



REPUBLIC OF KENYA

# MINISTRY OF DEVOLUTION AND THE ARID AND SEMI ARID LANDS

State Department for Development  
of Arid and Semi-Arid Lands



## ENDING DROUGHT EMERGENCIES IN KENYA

Progress Report  
2018-2019

**KENYA**  
**VISION 2030**  
TOWARDS A GLOBALLY COMPETITIVE  
AND PROSPEROUS NATION





**European Union**

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## ENDING DROUGHT EMERGENCIES IN KENYA

### Progress Report

# 2018-2019



## ASAL COUNTIES



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## ACRONYMS AND ABBREVIATIONS

ADR	Alternative Dispute Resolution
ASAL	Arid and Semi-Arid Land
ASF	ASAL Stakeholder Forum
CCA	Climate Change Adaptation
CCCF	County Climate Change Fund
CIDP	County Integrated Development Plan
CPF	Common Programme Framework
CPP	Country Program Paper
CSGs	County Steering Groups
DCF	Drought Contingency Fund
DRM	Drought Risk Management
DRR	Drought Risk Reduction
ECDE	Early Childhood Development Education
EDE	Ending Drought Emergencies
EMIS	Education Management Information System
EU	European Union
HFA	Hyogo Framework for Action
HSNP	Hunger Safety Net Programme
ICT	Information and Communications Technology
IDDRSI	Intergovernmental Authority on Development Drought Disaster Resilience and Sustainability Initiative
IGAD	Intergovernmental Authority on Development
IMAM	Integrated Management of Acute Malnutrition
IPC	Integrated phase classification maps
KCPE	Kenya Certificate of Primary Education
KCSE	Kenya Certificate of Secondary Education

## ENDING DROUGHT EMERGENCIES IN KENYA

KFSSG	Kenya Food Security Steering Group
KMD	Kenya Meteorological Department
KM&IS	knowledge Management and Information Sharing
M & E	Monitoring and Evaluation
MTP	Medium Term Plan
NDEF	National Drought Emergency Fund
NDMA	National Drought Management Authority
NPR	National Police Reserve
NSC	National Steering Committee
PDRR	Platform for Disaster Risk Reduction
PLS	Pastoralists Leadership Summit
PPG	Pastoralists Parliamentary Group
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SP	Social Protection
TVET	Technical and Vocational Education and Training
TWG	Technical Working Group
UN	United Nations
WASH	Water, Sanitation and Hygiene



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## ABSTRACT

Drought incidences are increasing owing to climate change. Arid and Semi-Arid Lands (ASALs) are the most affected. The Kenya Vision 2030, the ASAL Policy, the National Adaptation Plan, the Climate Change Act, 2016 are some of the guiding policies for ASALs transformation. The Ending Drought Emergencies (EDE) initiative is meant to actualize the potential of the ASALs through peace and security; climate proofed infrastructure; human capital; sustainable livelihoods; drought risk management; and institutional development & knowledge management pillars.

The Peace and Security Pillar earmarked strengthening the peace infrastructure. Notably, the ratio of police officers to civilians was 1:350, surpassing the UN recommended ratio of 1:450. Coupled with reliable early warning information, response time reduced by 67% in 2018 compared to 2014. In addition, 12 Counties included peace and security in their development plans. On climate-proofed infrastructure, reliability of access to electricity improved exponentially. System Average Interruption Duration Index decreased by 92% while the System Average Interruption Frequency Index reduced by 85% in 2018 compared 2014. On human capital pillar, net enrollment in Early Childhood Development Education, primary and secondary schools increased by 8%, 5% and 12%. Kenya achieved the global recommended nurse ratio of 1:10,000 people.

On resilience livelihoods, milk production increased by 63% in the reporting period. Production of hides and skins increased by 86% and 135% respectively

during the reporting period while fish production was 23% higher in 2018 compared to 2014. Production of indigenous chicken increased by 16% compared to baseline. To strengthen the integration of drought risk reduction in planning, National Drought Emergency Fund (NDEF) was established while County Climate Change Fund was implemented. In social protection, the implementation of the Hunger Safety Net Programme (HSNP) continued.

In drought risk management, use of technology reduced drought response time by 82% to eight days in 2018. The National Drought Management Authority and the State Department of Health have scalability mechanisms that they activate depending on the intensity of risk. Several opportunities exist in the ASALs including the county structure that links local communities with national government, abundance of sources of renewable energy (solar and wind), supporting policies (the ASAL policy) and tested technologies and systems.

