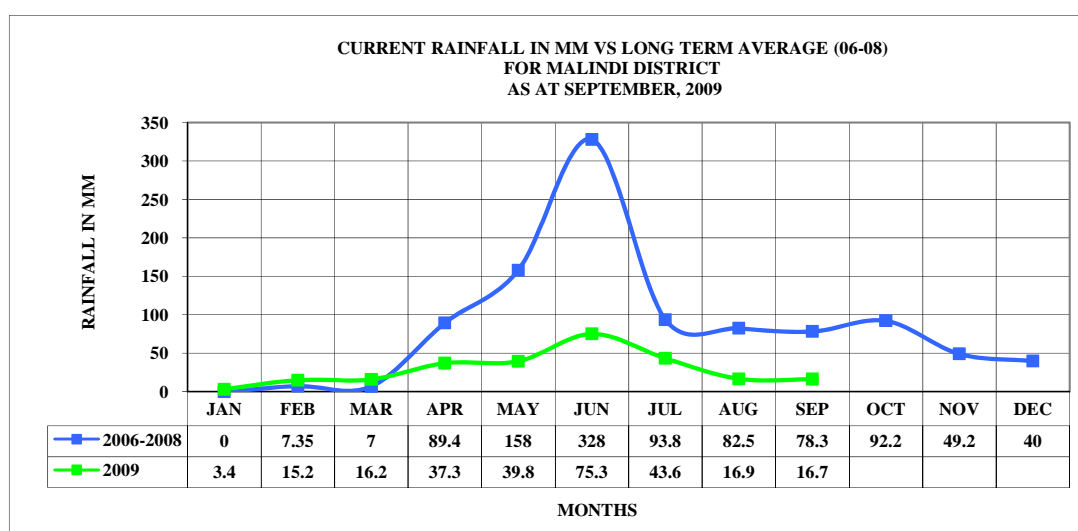
- Supply of 1800 bags of rice, 280 bags of beans, 400 cartons of oil and 1500 bags of maize to vulnerable households in Malindi and Magarini districts.
- Supplementary feeding for under-5s through 17 government health facilities i.e. 16.425 metric tons of Unimix and 1.643 metric tons of vegetable oil was distributed during the month.
- School feeding programme targeting 94 primary schools during the August holidays as directed by the government.

### Non-food interventions

- Quarantine on movement of livestock in Magarini & Sabaki locations to control foot and mouth disease.
- Water trucking to schools in Marafa division to support school feeding programme.

