# STRENGTHENING COMMUNITY MANAGED DROUGHT RISK REDUCTION IN NORTHERN KENYA AND SOUTHERN ETHIOPIA (SCMDRR)

## Contract No. ECHO/-HF/BUD/2010/01002

**Mapping of grazing corridors for the Garre and Degodia clans in Wajir and Mandera Counties in Northern Kenya and Moyale, Dolo Ado, Filtu and Hudet Woredas in Southern Ethiopia**

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## *Background*

Drought is an extreme climatic event that is part of normal climate, and is frequently observed in arid areas all over the world. Drought phenomenon in most cases triggers emergency responses when the impact on local people is severe. The impacts depend upon the local peoples vulnerability to such shocks, and hence the need to understand the vulnerability to droughts as a prerequisite of designing preparedness, mitigation and relief policies and programmes. This would in turn prevent acute disaster by reducing disaster risk at the community level, through identification of the risks and translating the knowledge into preventive actions. At community level, the local people would become more resilient and prepared to respond to the drought disaster, which would then be further enhanced by government disaster preparedness efforts.

The past practices however have largely focused on interventions after drought with little investments in strengthening the communities' capacities to manage risks on their own. Existing drought contingency plans, especially in northern Kenya and southern Ethiopia are usually ad hoc with little local level inputs and largely top down based on government's departmental level staffs' perception of the community needs. There is need to reverse this approach and focus on contingency plans that originate from the local population, and inbuilt into district and national level drought disaster plans. This would in turn fit into regional and international strategies and policies thereby integrating the planning systems into coherent strategic plans that would in future be ecosystem based and consequently create higher impact.

At the moment, drought risk mitigation measures have rarely been linked to existing international and regional strategies like the Hyogo Framework for Action 2005-2015 and the Programme of Action for the Implementation of the Africa Regional Strategy for Disaster Risk Reduction (2006-2015). There have been some efforts at international, regional and national levels to address the challenges of increasing drought risks, but more needs to be done to improve coordination on aspects like drought monitoring, predictions, early warning and disaster preparedness programmes.

An appropriate disaster mitigation plan requires that there be a comprehensive early warning system that is based on multiple physical and social indicators and indices that can guide and facilitate implementation of appropriate coping and mitigation actions. At the moment, existing early warning systems are largely lacking in content. The data and information products are often not user friendly and the target users are often not trained in the application of this information to decision making process. There have been previous cases of unreliable seasonal forecast and no specific information on projected impacts with the data itself, not appropriately shared among the stakeholders. This has largely left both the government and communities ill-prepared to tackle subsequent droughts despite having previous experiences in droughts.

Governments have the primary responsibility for sustainable development and appropriate disaster risk reduction policy. Drought-related policies and plans should emphasize risk reduction (prevention, mitigation and preparedness) rather than relying on drought relief. Due to increasing global interdependence, there is need for all actors to at least share information and where appropriate act in tandem with government strategies where they exist or facilitate improvement of such strategies. However it should be recognised that climate change has recently brought some new challenges and forecast implications especially for the arid land ecosystems. Climate change is expected to have subsequent implication of how to address frequent disaster and the need to scale up preventive and preparedness initiatives at community level in light of adaptation to emerging climate change phenomenon. The need is usually more especially for the poor and the more vulnerable communities that inhabit the very climate sensitive sectors and have fewer livelihood alternatives.

In summary, the major problems associated with drought risk reduction strategies in the project area are:

1. Communities and governments' that are poorly equipped in drought risk identification, risk monitoring and early warning.
2. Communities and governments that are ill-prepared to respond to drought disaster
3. Communities that are not resilient to shocks and have no locally generated plans to respond to disaster

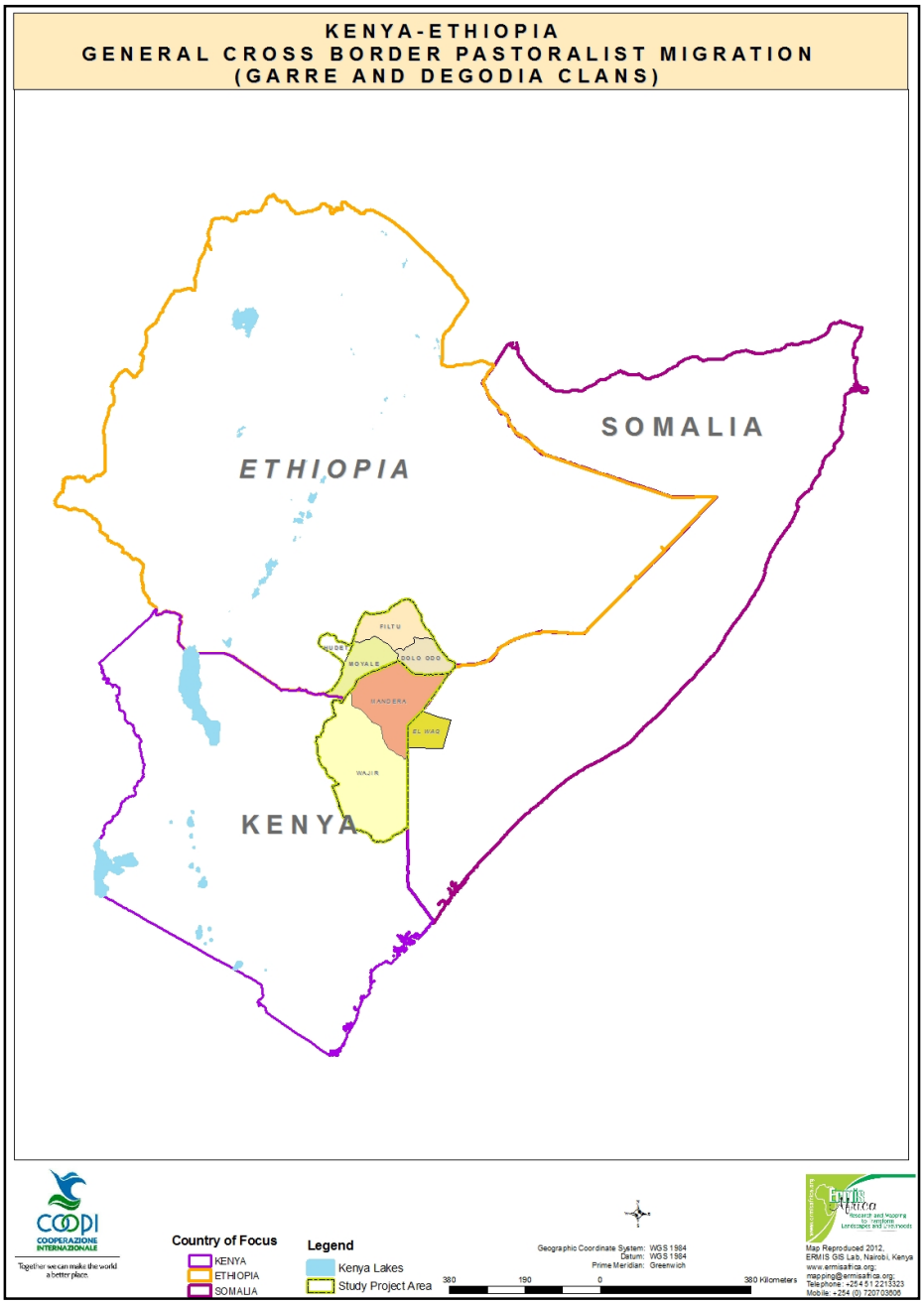
These problems have led to a situation that makes arid land inhabitants in the Horn of Africa to be reliant on emergency response repeatedly due to lack of preparedness. This calls for a more pro-active approach in addressing disaster risk reduction issues.

