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Impacts of External Food Aid on Indigenous Food Security Strategies in Marigat District, Kenya

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Abstract
This research was carried out in Marigat district that is largely an arid and semi arid in lower Baringo County. The characteristics of Marigat are high temperatures and low rainfall. The area experiences food insecurity that has attracted food aid from external agencies such as World Vision Kenya and World Food Programmes. The main objective of this study was to assess the impacts of external food aid on indigenous food security strategies. The study is significant as it provides important information on the need to use sustainable policies on external agencies to guide their food security interventions that ensure the greatest positive impact on food security and livelihoods, thus reduce or eliminate community dependency on food aid. The study is guided by Human Ecology theory which emphasizes the role that culture has in explaining the nature of human societies. The study target population consists of food aid recipients in Marigat district. The respondents were systematically sampled from World Vision's food distribution lists available, and the starting point randomly selected. The sample size was calculated at 300 households and questionnaires administered to respondents. In each household, the respondent was the household head or spouse or the eldest son or daughter aged above 18 years old. The research collected data from six focus groups consisting of ten members each and another fifteen key informants. Primary data was collected using questionnaires and interview guides. Secondary data was obtained from World Vision Marigat documentations, Baringo community libraries and University libraries. Data collected was cleaned, coded and analysed using Statistical Package for Social Sciences (Version 16). Quantitative data is presented using frequencies and percentages; correlation coefficient; and independent t-test. Qualitative data was sorted and interpreted according to the research objectives. The results indicate increase in household food security with provision of food aid in and residents' reduced use of indigenous foods and coping strategies. The food aid recipients saw external interventions as God sent opportunity to save them from food insecurity. The study recommends that food aid should not replace the existing traditional food insecurity coping strategies but, compliment them such as fishing, hunting and gathering, meat preservation, food rationing and borrowing from relatives.

Keywords: crisis, drought coping strategies, food distribution, community resilience, Baringo County.

INTRODUCTION

Despite the universal recognition of every person's right to food, vulnerability to hunger remains a daily reality for many. Vulnerability to food insecurity continues to recur and increase during extended periods of drought (KNHR, 2004). Food aid policies and institutions at national and international level have critical impacts on livelihoods. Food relief operations must be highly responsive to changing food security conditions and food aid requirements. Free food aid /handouts are conceptually simple operations but have numerous hidden costs (Watkins 2002). Emergency food aid distribution has the primary objectives of saving life, avoiding widespread /acute malnutrition and preserving livelihoods. The concerns to study food aid arise because the ultimate impacts of food aid programs (like any other policy intervention) are not always as intended (Action Aid, 1998).

An individual, household or community exhibits dependency when it cannot meet its immediate basic food needs without external assistance (Lentz et al 2005). Many efforts have been put in place by government and external agencies to solve food insecurity this problem but in vain. Hence the need to assess the impacts of external food aid on community food security strategies and their perception on external aid agencies. The paper analyzes the role of external food interventions and how they have impacted on the use of indigenous foods and other food security strategies and recommends appropriate strategies towards sustainable food security in Marigat district, Kenya.

MATERIALS AND METHODS

The research adopted a sociological survey in three divisions, Marigat district; Marigat, Mukutani and Mochongoi divisions. The study target population was 18,900 persons identified as vulnerable and receiving aid from various agencies like World Vision, World Food Program and Red Cross. They comprised 3,596 households. The population comprised of mainly the Tugen. Other major tribes living in Marigat were the Njemps and the Turkana.

The study purposively identified the existing thirty five Food Distribution Points (FDP) used by World Vision Kenya (WVK) and World Food Program (WFP) and recorded list of food recipients to identify household respondents. The study sample size was calculated using a sample size formula appropriate for population based survey (IFAD; *Sample sizes for nutrition and household food security studies);*

$$n = \frac{t^2 \times p(1-p)}{m^2}$$

The estimated prevalence of food insecurity calculated as;

18,900 = 0.26 where; 18,900 people to be in dire need of food aid, 73,137 total population of Marigat (2009 Census).