## 1.0 Environmental Indicators (Stability)

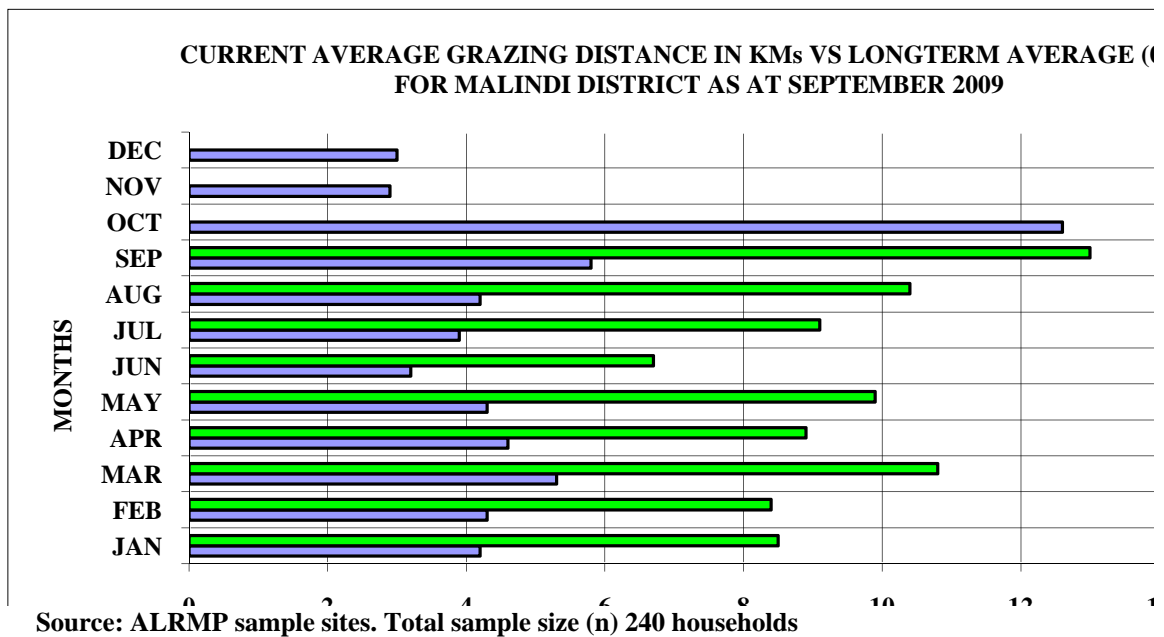
### 1.1 Rainfall



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

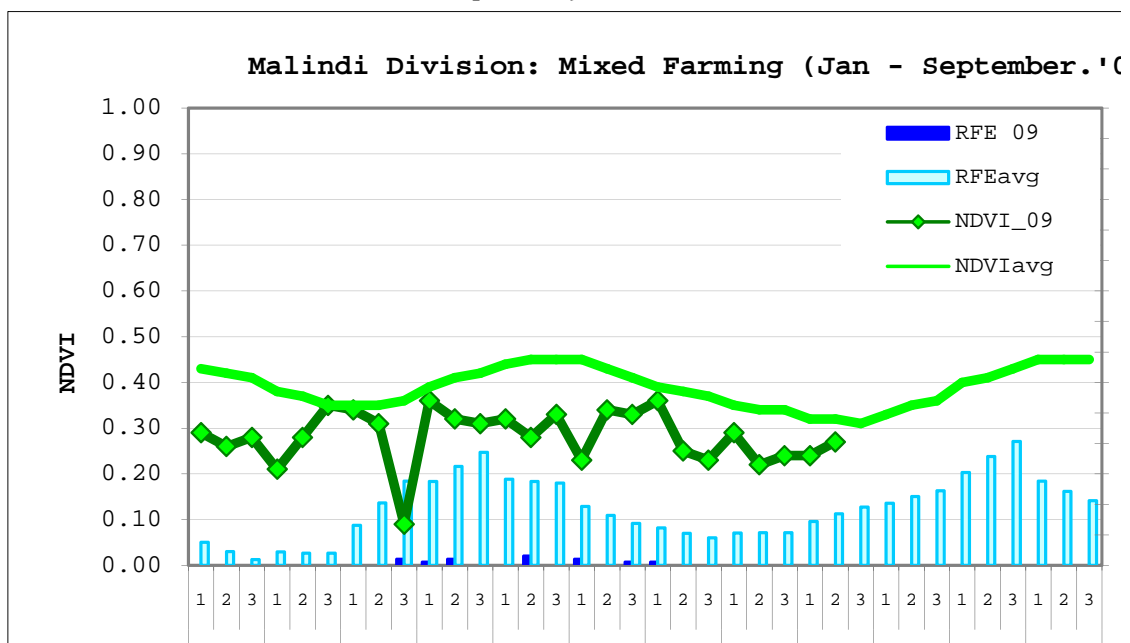
- Generally warm conditions prevailed over most parts of the districts. However cool and cloudy conditions were experienced along the coastal belt. Occasional light showers occurred over several places along the belt but were not adequate to reverse the major impacts associated with the prolonged dry conditions experienced in most parts of the two districts.
- The amount of rainfall received in the two districts i.e. Malindi & Magarini, slightly reduced by 1.2% during the month under review, from 16.9mm in August to 16.7mm in September with a temporal distribution of 4 days.
- Most of the rains were received along the coastal belt of the district i.e. Kakuyuni and Bomani areas. The amount received was 78.7% below the long term mean of 78.3mm
- There were no rains in some parts of the livestock farming zone.

### 1.2 Condition of natural vegetation and pasture



- The district experienced further deterioration in the natural vegetation and pasture condition during the month under review owing to lack of adequate rains in most parts of the district.
- In both livelihood zones (mixed and livestock farming), the quality and quantity of browse was poor. Consequently, the average distance to the nearest grazing fields increased by 25% i.e. from 10.4km in August 2009 to 13km in September 2009.
- This therefore indicates that during the month livestock walked for longer distances in search of browse than in the previous month. The worst hit areas include the livestock farming areas of Chakama and mixed farming areas of Marafa, Bungale and Adu.
- The scenario is not normal during this time of the year as the average grazing distance was longer than the (LTM) long term mean.

*Normalized Difference Vegetation Index (NDVI) & Rainfall Estimate (RFE)  
Malindi Division - Comparatively Worst Case Scenario*