**Objectives of the study:**

The study aim was to map the grazing corridors for the Garre and Degodia clans in Northern Kenya and Southern Ethiopia, as part of the mechanism of minimizing drought risks

## *Study Area*

The study area included the grazing corridors for the Garre and Degodia clans in Northern Kenya and Southern Ethiopia (Mandera and Wajir Counties in Northern Kenya; and Dolo Ado, Filtu, Hudet and Moyale Woredas in Southetn Ethiopia). Map 1 shows the Counties and Woredas that the study covered, which also doubles up as COOPI's areas of operation for the drought risk reduction projects.




**Map 1: Study Area and COOPI operation areas for drought risk reduction project**

## *Approach and Methodology*

The study was accomplished through several steps that included: (i) Consultative Meeting; (ii) Review of Narrative Literature; (iii) Review of existing relevant GIS data for study area; (iv) Field visits and discussions/interviews with pastoralists and key players in the study area; (v) GIS Analysis and Maps Composition; (vi) Validation meeting; and (vii) Final Report Writing and submission. These are elaboration in the table below.

| **Assignment Component** | **Details** | **Purpose** |
|---|---|---|
| **1.** Consultative Meeting | • Client**:** COOPI<br>• Stakeholders Consultative meeting: FAO, ILRI, KARI, Line ministries; ALRMP, private organisations | i. Gather the background information on project<br>ii. Gather sharable GIS layers |
| 2. Review Narrative Literature | • Existing documentation on drought history, grazing resources, relevant partners | Provide background and additional information |
| 3. Review of existing relevant GIS data for study area | • **Data** Sources**:** FAO, COOPI; ALRMP, ILRI | Provide basic GIS layers for further base information, enrichment of field data, and integration into final maps |
| 4. Field visits and discussions/interviews with pastoralists and key players in the study area | • Consultative meetings with key players in the study area:<br>• Civil leaders and pastoral communities; Government officials; Water Services Boards; ALRMP where possible, to determine the areas/routes of migration, grazing patterns and seasonality | i. Determine the areas/routes of migration, grazing patterns and seasonality;<br>ii. Identification of critical resources like water points and special grazing/vegetation types along the migration routes<br>iii. Identification of challenges encountered by migrating pastoralists; either conflict related or resources related<br>iv. Review the cross border relationships between the various Somali clans and limits to the cross border migration<br>v. Gather recommendations on how development partners including governments should address and promote cross border migrations as a drought risk reduction strategy |
| 5. Identification of critical resources like water points and special grazing/vegetation types along the migration routes (including review of existing documentation of such resources); | • Review of existing water and vegetation resources database, especially past studies done in Northern Kenya and Southern Ethiopia | i. Vulnerable grazing plans and management by pastoralists<br>ii. Identify grazing migration routes |

| | | |
|---|---|---|
| 6. Identification of challenges encountered by migrating pastoralists; either conflict related or resources related | • Hold community and development agency consultations<br>• Civil leaders and pastoral communities; Government officials; Water Services Boards; ALRMP | i. Mainstream mitigation strategies for the various challenges |
| 7. Review the cross border relationships between the various Somali clans and limits to the cross border migration | • Hold community and development agency consultations<br>• Civil leaders and pastoral communities; Government officials; Water Services Boards; ALRMP | i. Review country specific disaster Risk reduction interventions to lessen livestock losses from migration |
| 8. GIS Analysis and Maps Composition | • Collating/consolidating the various data's into layers for the study area<br>**Layers:**<br>• Migration routes,<br>• Grazing patterns,<br>• Conflict prone areas<br>• Key grazing resources<br>• Draft Report | i. Consolidating the various data into GIS layers<br>ii. Generate maps from gathered layers<br>iii. Conduct GPS survey to correlate with existing information and improve the accuracy of the approximated information from the community discussions |
| 9. Recommendations on how development partners should address and promote cross border migrations as a drought risk reduction strategy; | | i. To inform follow-up activities within COOPI strategic plan |

| **Challenges** | **Potential Interventions** |
|---|---|
| 1. Communities and governments' that are poorly equipped in drought risk identification, risk monitoring and early warning. | • Strengthening communities' capacities to manage risk on their own |
| 2. Communities and governments that are ill-prepared to respond to drought disaster | • Improve early warning systems in terms of content, user friendly data, train users in the application of the data in decision making process, share reliable seasonal forecast and projected impacts with all relevant stakeholder |
| 3. Communities that are not resilient to shocks and have no locally generated plans to respond to disaster | • Focus on contingency plans that originate from the local population and cascade these into districts and national disaster plans, and finally into regional and international strategies and policies |

# *RESULTS*

## A: Migration patterns

Through discussions it was established that the Somali clan movement is within specific areas determined by traditionally accepted clan grazing ranges and patterns.

### *1. Garre Clan*

The Garre are a Somali pastoralist clan who live in Somalia, Kenya, and Ethiopia. They are sub-clan of the Digil clan. Almost all speak the Garre language, though it may be secondary to the Maay speaking sub-clan of Darrawe (Darrawa) who speak Maay as their first language. Their main urban centers in Kenya include Mandera, Moyale Takaba and El Wak. The Garre are divided into the Tuff and Quranyowa sub-clans. While the Tuffs are further divided into the Ali and Adola groups, the Quranyow are divided into the Asare and Furkesha. There is no clear agreement on the clan and sub-clan structures and many lineages are omitted

The general migrations of the Garre clan is within the ranges of Mandera Central to either Elwak district in Somali and westwards to Mandera West, some parts of Banissa district in Northern Kenya and Moyale and Hudet Woredas in Southern Ethiopia. Within these general areas, any Garre sub-clan can move relatively freely, especially during drought periods. However, during the wet season, the pastoralists move back to their home grazing ranges usually to a location or kebelle administrative level. Within the clans, the movement is also influence by location of sub-clans and thus there are tendencies for preferential areas for certain sub-clans.

### *2. Degodia Clan:*

The Degodia clan is made up of 10 sub-clans[1] which are present both in Kenya and Ethiopia but with traditional leadership structured and bases in Ethiopia Filtu area. In Mandera County they are predominantly found in Banissa District in Guba and Malkamari division, and in Mandera North in Rhamu, Rhamu Dimtu, Olla and Ashabito division.

The general migration is ideally within Wajir East, Wajir West and some few sections of wajir North in Wajir county; Mandera North and Banisa district in Mandera county in Kenya and Dolo Ado and Filtu Woredas in Ethiopia.

An interesting aspect in this movement is that the Degodia crosses through the Garre territory at Shimbir Fatuma division in Mandera central District, but has clearly distinct settlement patterns as per the clans. For example, along the Wajir Mandera border at Bulmayo location, the Degodia settlement is on the Wajir side and has a chief while the Garre settlement is on the Mandera side. To an outsider, the settlement looks like one but a closer analysis show that even sharing of resources like water and grazing in this area is based on clan alignment

During extreme times like severe drought, the most affected clan can ventures into areas that are not traditionally occupied by their clans, This is however not a norm. The actual migration within the traditional corridors for the Somali clans is also defined by the distribution of natural resources and rainfall patterns. There is thus no particular route on an annual basis as the rainfall pattern varies each year, with movements being towards areas that receive favourable rains, adequate vegetation growth and absence of biting insects (tsetse fly, ticks and mosquitoes).