73,137

Therefore the sample size was calculated as follows;

Therefore; n = 1.962 x 26(1-.26) =296.

.0025

The sample size was rounded up to 300 respondents to reduce sampling error. Interviews, focused group discussions, observation, questionnaires and photographs were used to gather information. Key informant interviews (15) and focus group interviews (6) were undertaken. The food aid receivers interviewed were the household heads or their representatives; either their eldest sons or daughters or the most senior in the family. This excluded visitors. The study administered 300 questionnaires to respondents. In total and these were 152 respondents from Marigat division, 97 respondents from Mukutani division and 51 respondents from Mochongoi division. Food distribution points were assigned numbers and appropriate numbers chosen at random per division. Each focused group interview consisted of between 8-12 members who were knowledgeable household heads receiving food aid. A total of 60 respondents were interviewed.

Qualitative and quantitative techniques were used in data analysis. Responses were coded and the quantitative analyzed using the Statistical Package for Social Sciences (SPSS Version 16). Descriptive statistics (frequencies, percentages and proportions) and inferential statistic (correlation and independent t-tests) were generated and interpretations made and summarized with respect to the study objective.

LIMITATIONS OF THE RESEARCH

The research had limitation of research funds, rugged arid terrain, insecurity, illiterate respondents and insufficient of access routes. This was addressed by getting research assistants who were literate and who knew the terrain and paths leading to the areas of research that were safe from insecurity problem.

RESULTS AND DISCUSSIONS

Gender and Age of Respondents

The respondents were both male and female household heads represent 56.3% and 43.7% respectively. It should be noted that some female household heads were recognised as such only for purposes of food for assets whereas they are married. The reason is because the men are tending livestock. (Refer to table 1.0)

Table 1.0: Gender and age of the respondents

Age		The Gender of the respondent		Total
		Female	Male	
19-39	N	113	69	182
	Percentage (%) within the age of the respondent	62.1%	37.9%	100.0%
40-60	N	50	52	102
	Percentage (%) within the age of the respondent	49.0%	51.0%	100.0%
>61	N	6	10	16
	Percentage (%) within the age of the respondent	37.5%	62.5%	100.0%
Total	N	169	131	300
	Percentage (%) within the age of the respondent	56.3%	43.7%	100.0%

Respondents Education Levels and Marital Status

The respondent's education level shows most of them had primary and no-formal education (45.3% and 31.7% respectively. This implies majority of the population did not have education beyond the primary level (77%). The marital characteristics of the respondents show majority were married (81%); 8% are single and 4.3% are divorced. Data imply it is a typical characteristic of rural setting and increasing numbers of single parents experienced in present society. Most of the households had between four to six household members representing 59.3% of the households interviewed. Some 14.3% had between one to three members, 20.7% had between seven and nine members, while 5.7% had over ten family members. Overall over 85% of the respondents have at least 4 household members. This implies respondents have large that puts strain on available food and causing food insecurity.

Respondents Sources of Income

The respondents had varied sources of income. These included charcoal selling, business, selling of traditional liquor, honey vendors, livestock keeping, fishing and crop farming. Majority of respondents get their income from livestock keeping (24%).

Traditional Food Insecurity Coping Strategies

Before provision of food aid, 33.9% of the population used hunting and gathering (included fishing), 25.2% were involved in charcoal burning and selling, 14.3% did farming while 7.8% and 7.5% did meat preservation and growing of short rain crops respectively. Other coping strategies used include; rationing of food, consumption of immature crops, seeds stock consumption, and borrowing from relatives. The coping strategies after provision of food aid shows that 66% of respondents did charcoal burning and selling, 6.4% were involved in hunting and gathering and 20.2% were involved in farming.

When coping strategies used during the two periods are compared in terms of numbers, it was found that charcoal burning and selling has been a major activity before and after food aid provision with 167 and 124 respondents respectively saying they practiced it out of 300. Though hunting and gathering was mentioned by a large number of respondents before food aid provision (225), very few said they used it after food aid provision (12). No respondents said they preserved meat or planted short season crops after food aid provision. (Figure 1.0).