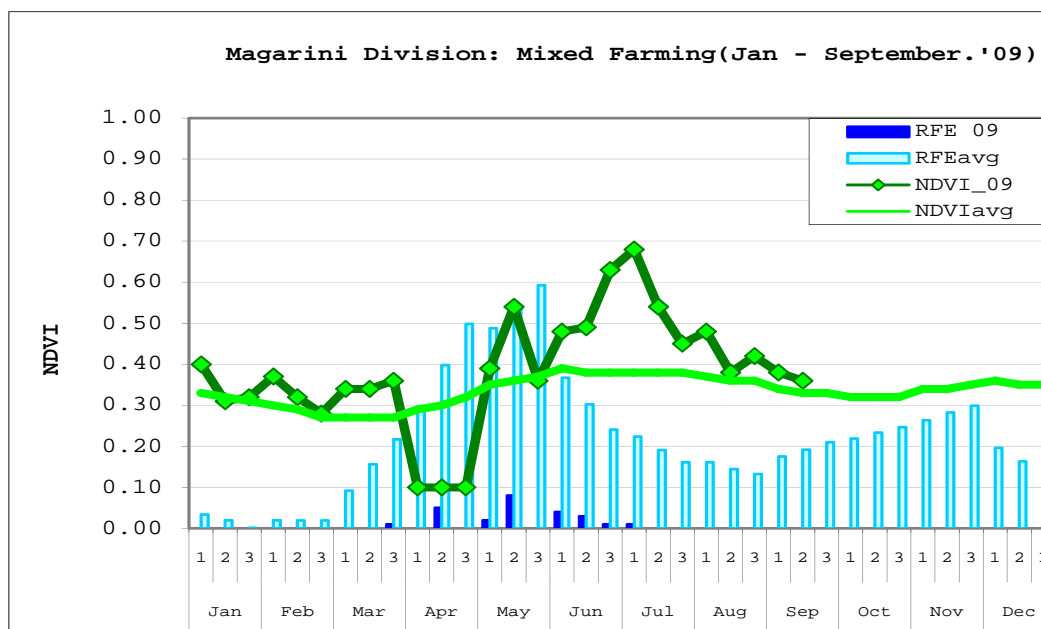


- The quantity of pasture and browse in Malindi division deteriorated in the first dekad of September 2009 but slightly improved in the second dekad as shown in the above graph.

The division hosts the livestock farming zone where pasture and natural vegetation was very poor.

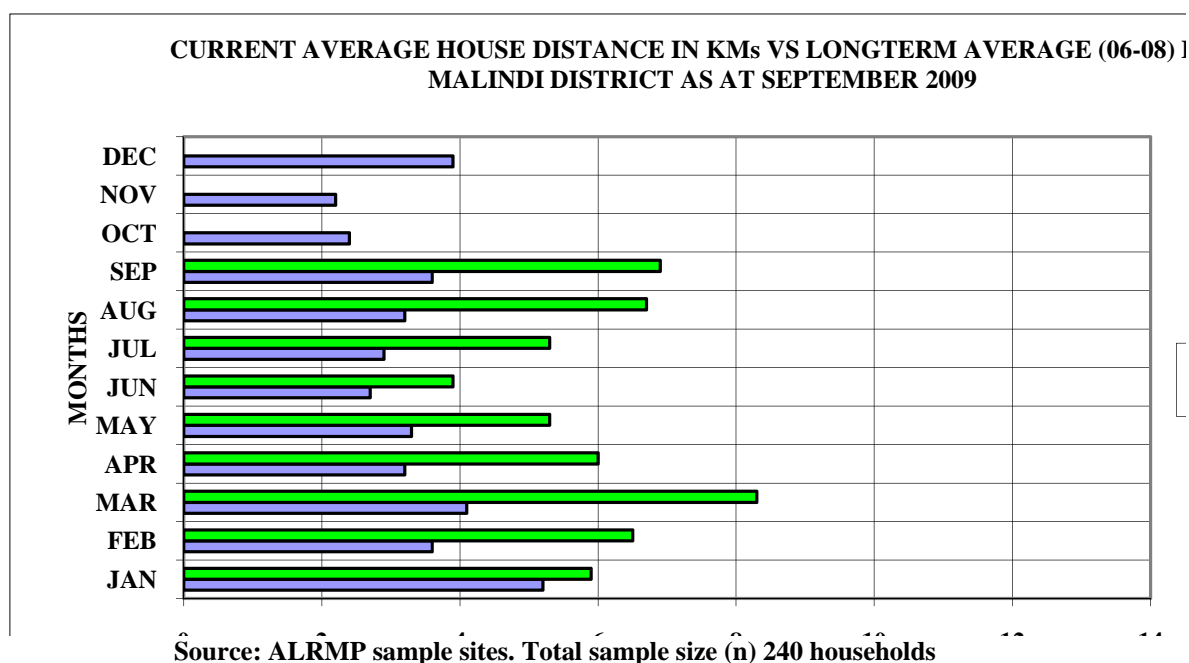
- This was attributed to a prolonged dry spell in the livestock farming zone and areas bordering it. The overall pasture condition in these areas was therefore below the average resulting to increased distances to grazing fields.

*Normalized Difference Vegetation Index (NDVI) & Rainfall Estimates  
Magarini Division - Comparatively Best Case Scenario*



- The pasture and natural vegetation condition in Magarini division in the mixed farming zone declined significantly in during the month as indicated in the above graph, owing to reduced moisture.
- However, the overall scenario was still way above the long term average.