### *Lowlands Grazing Patterns*

During normal season, migration is mostly to the lowlands, usually along Daua River and other low laying plains which is favourable due to rush pastures – mainly annuals grass, herbs and forbes, water pools in the flood plains, and absence of disease parasite, and vectors. The lowlands are usually safe from the tsetse flies for about 40 days after rains during which the pastoralist have to graze the pastures and migrate to the highlands.

[1] Jibrail, Fai, Dumal, Masara, Radayi, Abrisha, Idiris, Walajela, Rermohamud and Abadwada

### *Highlands Grazing Pattern*

During the normal season, the pastoralist migrate from the lowlands flood plains to the highlands with permanent water sources, perennial pastures such as woodland and scrubland.

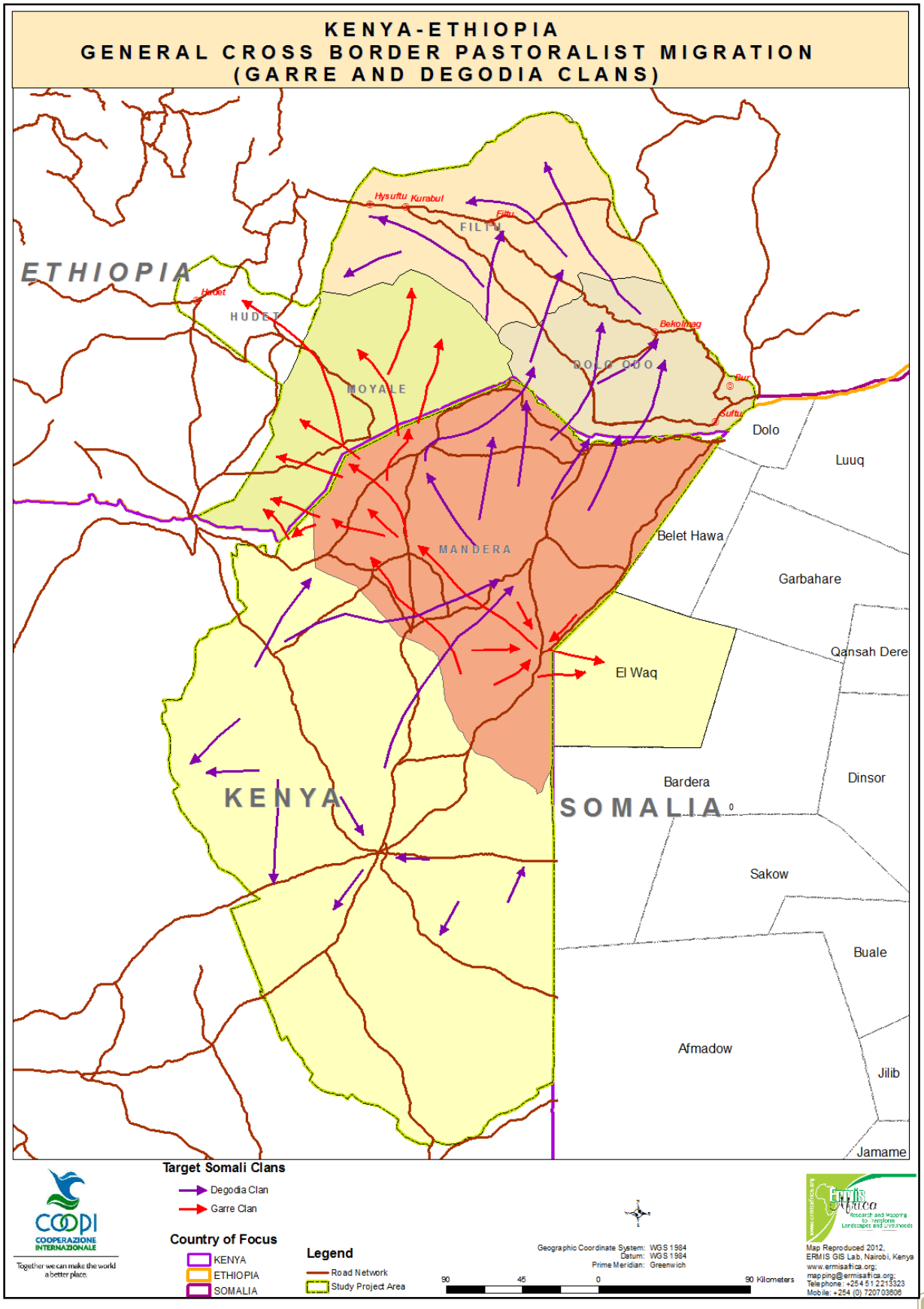
During extreme droughts the pastoralists migrate to the Ethiopia highlands which are wetter with more grazing resources. The more severe the drought the farther into the Ethiopia highlands the pastoralist migrate though respecting the clan territories.