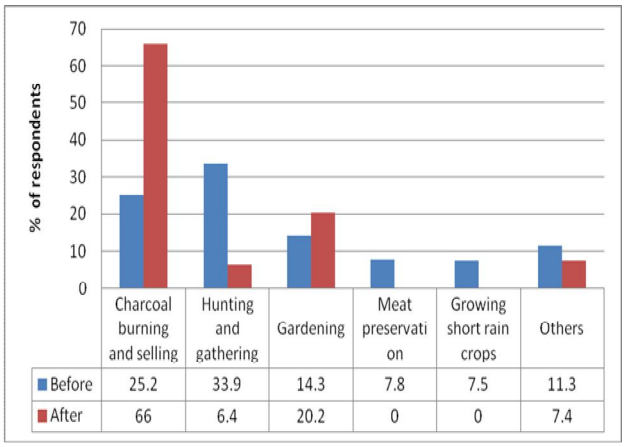

Figure 1.0: Food insecurity coping strategies before and after provision of food aid

Comparing Food Coping Strategies, Food Intake and Dietary Diversity

The means of the number of traditional food insecurity coping strategies before and after food aid provision were compared using independent t-test statistic. The findings indicated a significant reduction in the number of traditional strategies after provision of food aid. The p-value of 0.00 and mean difference of approximately 2 (1.817) when equality of means has been assumed, shows that indeed the activities the respondents used to secure food are no longer used after they have been provided with food.

Similarly, food intake (number of meals) in the household before and after food aid provision was compared and the findings showed that the respondent's meal consumption per day significantly increased in frequency (p-value = 0.00) that on average, the number of meals consumed per individual increased by approximately one (0.968) meal per day after provision of food aid.

On the other hand, the research findings show a significant increase in dietary diversity (p-value of 0.000). On average access to food variety increased by approximately 2 (mean difference -1.943) after provision of food. The t-test statistic results are summarized in table 1.1.

Table 1.1: Independent Samples t-test for equality of means for traditional coping strategies, individual food intakes and dietary diversity before and after food aid intervention in Marigat district.

t-test for Equality of Means							
Comparison	T	df	P-values	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Traditional coping strategies	25.590	598	.000	1.817	.071	1.677	1.956
Individual food intake	24.932	598	.000	-0.968	.039	-1.044	-.892
Dietary diversity	28.336	598	.000	-1.943	.069	-2.078	-1.809

Household Individual Food Intake (Meals per day)

After provision of food aid, the meals per day increased with 70% responding they now have 2-3 meals per day and 27.3% have 4-5 meals per day and 2% had one meal per day (Table 1.2). All respondents (100%) indicate the cause in difference between food intakes before and after food aid provision is because of availability of food provided by food aid agencies.

Table 1.2: Number of meals consumed per day before and after provision of food aid

Number of meals per household head per day	**Before**		**After**	
	Frequency	**Percentage (%)**	**Frequency**	**Percentage (%)**
1	210	70.0	6	2.0
2 – 3	90	30.0	210	70.0
4 – 5	0.0	0.0	82	27.3
> 6	0.0	0.0	2	0.7
Total	**300**	**100**	**300**	**100**

Data shows there was a high number of households (70%) use one meal per day before provision of food

and a similarly high number (70%) taking 2-3 meals per day after external food aid intervention. The findings imply external food aid contributed to household food security and reduced hunger.

Household Calorific Acquisition (Plate Per Household Head Per Day)

In terms of the number of plates consumed per house hold member per day, the research findings shows they consumed more plates of food after provision of food aid. For instance before food aid provision 82.3% of the respondents indicated they ate only one plate per day while 65% indicated they consumed three plates per day after food aid distribution (table 1.3).