### 1.3 Water sources and availability



- The main water sources for both domestic and livestock use during the month were boreholes, shallow wells, the main Baricho – Malindi pipeline and River Sabaki/Galana.
- The continued dry spell has caused the drying up of most surface water sources across the district i.e. community earth dams and pans. Out of 18 dams and pans, only 3 had water during the month. Moreover, Adu borehole which serves most of Adu sublocation broke down.
- Consequently, the average distance to the nearest water source increased from 6.7km in August 2009 to 6.9 km during the month under review. Areas affected by water shortages during the month included Marafa, Magarini, Chakama, Bungale and Adu locations. Schools implementing the school feeding programme across the district were hit by water shortages.
- The above scenario was not normal at the time of the year since the distance was longer than the long term mean.

#### **1.4 Emerging issues**

- Lack of water and increased distances to water sources has led to massive water trucking to areas in the livestock and mixed farming zones. Most of the water was trucked to institutions i.e. schools and health centres and in some instances to communities.
- Out migration of livestock in some parts of the livestock farming zone to the mixed farming zone. Livestock from the government owned Galana ADC farm in the livestock farming zone were transferred to ADC Kiswani complex in the mixed farming zone where pastures were slightly better.

##### **1.4.1 Insecurity/conflict/human displacement**

- Armed conflict using crude weapons between pastoralists and crop farmers along the riverine areas of Chakama location in the livestock farming zone was witnessed during the month under review. A peace baraza was held in the area on 30<sup>th</sup> September 2009, facilitated by Arid Lands Resource Management Project (ALRMP).

##### **1.3.1 Migration**

- Livestock migration from the livestock farming zone to the mixed farming zone as indicated above.

#### **1.4 Implications on food security**

- The rains received during the month along the coastal belt were crucial for the growth of legumes and late planted maize. This had a positive impact on food security along the region.
- Poor pastures and natural vegetation and increased distances to grazing fields in the livestock farming zone poses a threat to the overall food security situation in this zone.

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

### **2.1 Livestock production**

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

- As in the previous month, 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.
- However, livestock in the livestock farming zone continued to show signs of deteriorating body condition owing to diminishing pastures and natural vegetation, increased distances to grazing areas and shortages of water.
- The observed livestock condition is not normal during this time of the year.

#### **2.1.2 Livestock diseases**

- Enforcement of the quarantine that was imposed on movement of animals in some parts of the district in July 2009 following reports of a foot and mouth disease outbreak continued during the month under review.
- Areas affected include Goshi, Fundissa (Msumarini) Magarini (Mambui) and Sabaki (Prison farm) locations in the mixed farming zone.

### **2.1.3 Milk production**

- The month under review recorded a reduction in average milk produced by sampled households across the district due to inadequate water and pastures and increased distances to water and pasture sources. The reduction has been sustained since June 2009.
- Average milk production reduced by 17.4% from 69 bottles of 750ml capacity in August 2009 to 57.5 bottles of the same capacity in September.
- Despite the reduction, more milk was produced in the mixed farming compared to the livestock farming zone i.e. 82 bottles and 33 bottles respectively.

## **2.1 Crop production**

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

- The long rains crop harvesting season effectively came to an end during the month under review although only farmers in the coastal belt of the mixed farming zone had crops to harvest.
- No harvesting was done in the livestock farming zone i.e. Chakama location and parts of the mixed farming zone i.e. Langobaya, Bungale and Adu locations.
- Sorghum which was planted in smaller portion as a drought tolerant crop is doing very well while leguminous crops in the coastal belt are at various stages of development. Bananas (tissue culture and conventional varieties) grown in river valleys is doing very well.
- The following were the main field activities in the mixed farming zone during the month;
  - Land preparation for the October – December short remains season
  - Transplanting of vegetables in irrigated farms along the riverine areas.
  - Harvesting and marketing of 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 stalk borer affected maize in irrigated farms in the mixed farming zone. Farmers were advised accordingly by the department of Agriculture.

### **2.2.3 Harvest**

- Maize, cassava and bananas were harvested during the month, mostly along the coastal belt of the mixed farming zone. No harvests were realized in the livestock farming zone.
- Green vegetables were also harvested from farms along the river (Sabaki ).