Going forward, the country should prioritize strengthening early warning systems for early response; fast track the operationalization of pending policies and invest more in generating renewable energy. To ensure availability of reliable data, sectors need to centralize data/information storage and build capacity of personnel in the ASALs. Moreover, surveillance for and control of livestock and crop pests and diseases need strengthening. To strengthen implementation of Ending Drought Emergencies (EDE) initiative, NDMA should reconstitute the EDE TWG as per the Common Programming Framework.

## 1.0 BACKGROUND

### 1.1. International Strategies of Managing Disaster Risks

Droughts lead to disasters because they destroy lives and livelihoods. The frequency of droughts and their associated impact are increasing globally, owing to climate change. Consequently, governments and development partners have put in place strategies to address climate change related risks including drought at global, regional and national levels. At global level, the Hyogo Framework for Action (HFA) 2005 – 2015 in building resilience of nations and communities to disasters aimed at monitoring and reporting risks for timely response. The framework also focused on reducing risks by addressing the causing factors. The HFA paved way for the Sendai Framework (2015 – 2030)<sup>1</sup> that advocates for managing of disaster risks as opposed to managing disasters themselves. The United Nations Framework Convention on Climate Change (UNFCCC, 1994) main aim is the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interferences with the climate system. The UNFCCC paved way to the Paris Agreement on Climate Change 2015 which aims at limiting global warming to less than two degrees Celsius, and pursue efforts to limit the rise to 1.5 degrees Celsius.

Regionally, Member States of the Intergovernmental Authority on Development (IGAD) region<sup>2</sup> experienced repeated drought incidences in the past two decades (2000 – 2020) with the 2010/2011 drought being the most severe. In September 2011, the IGAD Heads of State and Government, in a Summit held in Nairobi, made a commitment to end drought emergencies in the greater Horn of Africa. The summit mandated IGAD to coordinate the implementation of the initiative at the regional level. In response, IGAD developed the IGAD Drought Disaster Resilience and Sustainability Initiative (IDDRSI) strategy to guide coordination work on Ending Drought Emergencies (EDE). The strategy advocates for resilience as the cornerstone of drought risk management. Consequently, each IGAD Member State developed a Country Program Paper (CPP) that entails strategies of building resilience among vulnerable communities in order to end drought emergencies. The National Drought Management Authority (NDMA) Act, 2016 institutionalized NDMA to facilitate and coordinate drought risk management and climate change adaptation in Kenya making NDMA the IDDRSI focal point for Kenya.

1 United Nations Disaster Risk Reduction, 2015. Sendai Framework for Disaster Risk Reduction 2015 – 2030. Accessed at [https://www.unisdr.org/files/43291\\_sendaiframeworkfordrren.pdf](https://www.unisdr.org/files/43291_sendaiframeworkfordrren.pdf) on 16 December 2019.

2 Djibouti, Ethiopia, Eritrea, Kenya, Somalia, the Sudan, South Sudan and Uganda.

1.2. Ending Drought Emergencies Initiative in Kenya

The Kenya Vision 2030, the ASAL policy, the Climate Change Act 2016, National Adaptation Plan and the National Climate Change Action Plan 2018-2030 (NCCAP) II guide actions related to climate change in Kenya. The EDE Common Program Framework (CPF) is the guiding blue print for the multi-sectoral implementation of interventions that contribute to ending drought emergencies. The EDE has six pillars namely peace and security; climate proofed

infrastructure; human capital; sustainable livelihoods; drought risk management; and institutional development and knowledge management (Figure 1). A Government agency is the chair of each pillar with a development partner as co-chair. EDE pillars draw their members from state and relevant non-state actors.