### *Cross border relationships and limits*

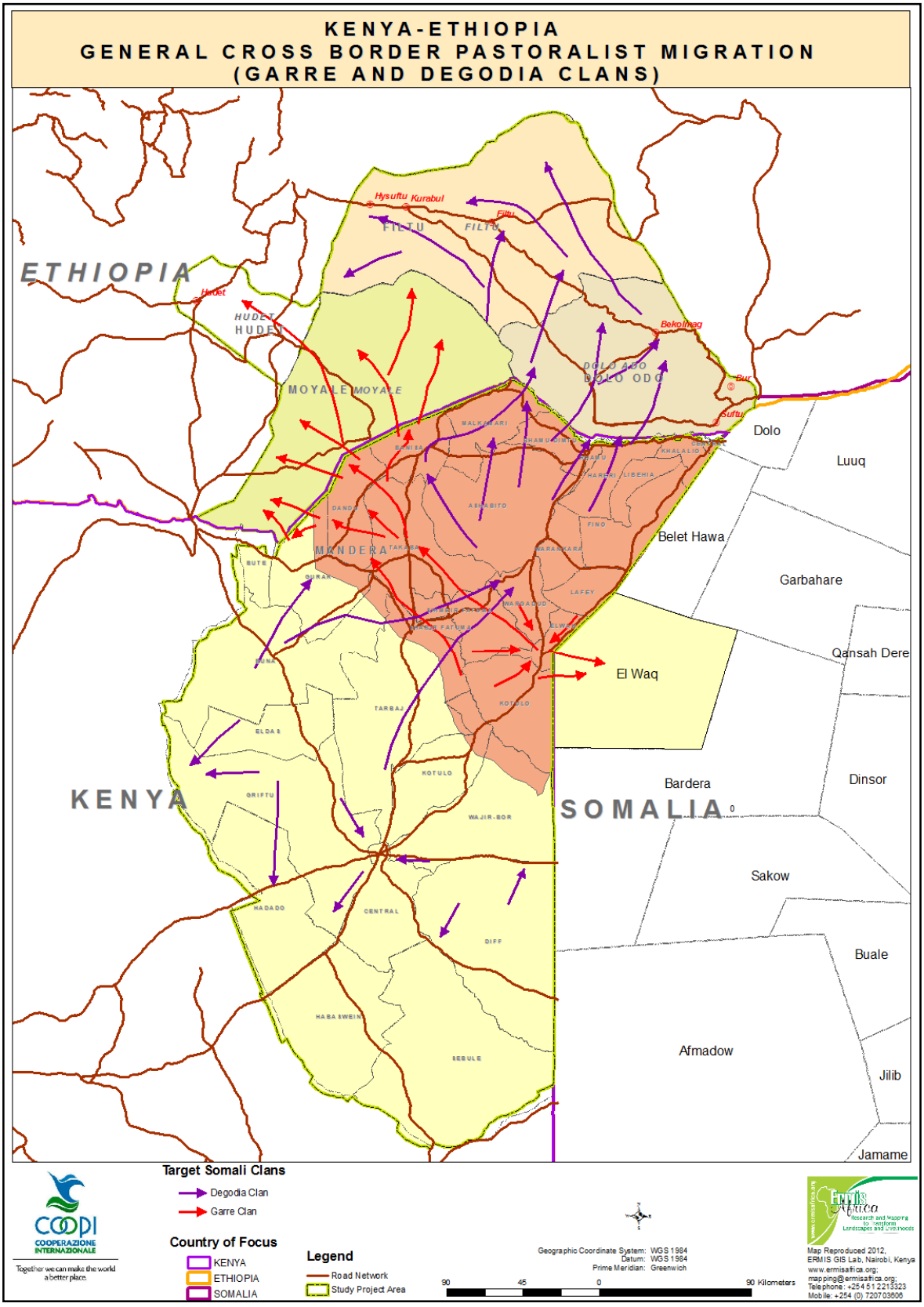
Generally, Somali clans maintain a very strong cross border relationship with most families having relatives across the borders. This allows them to move and identify with their clans mate easily across borders. Many of the migrating pastoralists are registered as citizens of the countries they migrate to. A notable observation is that the children of the migrating groups are able to learn in any of the countries they migrate to and may end up working in any of the places that they visit frequently. A fairly significant number of government official working in Hudet, Filtu and Dolo Ado were educated in Kenya. Despite this scenario, there are known limits as to how far each clan can migrate to. For example, the Degodia pastoralists have access to parts of Wajir and Mandera counties in northern Kenya but do not migrate to Somalia. The Garres have access to parts of Mandera and Wajir Counties in Kenya, Moyale and Hudet woredas in Ethiopa and El wak district in Somali. To the west of Mandera County, Murule clan are confined to Mandera East and Lafey districts but have no access to Somali or Ethiopia despite sharing a common border. In Wajir North district, the Adjuran clan only move within the district and occasionally to Moyale Kenya but have no access to Ethiopia despite sharing a common border. This traditionally observed norm of movement is important for long term development purpose as it allows one to balance resources allocation to all clans, thereby minimizing potential conflicts.

The map 2 below show the migration routes with respect to the counties and Woredas while map 3 shows the migration in relation to administrative units (locations and Woredas).

**Map 2: Migration across Counties in Kenya and Woreda in Ethiopia**



**Map 3: Migration across Administration Levels (Kenya – Districts and Woreda Ethiopia)**

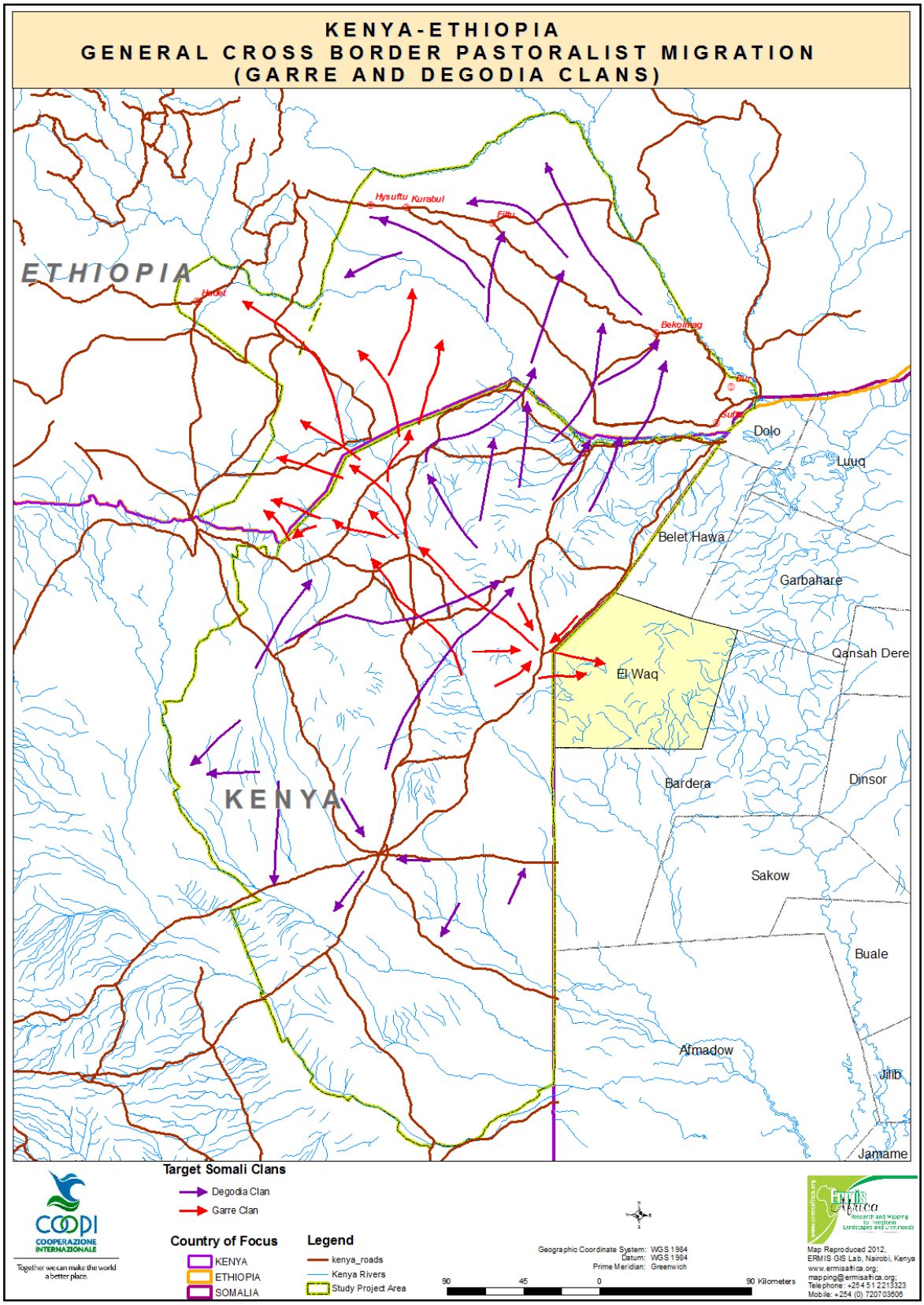


## B: Natural Resources Distribution

The major natural resources that greatly influence migration along the clan corridors are water and vegetation/forage. With respect to water, the type and seasonality is an important aspect. During the rainy season and the period immediately after, there are general tendencies for the pastoralists to use surface water that has collected in pans, ponds and natural depressions. As the dry season sets in and surface water is depleted, there is a general movement towards permanent water points especially those located in areas with good vegetation and perennial plants. The matching of availability of water, type and vegetation results in the delineation of grazing areas into wet season and dry season grazing areas, the wet season naturally being areas that have more of annual vegetation and more reliant on surface water and the dry season grazing areas being areas that have more reliable water points and perennial vegetation. Over time, and due to many social factors related to settlements, population growth, poverty and government policies that discourage pastoralism, the use of grazing areas in relation to wet and dry season has come under serious challenges.