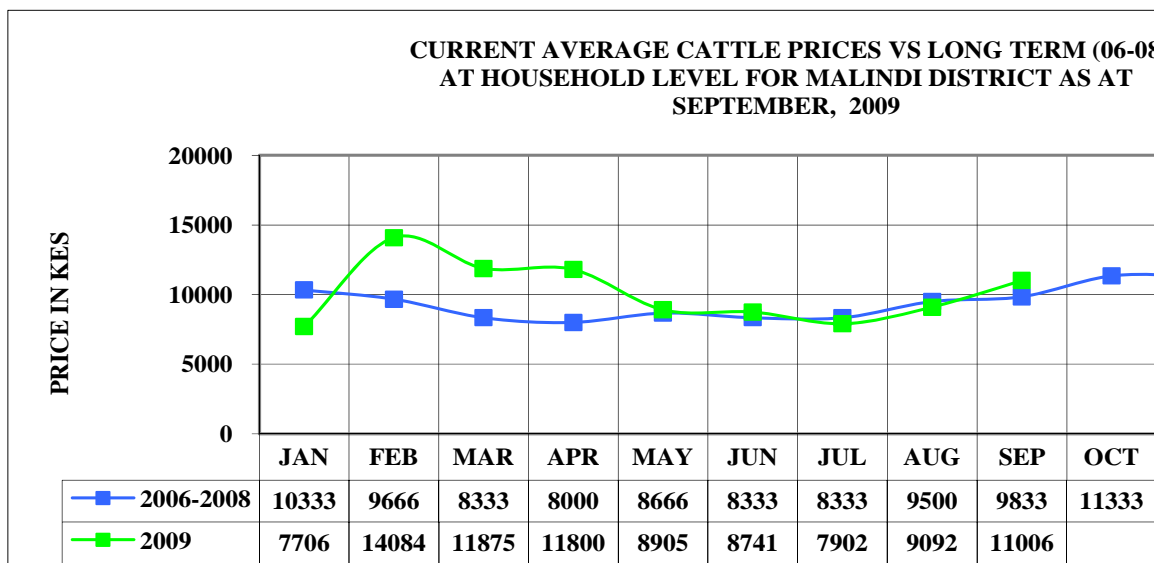
## **2.3 Implications on food security**

- Significant maize yields were realized along the coastal belt of the mixed farming zone. This impacted positively on the food security status of most households along the coastal belt. However, overall yields were below normal according to the department of Agriculture, owing to the poor performance of the 2009 long rains.
- Low milk production among livestock farmers in both livelihood zones affected food security as less amount of milk was available for consumption and sale.

## **3.0 Access to food**

### **3.1 Livestock marketing**

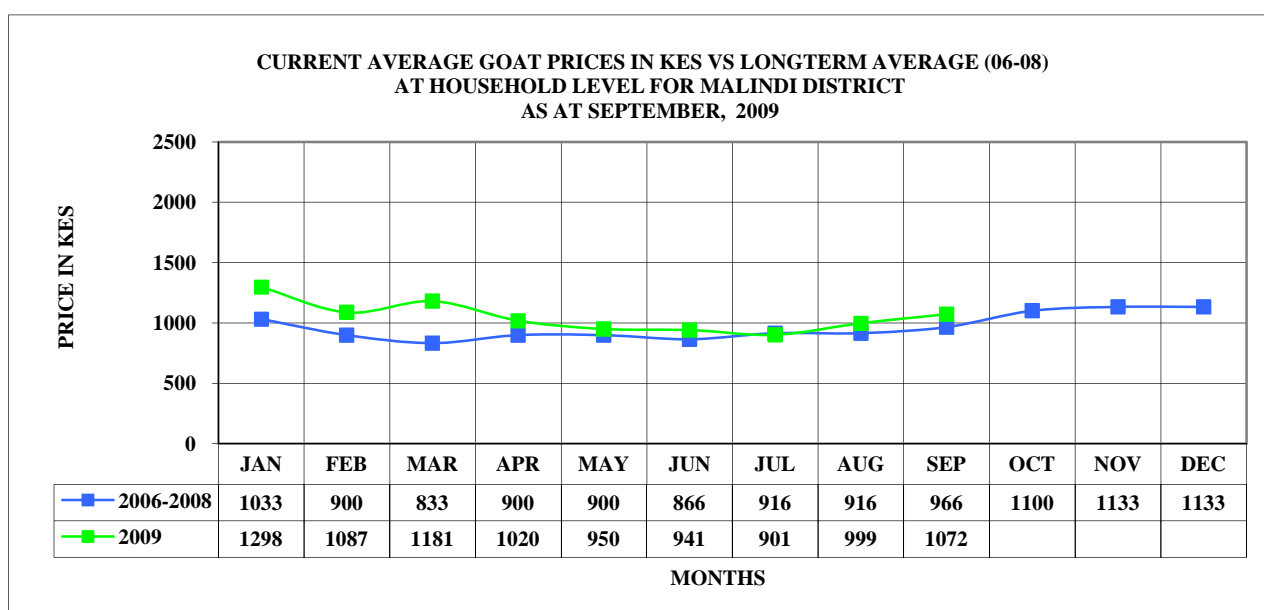
### 3.1.1 Cattle prices



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

- There was an increase in the district monthly average cattle price from Ksh9,092 in August to Ksh11,006 in September, representing a 21% increase. Prices were higher in the livestock farming zone compared to the mixed farming zone i.e. Ksh11,846 and Ksh10,166 respectively.
- The monthly average price was also 11,9% below the long term average (LTM).
- The increase in the monthly district average price could be attributed to low supply of animals offered for sale by households particularly in the livestock farming zone as most animals were driven towards Tsavo National Park for pasture.
- This scenario was not 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 appreciated marginally from Ksh999 in August to Ksh1072 in September, representing 7.3% increase.