Table 1.3: Number of plates of food consumed per household head per day

Number of plates of food per household head per day	Plates before		Plates After	
	Frequency	Percent (%)	Frequency	Percent (%)
One	247	82.3	5	1.7
Two	53	17.7	81	27.0
Three	-	-	195	65.0
Four	-	-	13	4.3
Six	-	-	6	2.0
Total	300	100.0	300	100.0

When the number of plates consumed before and after food aid provision are compared using correlation analysis, a positive Pearson product correlation coefficient of **ρ = 0.370** was found (table 1.4). This implies a strong correlation and consequent increase in food intake after food aid provision.

Table 1.4: Correlation between number of plates of food taken per household member per day; before and after food provision

Period	Correlations coefficients	
	No of plates of food consumed per member before food provisions	No of plates of food consumed per member after food aid provision
No of plates of food consumed per household member before food provisions	1	**.370****
		.000
	300	300
No of plates of food consumed per household head after food aid provision	**.370****	1
	.000	
	300	300

**. Correlation is significant at the 0.01 level (2-tailed).

Influence of Food Aid Provision on Household Food Security

The study sought to explore if there is any influence of food aid provision on specific food factors. The findings indicated that fast decisions were made increased. A high proportion (51%) of respondents indicated that food aid provision made them to make a shift to other development projects other than looking for food. On feeding habits the findings indicated that there was more food consumption. All the respondents (100%) indicated that food provision influenced their eating habits such that food consumption increased. Other factors that were influenced include indigenous food consumption, food choices, food prices food tastes and food preferences. Fifty nine percent (59.7%) of the respondents said food aid reduced their consumption of indigenous foods while 18% indicated increased consumption habits (table 1.5).

Table 1.5: Influence of food aid provision on respondent's factor attributes.

Factor(s)	Influence on	Frequency	Percent (%)
Decision making	Decision making become faster	53	17.7
	Shift to other development projects other than looking food	153	51.0
	Own decision making	76	25.3
	No influence on decision making	18	6.0
Feeding habits	More food consumption	300	100.0
Indigenous food consumption	Increased consumption	55	18.3
	Decreased consumption	179	59.7
Food choices	Access to more variety of food	279	93.0
	No influence	21	7.0
Food Prices	Food expenditure went down	111	37.0
	Food prices become low	168	56.0
	No change in prices	21	7.0
Food Preferences	Eating of more food	65	21.7
	Freedom to choose was widened	205	68.3
	Preferred cheaper foods	30	10.0

On food choices, 93% saw increased access to more varieties of food, meaning they had more choices of food. At the same time, prices of food reduced by 56% after food aid provision and 68% recognized that there was more freedom to choose the type of food to eat. These findings depict a better livelihood for the people receiving food aid after provision of food aid by external aid agencies. Other impacts are; access to variety of foods, lower food prices and higher food choice, thus food security has improved.

At the same note, respondents were asked to state the effects of food aid provision on the use of traditional coping strategies and 87% show there was decreased in use, 11% show there was no effect while 2% indicate increase in the use of traditional strategies to reduce food insecurity (table 1.6).

The human ecology theory according to Bubolz *et al* (1993) which emphasizes the role of culture in explaining the nature of human societies, explains the scenario in Marigat society. Livelihoods have been dictated by much more than the immediate physical environment and biotic assemblage; but food aid agencies have large influence leading to new culture developing. However for sustainability of long-term household food security, the external food aid provision should not have a negative impact on the use of traditional foods as these are fall back mechanisms when food crisis occurs. It makes the residents more vulnerable to food crisis and aid dependent.

Table 1.6: The effect of external food aid provision on traditional food use

Effects of external food aid	Frequency	Percent (%)
Increase use of traditional food	6	2.0
No effect on use of traditional food	33	11.0
Decreased use of traditional food	261	87.0
Total	**300**	**100.0**

Food aid programs need to appreciate indigenous foods as they promote new foods for the households in Marigat division. Due to the arid nature of the lands, external food aid intervention may have a weak and inconclusive evidence to support a positive impact on household food security in the long run as observed by Beaton and Ghassemi (1982).