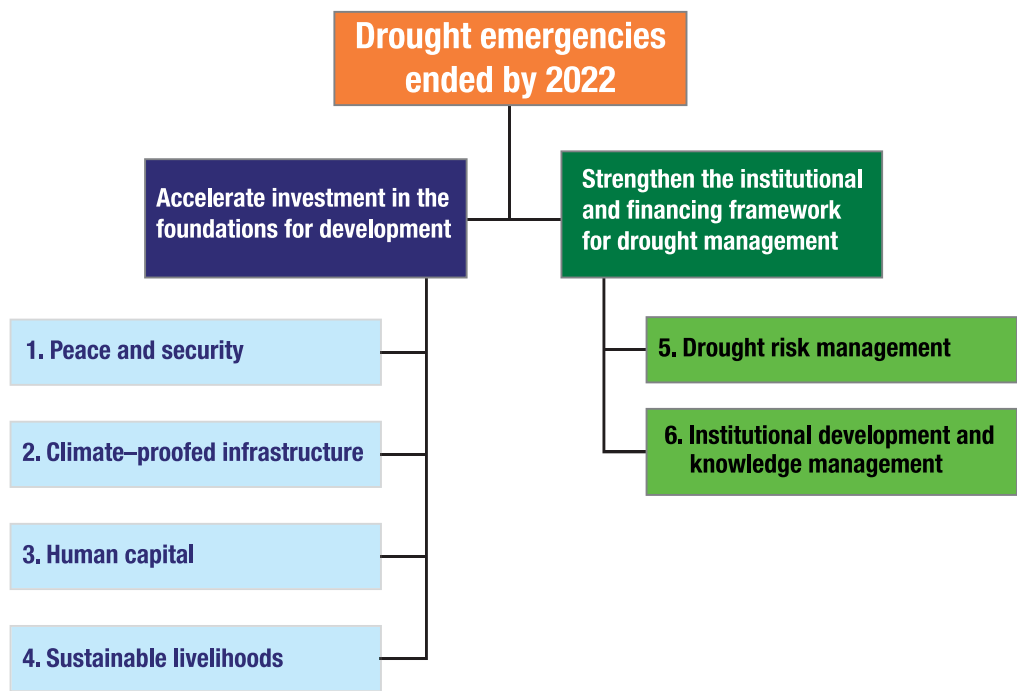


Figure 1: Ending Drought Emergencies (EDE) framework

The national government in collaboration with county governments and development partners implement EDE projects with two objectives: 1) to reduce vulnerability to drought and climate change; and 2) to take timely and well-coordinated action. Figure 2 presents the coordination structure of EDE. To track progress, the EDE initiative has a monitoring and evaluation (M & E) framework. A Technical Working

Group (TWG) made up of M & E officers from sector ministries monitors the progress of EDE programs and projects and reports achievements. This report is a culmination of continuous consultation among members of the TWG for the financial year 2018/2019. The report also highlights key plans for the 2019/2020 financial year.

## 1.3. Organization of this Report

Chapter 2 presents the report's methodology while chapter three reports progress towards EDE for each pillar. Thus, Chapter three has six sub-sections congruent with the pillars namely; 1) effective response to peace and security threats; 2) filling gaps in climate proofed infrastructure; 3) ensuring a healthy and skilled human capital; 4) sustaining

livelihoods; 5) building resilience to drought and climate change; and 6) institutional development & knowledge management. Chapter 4 highlights key challenges, opportunities and provides recommendations.