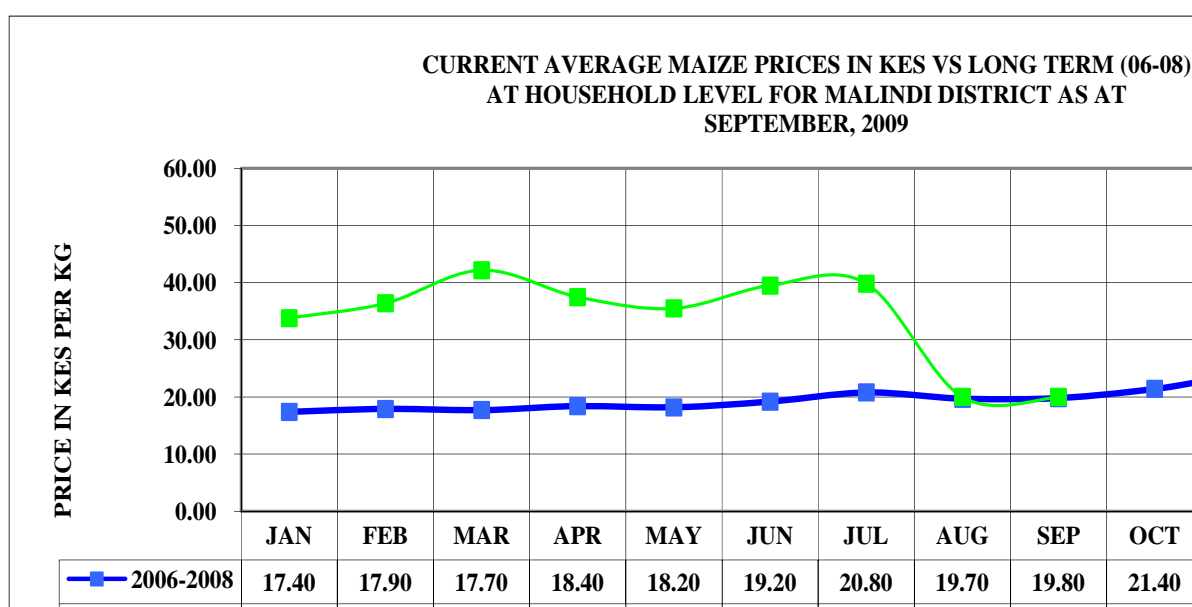
- Although the scenario was in tandem with the long term trend, the average price was approximately 11% lower the long term mean (LTM).
- The increase could be attributed to a decline in the supply of goats offered for sale in the local markets by households and a tremendous increase in demand for goats for Idd celebrations which were commemorated during the month.
- Salient inter-livelihood price differences were noted during the month with the livestock farming zone recording the highest average price at Ksh1132 compared to Ksh1013 in the mixed farming zone.

### 3.2 Milk consumption

- Following a decrease in average milk production recorded during the month, consumption of milk at household level equally declined compared to the previous month.
- Sampled households consumed an average of 37 bottles of 750ml capacity in September compared to 43 bottles of the same capacity in August 2009.