Community Perception of External Food Aid Interventions

The respondents were asked their perception of non-governmental Organizations as external food aid agencies in their effort to improve food security. A majority of them (90.3%) saw them as God send because they assisted deserving members of the community while 7% perceived them to distort food market prices. Others saw it as encouraging laziness in the community (2.7%). This implies that the common community perception of external food intervention agencies is that of a saviour for the community in food insecurity. Overall the food agencies were perceived positively and the residents would wish that they continue with their assistance.

These results differed with the findings by Bezuneh, Mesfin (1985) who established that the perception of food for work in Marigat location that FFW might divert labour from own-farm production and reduce the level of locally produced food crops. The people fear the consequences arising from absence of food, especially when they do not work on their farms.

On the possibility of food aid agencies stopping food distribution or leaving Marigat district; a large proportion of respondents indicate would lead to shortage of food and suffering (78.7%), lead to family breakages (9.3%) and children will drop out of school (3.7%).

The respondents were asked what they expected to happen if food aid is stopped by external agencies. The results show negative effects such as; loss of lives and livelihoods (42.7%), demand for more food from food aid agencies (22%), people will react by demanding more food from the government (12.7%), increased complaints to the government (11%), environmental degradation through forest encroachment (3%) and that people will develop own initiative to good farming methods (2.7%). From these findings, it can be concluded that the people are not yet ready to let go of food aid agencies due to their inability to produce their own food. The reason is lack of empowerment on dry land farming systems. This blame lies on the Kenya government, through its ministries of agriculture and livestock development.

Alternative Sustainable Household Food Security Interventions

The respondents were asked to suggest alternative sustainable household food security strategies that can be promoted to reduce food insecurity in Marigat district. Various strategies were suggested that include land reclamation by irrigation and construction of dams (23.9%) (Table 1.7).

Table 1.7: Respondents recommendation for sustainable household food security

Recommendation on sustainable household food security	Percentage (%)
Training farmers on good farming methods	9.1
Land reclamation by Irrigation and building of dams	23.9
Growing of resistant crops	17.4
Growing short rain crops	6.3
Provision of farm inputs and equipment	9.4
Providing employment to the youth	9.1
Preserving food	2.5
Training to capacitate	9.8
Marketing of animal products	1.6
Others	10.9
Total	100%

Marigat district is endowed with arable land, forests, wildlife, seasonable rivers, lakes, geysers and hot springs. The soils are suitable for irrigated agriculture and due to high temperatures; it is possible to harvest crops more than twice in one year. The biggest impediment is water for irrigation as rain is scarce in the area. There is need to expand existing irrigation projects such as; Perkerra National Irrigation Board (NIB), Sandai, Eldume, Kamoskoi, Mukutani (cluster scheme), Embosos, Losekem, Salabani, Musiro,

Ilmaine, and Chemeron irrigation scheme (Kerio Valley Development Authority).

Another sustainable intervention is to construct big permanent dams to supply irrigation water for residents to grow pawpaws, bulbed onions, dried chillies, watermelons, cotton and certified seed maize in collaboration with Kenya Seed Company. These resources would enhance the health, education and employment of the local people, and contributed to the growth of Marigat town. Perkerra River is the only permanent river in the whole district and it has capacity to provide water for irrigating farms. The respondents indicated the need to dam River Perkerra and harvest flood water from Tugen Hills for use during dry period.

There is need for external food aid to promote community-based irrigation projects like those in Eldume, Sandai, Kamoskoi and Kapkuikui schemes. These groups draw their own irrigation water from other rivers and streams and produce seed maize up to 40 bags per acre. Due to the high temperatures in Marigat division, maize takes only three months to mature, which is indeed a short period. Thus with proper timing in the irrigation schemes, one can plant two crops per year, starting with cereals and followed by pulses or any other cash crop. Irrigation is suitable in Marigat because all the irrigation schemes are gravity fed which makes the operation and maintenance costs affordable.

Farmers should be educated to undertake irrigation farming as a business and not just for subsistence whereas livestock keeping should be isolated from irrigation schemes so that farmers grow perennial crops. Loan scheme for farmers should be created to facilitate farming activities and be trained on efficient agricultural production methods to eradicate food insecurity and poverty.