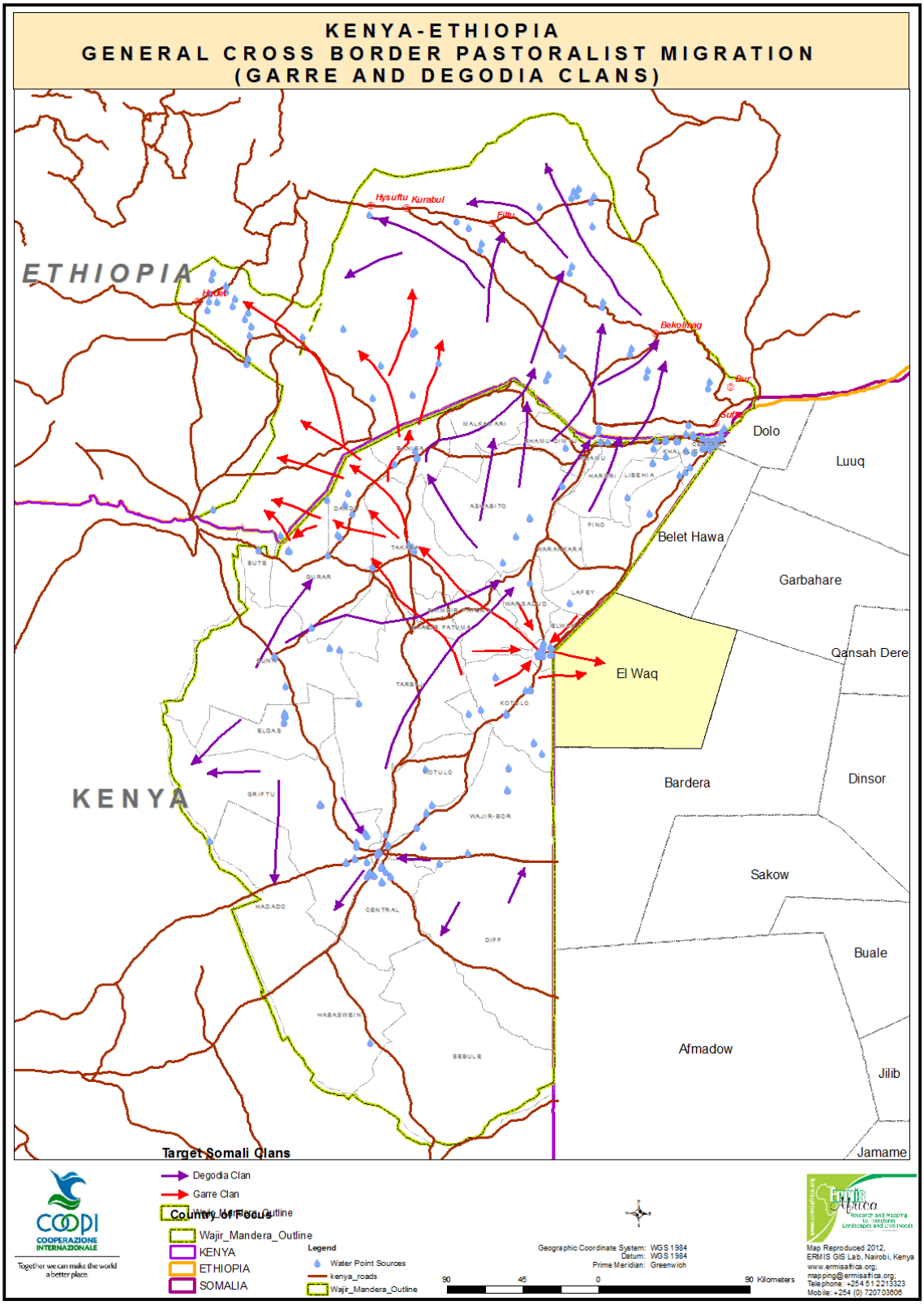
The occurrence of 2 major rivers (Daua and Ganale) has a major influence on use of grazing areas especially during drought periods. It needs to be pointed out that the Daua and Ganale rivers form a major landmark that is used as the boundaries of how the Garre and Degodia moves especially in Southern Ethiopia. The Daua River also follows a significant part of the boundary between Kenya and Ethiopia. While there are areas of interactions and common resources use between Garre and Degodia in northern Kenya, the Garres specifically cross to Moyale and Hudet Woreda in Ethiopia, while the Degodia will cross only to Dolo Ado and Filtu in Ethiopia with the Daua River forming the boundary between the two clans in Ethiopia. Only in very rare and extreme situations that you may find this being ignored. The following map 4 shows the relationship between the migration patterns and the water shed.

**Map 4: Migration with Respect to Drainage Systems**



Map 5 show the migration patterns with respect to critical water points. However not all available water points are captured in this map and reference was to existing data which is outdated.

**Map 5: Migration with Respect to Water Resources Distribution**



The vegetation aspect for this study was mainly from FAO data on land cover classification. Since the FAO classification contains very many classes, the information was consolidated to 7 general classifications, of significant to rangeland planning for livestock rearing especially for pastoralists' communities. This generalization in turn simplified visualisation to Bare areas; Broadleaved deciduous; Cropland; Herbaceous vegetation (sparse); Scrubland, Thicket and Woodlands.

The basis of generalization was based on the following characteristics: (i) dominant vegetation where land cover dominated by shrubs was classified as Shrubland, while woody vegetation dominated was classified as woodland; (ii) continuity of the vegetation like continuous shrubs was classified as Thicket, (iii) multilayer and height of vegetation for example for Forest; (vi) leaves type and maturity behaviour like broadleaved deciduous.

The table below is a summary of the reclassification to the 7 classes in this study.

### *Land Cover Classification*

| **Class User Name –FAO Classification** | Reclassification for this study |
|---|---|
| *LCCS Class Name* | |
| **A12-Natural and Seminatural Terrestrial Vegetation** | |
| **Woody / Trees** | |
| **Closed trees with shrubs** | |
| *Forest With Shrubs* | |
| **Closed multilayered trees (broadleaved evergreen)** | 1. Forest |
| *Multi-Layered Broadleaved Evergreen High Forest (With Second Layer Of Medium High Trees) With Emergents* | |
| **Closed woody with sparse trees** | 2. Woodland |
| *Closed Woody Vegetation With Emergents* | |
| **Closed woody (broadleaved deciduous) with sparse trees** | |
| *Broadleaved Deciduous Closed Woody Vegetation With Medium High Emergence* | |
| **Open general woody with herbaceous** | |
| *Open Woody Vegetation With Herbaceous Layer* | |
| **Open general trees with shrubs** | |
| *Woodland With Shrubs* | |
| **Open trees (broadleaved deciduous) with closed to open shrubs** | |
| *Broadleaved Deciduous ((70-60)-40%) Woodland With Shrubs* | |
| **Open trees (broadleaved deciduous) with closed to open herbaceous and sparse shrubs** | |
| **Very open trees with closed to open shrubs** | |
| *(40 - (20-10)%) Woodland With Shrubs* | |
| **Very open trees (broadleaved deciduous) with closed to open shrubs** | 3. Broadleaved Deciduous |
| *Broadleaved Deciduous (40-(20-10)%) Woodland With Shrubs* | |
| *Broadleaved Deciduous ((70-60) - 40%) Woodland With Open Herbaceous Layer And Sparse Shrubs* | |
| **Very open trees (broadleaved deciduous) with closed to open herbaceous and sparse shrubs** | |
| *Broadleaved Deciduous (40-(20-10)%) Woodland With* | |