### 3.3 Crop prices

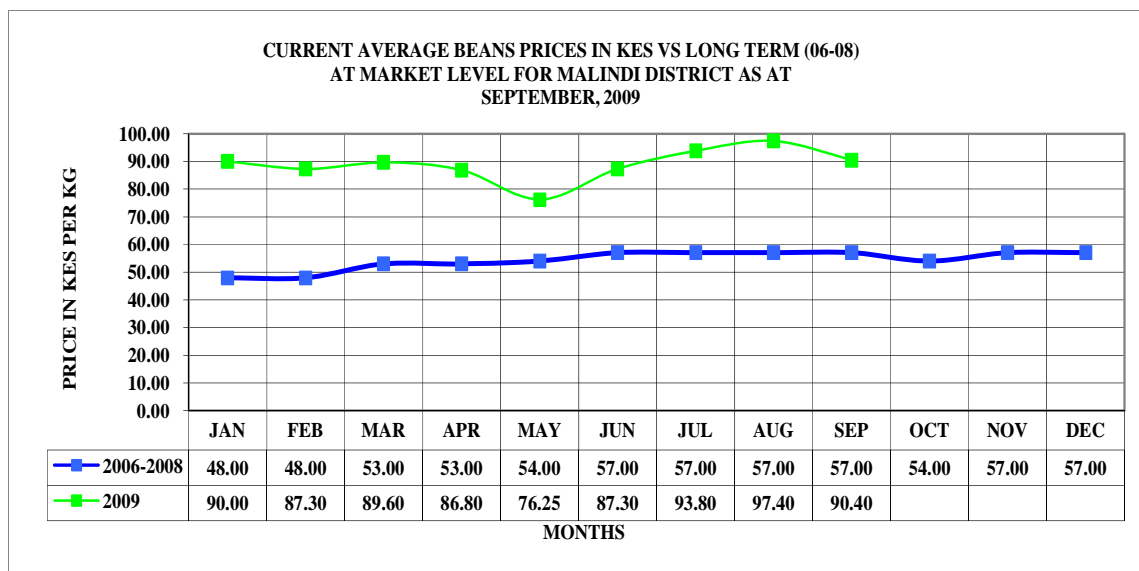
#### 3.3.1 Maize prices



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

- The long rains maize harvesting season effectively came to end during the month. Most harvesting was done by farmers along the coastal belt of the mixed farming zone.
- The average district maize price remained stable at Ksh20 during the month under review.
- The scenario was fairly in tandem with the long term trend. The stable price was attributed to improved maize stocks at the household level following the harvesting of the long rains maize crop. However, no maize was sold in the livestock farming zone since there were no harvests.

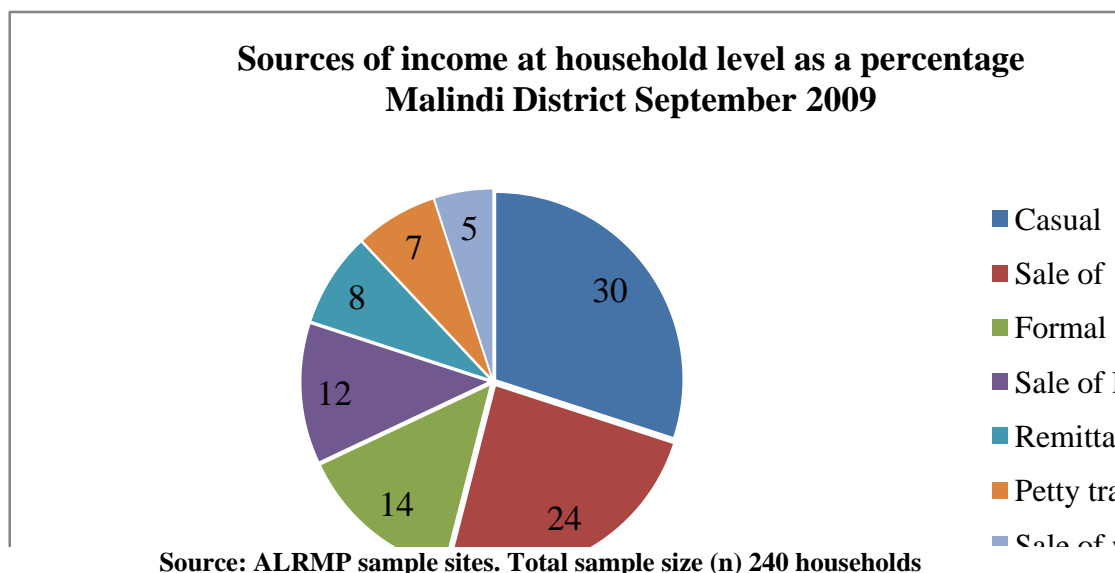
#### 3.3.2 Beans prices



Source: Retail markets in 8 EWS sample areas

- Although the district does not produce significant amounts of beans, the meager yields realized along the coastal belt had a positive effect on the overall district average price.
- There was a significant reduction in the average price of beans at the market level, from Ksh97.40 per kilo the previous month to Ksh90.40 in September owing to the scanty yields at the household level.
- Beans were sold in the mixed farming livelihood zone only whereas the livestock farming zone did not record any sales.

### 3.4 Income



#### 3.5.1 Income

- Although there was a significant reduction in the number of households which derived income from the informal labour market, casual labour was the major source of income for many households across all livelihood zones, followed by sale of charcoal and formal employment. The drop in income from casual labour could be attributed to decreased farming activities in the mixed farming zone as the harvesting season came to a close.

- However, households which engaged in charcoal burning and selling increased from 21% of the sampled households in the previous month to 24% in September 2009 especially in the livestock farming zone. As far as food security is concerned, this was a coping mechanisms for some of the households.