Other strategies were suggested by the respondents and included growing of drought and pests resistant crops (17.4%), growing short rain crops (6.3%) and provision of farm inputs and equipment (9.4%). There were also those who suggested that for sustainable food security, the provision of employment to the youth was necessary (9.1%).

The respondents further indicated that food preservation was necessary (2.5%) as was training to capacitate the people in the area (9.8%) and marketing of animal products for the people (1.6%). Others suggestions given included creating jobs for the youth and government regulation. The table 4.25 gives a summary of the responses.

When respondents were asked who should be responsible for the recommendations to improve food security, 41.3% suggested government, 20.3% suggested non-governmental organizations while 16% said both should facilitate. Other facilitators suggested include; community (2.7%) and local leaders (1.7%). These results show the respondents expect all stakeholders in food production to work together for sustainable food security in Marigat district. It is interesting to note that they recommended a lot of input from government and NGOs but little contribution from themselves as the community (fig 1.1).

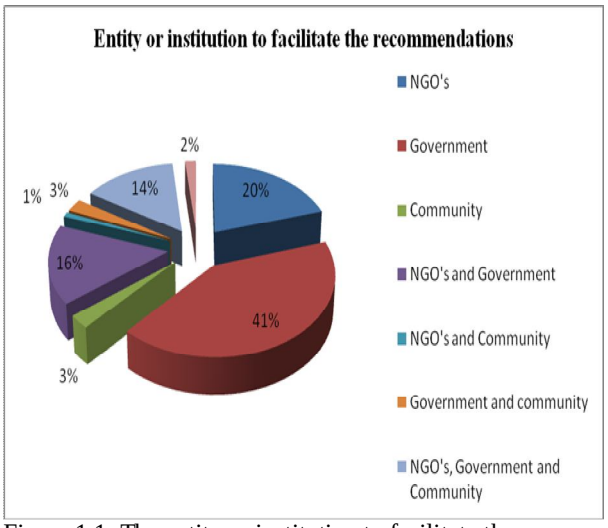

Figure 1.1: The entity or institution to facilitate the recommendations

CONCLUSION AND RECOMMENDATIONS

World Vision was found to be the lead agency in food aid provision and coordinated all other food aid agencies including government agencies in Marigat District. The World food programme (W.F.P) jointly with the government directly provides food to school going children. The other main agencies had indirect influence on household food security through their activities in Marigat were; Catholic Mission, Marigat Christian Mission, Government emergency supplies, Red Cross and Christian Children's Fund.

The study found out that the main food aid was given in exchange of work done to create community assets, termed as Food for Assets (FFA). On the activities of food aid agencies, the major activities identified were provision of seed for planting, animal breeding, provision of bee hive, Irrigation, research on livestock, research on crops and provision of relief. It was also found that the food assistance given mainly consisted of cooking oil, maize and beans. From the responses of the recipients of food aid, it was found that the main reason for inadequacy of food aid was large households such that food was not enough. It was also found out that the main reasons for enlisting residents of Marigat on the list of food aid was being needy and those who were given food aid were mainly the parents or household heads.

On the main food aid programmes undertaken World Vision was identified to be dealing mainly with Food for Assets (FFA) programme and relief programs, the governments was found to be contributing to the school feeding program (SFP). The catholic mission and Red Cross concentrated mainly on relief food. Food aid given to recipients was given once every month but some few received once or twice a month. It was found that before provision of food aid, the residents used more traditional coping strategies like hunting and gathering, charcoal burning and selling, gardening, meat preservation and growing of short rain crops. They also rationed food, consumed immature crops, consumed seeds stock and borrowed from relatives.

The coping strategies after provision of food were few and were dominated by charcoal burning and selling. Others were hunting and gathering and gardening. On the effect of external food aid provision on traditional food use, it was found that the use of traditional strategies decreased when food aid was provided in relation to before food aid provision. The food intakes in terms of number of meals per day increased from one meal per day before food ad provision to between two and three meals per day after food aid provision for most families receiving food aid. Non-Governmental Organizations were mainly perceived as Godsend because they assisted deserving members of the community. Other perceptions included being seen to distort market prices and being perceived as a cause of laziness in the community since people do not work but are given food.