| | |
|---|---|
| *Herbaceous Layer And Sparse Shrubs* | |
| **A12-Natural and Seminatural Terrestrial Vegetation** | |
| **Shrubs** | |
| **Closed shrubs** | 4. Thicket |
| *Continuous Closed Medium High Shrubland (Thicket)* | |
| **Closed shrubs with sparse trees** | |
| *Medium To High Thicket With Emergents* | |
| **Open general shrubs with closed to open herbaceous** | 5. Shrubland |
| *Medium To High Shrubland With Short Herbaceous* | |
| **Open shrubs with closed to open herbaceous and sparse trees** | |
| *((70-60)-40%) Medium To High Shrubland With Open Medium to Tall Herbaceous And Emergents* | |
| **Very open shrubs with closed to open herbaceous** | |
| *(40 - (20-10)%) Shrubland with Herbaceous* | |
| **Very open shrubs with closed to open herbaceous and sparse trees** | |
| *(40-(20-10)%) Medium To High Shrubland With Medium to Tall Herbaceous And Emergents* | |
| **Sparse shrubs with sparse herbaceous** | |
| *Sparse Shrubs and Sparse Herbaceous* | |
| **A12-Natural and Seminatural Terrestrial Vegetation** | |
| **Herbaceous** | |
| **Closed to very open herbaceous** | 6. Herbaceous Vegetation |
| *Continuous Closed to Very Open Herbaceous Vegetation* | |
| **Closed to very open herbaceous with sparse shrubs** | |
| *Closed To Very Open Herbaceous Vegetation with Shrubs* | |
| **Closed to very open herbaceous with sparse trees and shrubs** | |
| *Closed To Very Open Herbaceous Vegetation with Trees and Shrubs* | |
| **Sparse herbaceous** | |
| *Parklike Patches Of Sparse ((20-10) - 4%) Herbaceous Vegetation* | |
| **A 23-Cultivated Aquatic or Regularly Flooded Areas** | |
| **Closed herbaceous on temporarily flooded land - fresh water** | 7. Cropland |
| *Closed Herbaceous Vegetation On Temporarily Flooded Land Water Quality: Fresh* | |
| **Closed Herbaceous (on permanently flooded land - Fresh Water)** | |
| *Closed Herbaceous Vegetation On Permanently Flooded Land Water Quality: Fresh Water* | |
| **Open general shrubs with closed to open herbaceous on temporarily flooded land** | |
| *Open Shrubs With Herbaceous Vegetation On Temporarily Flooded Land* | |
| **B15-Artificial Surfaces and Associated Areas** | |
| **Urban areas (general)** | 8. Built-up Environment |

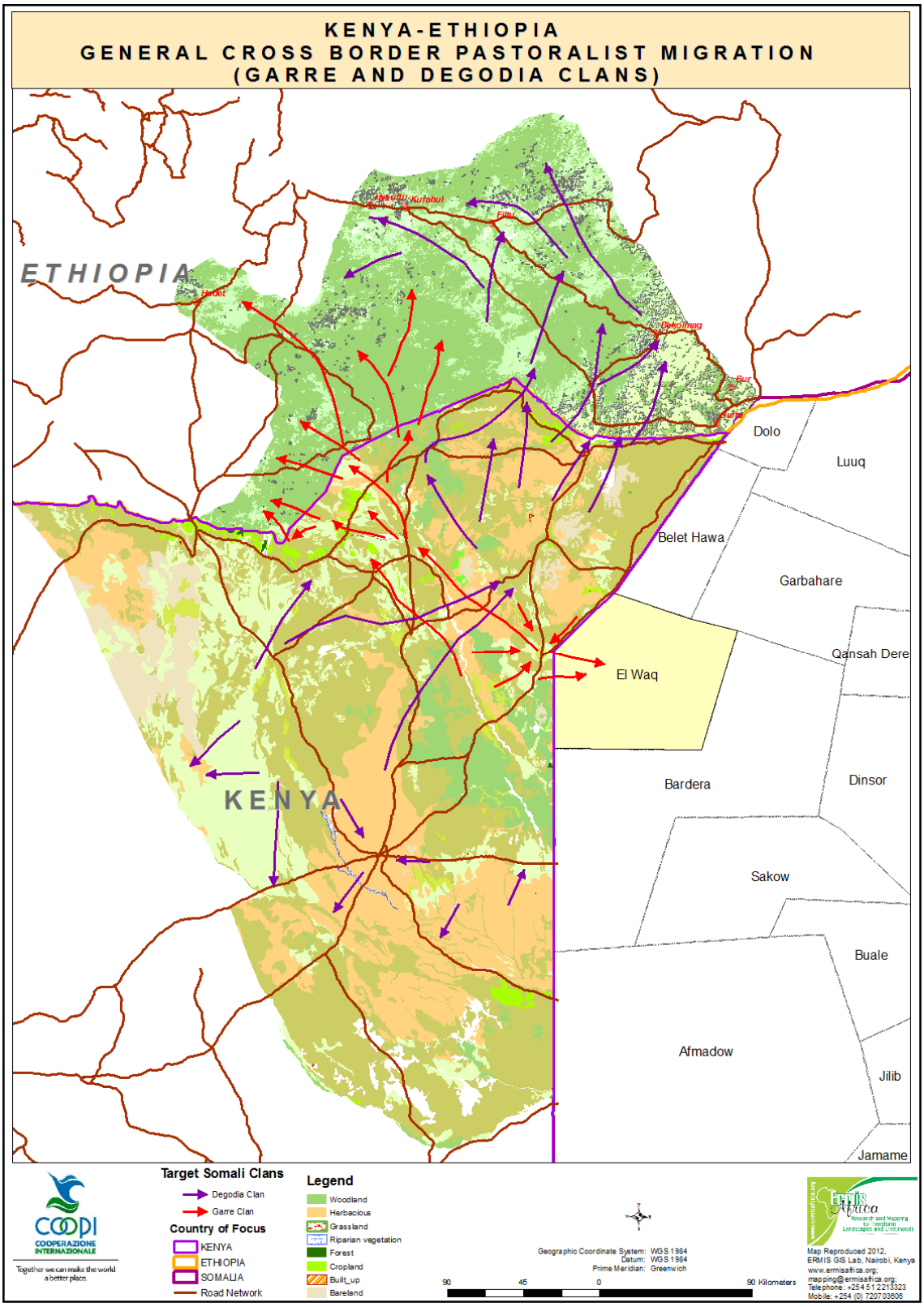
| | |
|---|---|
| *Urban Area(s)* | |
| **Refugee camp** | |
| *Urban Area(s) Built-up object: Refugee Camp* | |
| **Rural settlements** | |
| *Urban Area(s) Built-up object: Other - Rural settlements* | |
| **B16-Bare Areas** | |
| **Bare rock** | 9. Bare Land |
| *Bare Rock(s)* | |
| **Bare soil** | |
| *Bare Soil And/Or Other Unconsolidated Material(s)* | |
| **Sand** | |
| *Loose And Shifting Sands* | |
| **B28-Inland Waterbodies** | |
| **River** | 10. Flood Plains |
| *Artificial Perennial Waterbodies (Flowing) Salinity: Fresh, <1000 ppm of TDS* | |
| **River banks** | |
| *Non-Perennial Natural Waterbodies (Flowing)(Surface Aspect: Sand)* | |