### 3.5.2 Livestock income

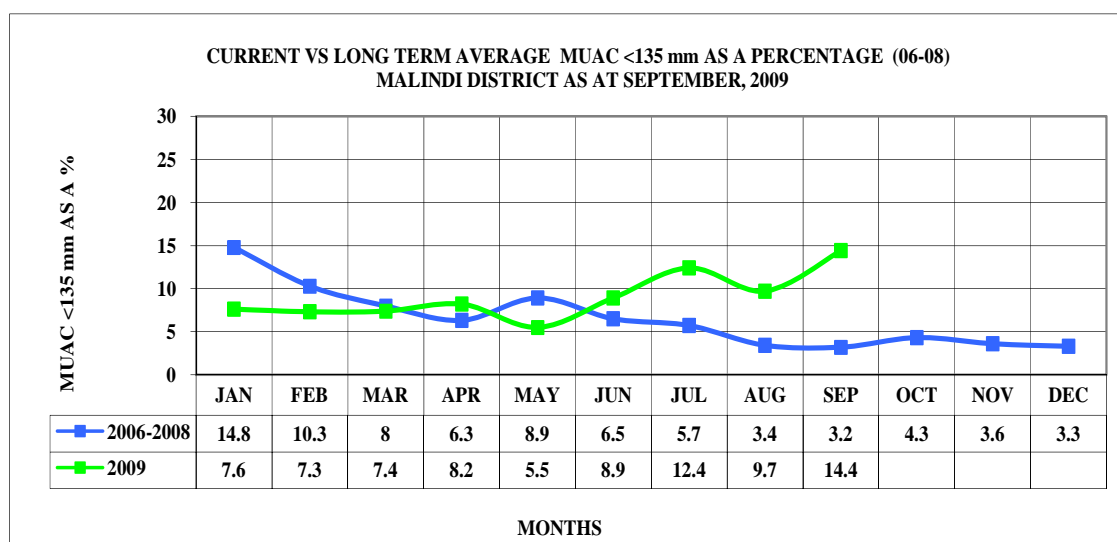
- There was an increase in the number of sampled households which traded in livestock and livestock products during the month, from 10.6% in August 2009 to 12%, indicating an increase in livestock income.
- Sampled households sold more livestock during the month compared to the previous month i.e. 26 heads of cattle, 98 goats and 95 poultry in September and 29 heads of cattle, 76 goats and 37 poultry in August 2009.
- Most of the animals were sold in the livestock farming zone.

### 3.6 Implications on food security

- An increase in the number of livestock offered for sale by sampled households and a corresponding increase in average prices impacted positively on food security for livestock keeping households in the livestock farming zone. Increased income from livestock and sale of charcoal was used by the households to purchase food items in this zone. However only a few households own livestock in this vast zone.
- Stable maize prices along the coastal belt in the mixed farming zone means that households which did not harvest any maize could still afford this staple food. In the rest of the zone the food security situation was precarious.

## 4.0 Human welfare indicators (Utilisation of food)

### 4.1 Nutritional status



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

- There was a sharp increase in the number of number of children who were at risk of malnutrition during the month, from 9.7% in August 2009 to 14.4% in September 2009. This represents a 48% increase in the number of 'At Risk' children compared to the previous month. (MUAC – medium upper arm circumference).
- In the livestock farming zone 19.6% of the sampled children were at risk of malnutrition during the month compared to 15.5% in the previous month. In the mixed farming zone 9.2% of the sampled children were at risk of malnutrition during the month compared to 3.8% in the previous month.

- This scenario was attributed to a worsening food security situation in the livestock farming zone (Langobaya division) and some parts of the mixed farming zone (Langobaya and Marafa divisions).

#### **4.2 Human health**

- An increase in diarrhea cases was reported in parts of Langobaya and Magarini divisions i.e. Bombi in Chakama location and Marikebuni in Magarini location. The Department of Public Health was mobilized to arrest the situation.

#### **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 sub location in Marafa location in the mixed farming zone.

## 5.0 Current interventions

### 5.1 Non-food interventions

Type of Intervention	Donor/Implementing Agency
Supply of water storage tanks to schools	ALRMP
Quarantine on movement of livestock in Magarini, Sabaki locations to control foot and mouth disease (FMD)	Department Veterinary Services
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 interventions during the month

Type of Intervention	Donor/Implementing Agency
Supply of 600 bags of rice, 140 bags of beans, 200 cartons of vegetable oil and 1000 bags of maize to vulnerable households in Magarini district	Office of the President/Ministry of Special Programmes
Supply of 1200 bags of rice, 140 bags of beans, 200 cartons of vegetable oil and 500 bags of maize to vulnerable households in Malindi district	Office of the President/Ministry of Special Programmes
Supplementary feeding programme (SFP) in 17 government health facilities i.e. 16.425 metric tons of Unimix and 1.643 metric tons of vegetable oil.	WFP /ALRMP/MoH

### 5.3 Coping mechanisms

- 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.

## 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
The department of Agriculture to encourage farmers to increase acreage under food crops to take advantage of the expected above normal El-nino like short rains, particularly along the coastal belt.	Dept. of Agriculture

## **B. Non-food interventions**

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