Marigat community mainly saw complacency on the part of the government in the effort to improve the food security situation in Marigat, also saying that they did little to improve the food security situation The Marigat community expects shortage of food and suffering and resultant loss of lives and livelihoods if the food aid providers leave or stop food provision.

Food aid given was inadequate as most of the families receiving them are large households such that food was not enough for all the family members. It is concluded that the state of food security improved after provision of food aid from lo to high food security situation. Less traditional coping strategies were used after provision of food aid but charcoal burning level did not change significantly. The residents continued burning charcoal even after food aid provision.

Food consumption increased after food aid provision, from an average of a pate a day before food aid provision to between two and three plates per day after food aid provision. There was a general positive perception of non-state food aid agencies as they were seen as saviours and godsend to improve the food security situation in Marigat District. However, the recipients had a generally negative perception of the government in its effort to improve the food security situation in the area. The people receiving food aid in Marigat District expect loss of lives and livelihoods if food aid provision is stopped.

CONTRIBUTION TO KNOWLEDGE

The study has generated information on the impacts of external food aid provision and how food aid agencies may impact on house hold food security. Also the knowledge on appropriate intervention strategies on dry land for food production has been emphasized. The importance of food for assets instead of food for work has been brought to perspective as an important tool in improving sustainable food production and livelihoods in Arid and semi arid areas. Further the study put into light the controversial role of governments in economic and food security strategic plans for the benefit of its citizens. The study recommendations are an important contribution to knowledge towards sustainable food security in arid and semiarid lands where actors involve food aid agencies.

RECOMMENDATIONS

The peoples indigenous coping strategies practised before food aid was given out should be encouraged, as long as they are environmental friendly. Food aid should not be a replacement of their traditional food insecurity strategies but their indigenous strategies like fishing, hunting and gathering, meat preservation, gardening, food rationing and borrowing from relative should also be encouraged by external interventions. They form the fall-back mechanisms during times of extreme food crises. However, charcoal burning and selling, which increased after provision of food aid, should be discouraged through educating and sensitizing the people on the dangers of vegetation cover on the environmental sustainability of Marigat district. They need to go for alternative livelihoods that do not damage the environment.

It is important that food used in schools for feeding children under the school feeding program be bought from the local community. This was found to take place through school committees and it should be encouraged as it motivates people to plant food crops. The SFP committee procures the food commodities from NCPB stores or from competitive local stockist using home-grown SFP funds. Income received can be plough back to farms for food production.

The perception by the people living in Marigat that food aid was godsend and that it would lead to major suffering if they leave should be changed. The people of Marigat should be made to know that the assistance is short term and that they should take the opportunities, lessons learned and assets created to

ensure self sufficiency in food production as soon as possible. The government and other agencies should come up with programmes to ensure that education is given to the residents on the importance of sustaining their livelihoods. Where necessary, they should advise on alternative livelihoods that ensure environmental sustainability and avoid dependency on the food aid. They need be taught how to use resources provided by external intervention agencies to create their own sustainable food security.

Rearing of animals suited to the climatic area is a sure way of improving the food security in the area. Goats were identified as the most appropriate animal in the area as it was most suited and survived even in the dry season. They provided meat, milk and can be sold for money to purchase food and they were ideal for the climatic condition in the area and they multiply quickly. It was recommended by that instead of direct food aid, goats be given to beneficiaries as this was said to have sustainable impact on food security. Other animals appropriate to the area need be invested in to ensure that they improve people's income and food security.

Fishing which was categorized under hunting and gathering was found to have declined in use as a livelihood while its benefits are enormous for the community. A rigorous campaign and sensitization on the importance of fish both as a nutritious food and an income earner need be undertaken by the external food aid agencies and the government and even the private sector. The presence of lakes and rivers containing fish is an important asset to the community. The attitude and culture of the people need be geared towards eating fish and fish trade as an alternative livelihood to farming and pastoralism.

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