### *Relationship between Vegetation, Grazing, and Migration Patterns*

Generally, the vegetation in southern Ethiopia part of the study shows a more Broadleaved Deciduous type while the vegetation in Kenya is more of an open type. This shows the importance of the interrelationship of the vegetation types with respect to drought management and thereby explains why pastoralist would move long distances across northern and southern Ethiopia, depending on season. The vegetation availability is generally better in southern Ethiopia for drought situations compared to northern Kenya, an aspect related to high elevations and slightly better annual rainfall in Ethiopia. With rains, the broadleaved deciduous will generate biomass that either sheds (leaves and fruits) during the dry period or the plants remains evergreen. The droppings and the evergreen plants are usually a critical supply of feed to livestock during drought, especially when well matched with reliable water supply

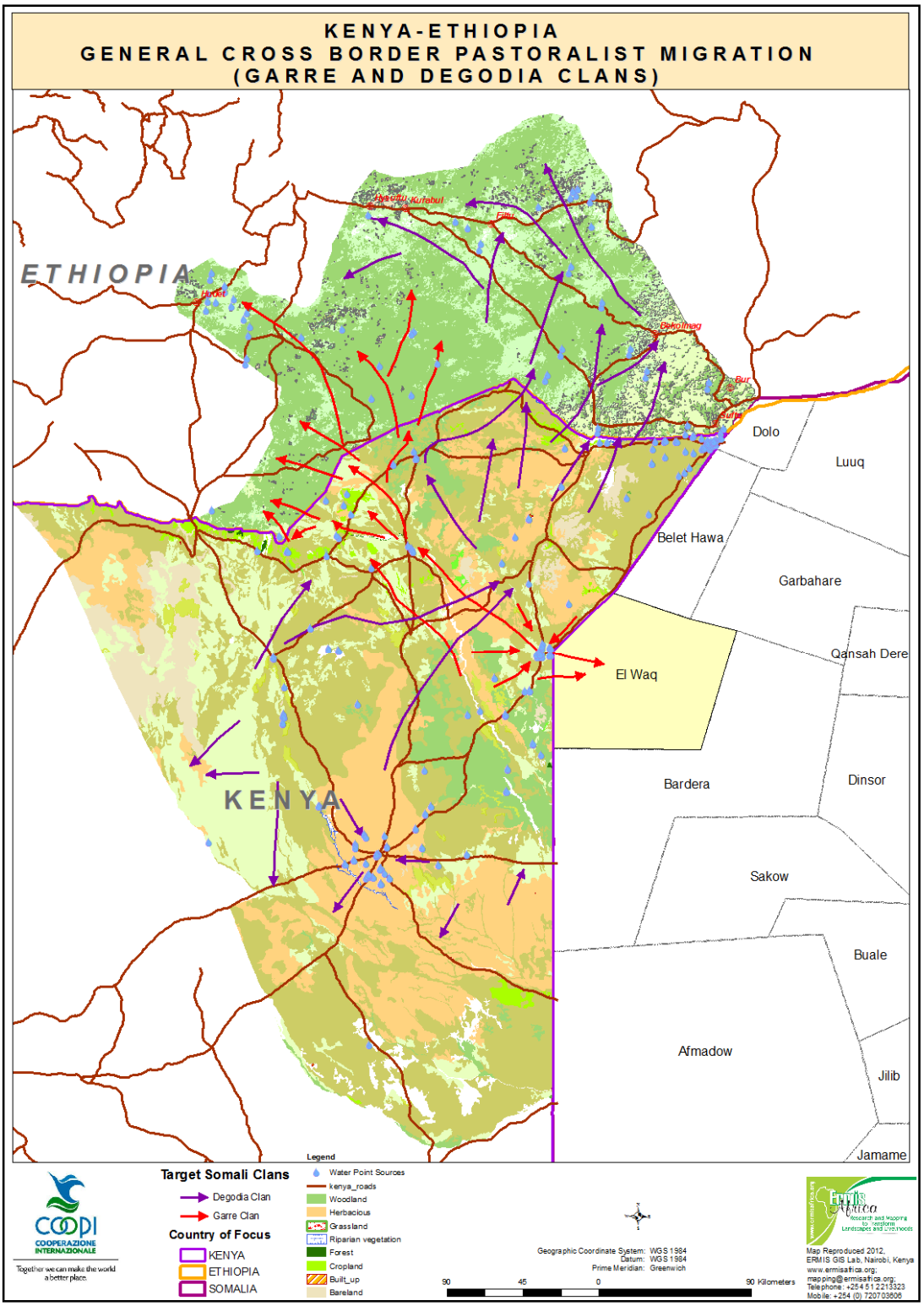
Map 6 below shows the general migration patterns with respect to the vegetation classes.

**Map 6: Migration with Respect to Vegetation Classification**



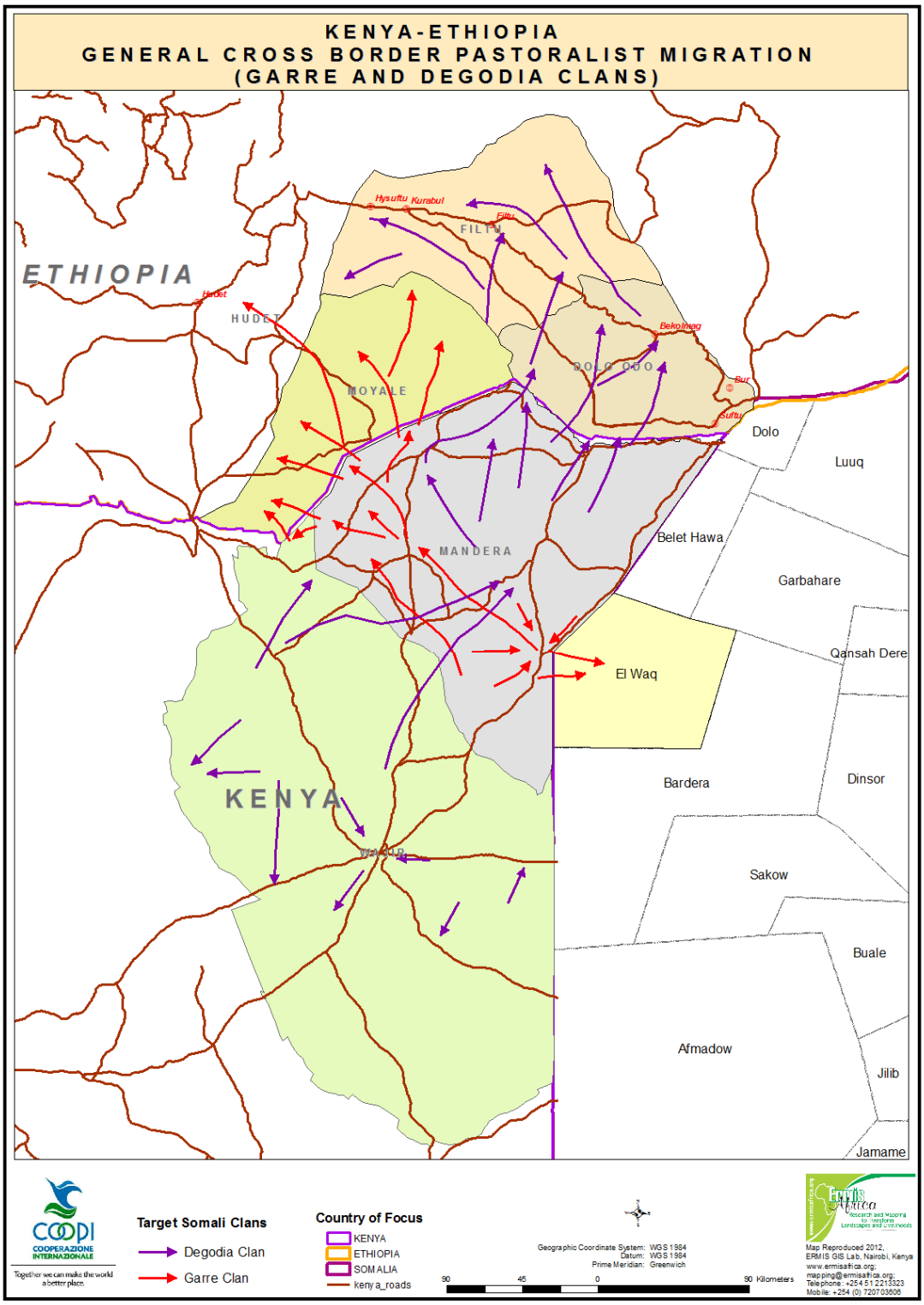
Combining the vegetation classification and water resources shows general areas of the migration corridors where either water or vegetation is limiting as map 7 shows

**Map 7: Migration with Respect to Vegetation Classification and Water Resources Distribution**



For the development partners, access to the areas is critical especially during emergencies. In this respect, map 8 shows the major access roads in the study area with respect to the migration corridors.

**Map 8: Migration with Respect to Road Network**



## C. CHALLENGES OF CROSS BORDER MIGRATION

Generally, as the clans migrate within and across border, they face challenges attributed to either limited resources or misunderstanding among sub-clans and between clans. Major challenges faced by migrating pastoralists include:

### *Resource based Conflicts:*

Along the migration corridors, there are times when dispute arise over traditional land ownership and subsequent right of access to critical resources on the basis of traditional clan rights. The migration of Degodia pastoralists between Wajir in Kenya and Filtu in Ethiopia through Mandera Central district is unique and at times brings challenges as this district is largely inhabited by Garre clan, who also largely control the critical resources like water and grazing land. Denial of access to these resources to Degodia clan has at times results into conflicts. Once they cross to Ethiopia, there are normally no further conflicts between Degodia and Garres as the Daua river separates their grazing corridors. However, the Garre in Ethiopa faces challenges with the Boran, especially in Moyale and Hudet Woredas.[2]

### *Human and Livestock Population Pressure*

a. Increased human and livestock population pressure has resulted to increased settlement and encroachment of farming to critical drought season grazing reserves, thereby hampering strategic livestock movement. This encroachment has at times cut through critical corridors leading to conflicts with and between clans

b. Reduced livestock numbers per household has also affected the mode of migration with households with few animals opting to remain sedentary as they cannot be sustained by the livestock during migration. This essentially distorts the traditional grazing patterns of dry/wet season as at times the settlements are located in areas that are critical drought season grazing reserves. With time and due to poverty, there is increased idleness and limited livelihood opportunities. Destitute and idle youth end up joining militia groups that instigate conflicts on migrating pastoralists.

### *Lack of Social Services:*

a. As pastoralists migrate, they are constrained by lack of basic social services like health facilities and clean water. Of course schooling for their children is also rule out during the migration. They also face challenges of traversing areas that are not easily accessible as there is no road network and hence any threats like disease outbreaks or wildlife attacks cannot not be easily address by outsiders.

b. During the migration there is the danger of cross border disease transmission (both human and livestock) and this poses a further challenge to governments as disease surveillance and control across the borders becomes very challenging.

### *Marginalisation of Migrating Pastoralist from Mainstream Development*

a. Some of the migrating pastoralists are at most times left out of mainstream government services and processes such as civic activities which make them not to be adequately represented and their need not appropriately factored within local development agenda.

b. They are largely dual or multiple citizens who remain amorphous as it is difficult to clearly know when they will be in a certain place. They cross the border at will and in areas that are not monitored.

[2] Further information on conflicts in the study area are documented through a study conducted by COOPI in july 2011, titled " Documentation of the social and economic implications of conflicts in drought risk reduction strategies: Mandera county in northern Kenya and Dolo Ado, Filtu and Hudet Woredas in Southern Ethiopia" Document available from DRR website

## *CONCLUSIONS AND DISCUSSIONS*

From the study, it has been noted that the migration of pastoralists in Northern Kenya and Southern Ethiopia is a systematic process that is largely depended on traditionally accepted clan grazing ranges. The annual migration is determined by the level of natural resources distribution especially water and forage. This in turn is depended on rainfall amounts and distribution. Over time, there has been observation that even in periods of severe rainfall stress, the level of drought effect is never the same in northern Kenya and Southern Ethiopia. Usually, it is either the southern Ethiopia that is severely affected on the northern Kenya part. This then forms a very strong basis of the pastoralists' rationale of migrating across the borders during drought. The distribution of vegetation is also not uniform with the Southern Ethiopia more endowed with generally betted vegetation, especially towards the highland sections.

In general, it seems that the traditional home grazing ranges are well structured in an ecosystem based set-up that allowed the grazing areas to be delineated into wet season and dry season grazing zones. However, unplanned development of water points, settlement of pastoralists, and conversion of grazing land to crop land and development policies that do not appreciate pastoralism seems to be taking toll on the appropriateness of using grazing lands in a sustainable manner.

## *RECOMMENDATIONS*

Based on the relationships between the pastoralists in the study area, the following is recommended:

1. There are added values of considering the study area as an ecosystem that is used by the same community, within and across the border. The need to have an ecosystem based planning across the borders is important, despite the challenges of dealing with 2 governments that have different development agenda and approach. To the migrating pastoralists, the border is but just a line on the sand. With respect to drought risks reductions, and especially so for livestock depended households, cross border migration is very a important coping mechanism that needs to be encouraged. There is thus a need for development stakeholders to harmonise their interventions with the cross- border migration patterns, particularly for the Degodia and Garre Somali clans.
2. There is need to undertake an intensive and extensive water point mapping and natural resources distribution in the cross-border pastoralist migration areas. This would help in assessing coverage levels, increments and trends. In addition, it would help in need-based investments in planning to increase coverage. Further, it would facilitate development and up-scaling of ecosystem based development models to sustain natural resources use.
3. The mapping of cross-border pastoralist migration routes and vegetation characteristic can be used for strategic planning for better grazing and migration patterns based on wet and dry season concepts; as well as pasture improvement interventions. The pastoralist could defer certain areas of higher pasture productivity as grazing reserves during drought or for off-field pastures conservation.
4. At village level (sub-locations, locations, Kabelles), the communities should adopt the community managed disaster risk reduction approach using an ecosystem based planning. This requires strengthening the planning process at community level through training and encouraging sharing of information between various villages. The village level plans should further be strengthened through consolidation to district level plans and eventually national level thereby ensuring that local level concerns are factored into national platforms