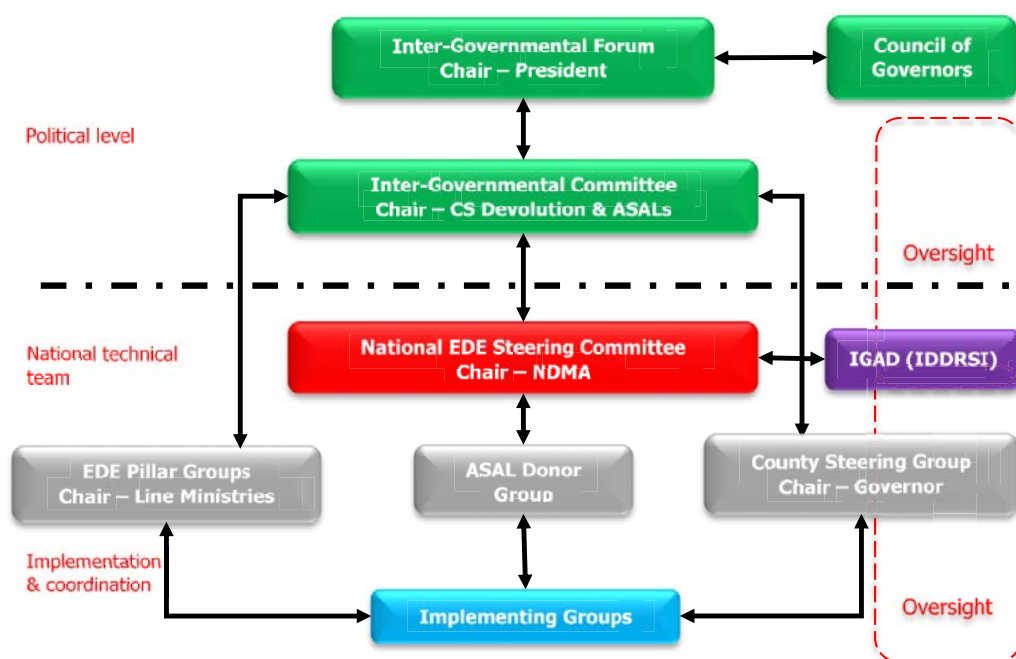


Figure 2: Coordination Structure of Ending Drought Emergencies in Kenya

## 2.0 METHODOLOGY

### 2.1 Data collection

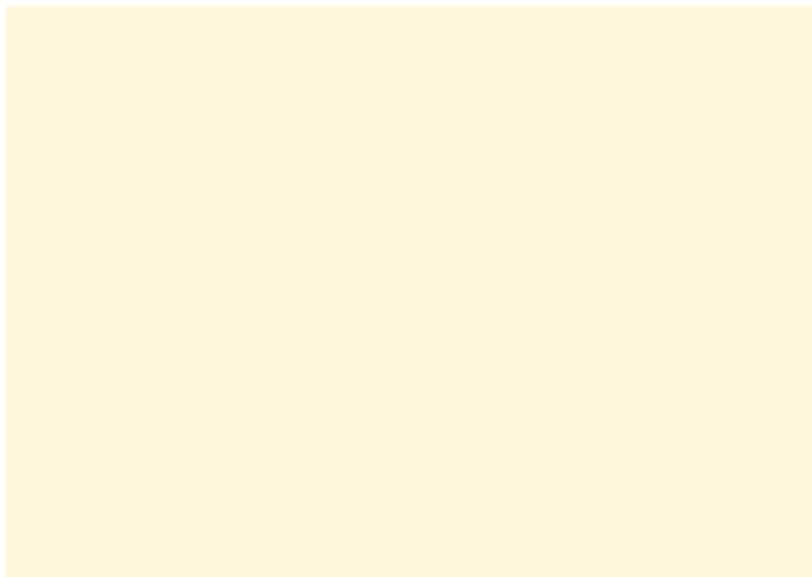
This report uses secondary data collected by TWG members from numerous sector reports and databases. Synthesis of the data was conducted by comparing achievements during the reporting period (2018/2019) with the baseline (2014) and targets. The report explains discrepancies between achievements and targets. In addition, the TWG members consulted widely within their sectors to ensure accuracy of the data provided. The consultations also led to sharing of important lessons. Members of the various sectors validated the contents of this report.

### 2.2 Important Periods

Three periods are important in interpreting the findings of this report: the baseline period which is 2014/2015 (hereinafter 2014), the reporting period which is 2018/2019 (hereinafter 2018) and the ultimate target year for EDE which is 2022/2023 (hereinafter 2022).

### 2.3 Limitation

The only limitation of this report is that some data were only available at national level and not at county level. This made it difficult to report progress of the ASAL Counties with respect to those indicators. The report explains such cases



## 3.0 PROGRESS TOWARDS ENDING DROUGHT EMERGENCIES

### 3.1 Effective Response to Peace and Security Threats

Effective response to peace and security threats is important in reducing conflicts among communities in the ASAL Counties. Effective response means evidence-backed action to peace and security threats. During the reporting period, 75% of government firearms had been marked in order to improve accountability. By 2022, 95% of all government firearms should have been marked. Marking of government firearms coupled with an increase in the recovery of illicit small arms reduced reported violent incidences involving firearms by 71% and further led to a 56% reduction in deaths emanating from violent incidences. Pillar one (peace and security) of the EDE framework tracks three results areas namely strengthening peace infrastructure, reducing inter-community conflicts, and mainstreaming peace building in planning.

#### 3.1.1 Strengthening peace infrastructure

The four indicators of peace infrastructure were ratio of police to population, strengthening of National Police Reserve (NPR), establishment of peace committees and strengthening of early warning system. Yearly hiring of police officers improved police to population ratio by 35% since 2014 (Figure 3). In 2018, the police to population ratio surpassed the United Nation's recommendation of 1:450 and the plan is to improve it further to 1:300 by 2022. Establishment of NPR units increased by 25% between 2014 and 2018 (Figure 3). The targeted 322 sub-county peace committees in 2018 were established.

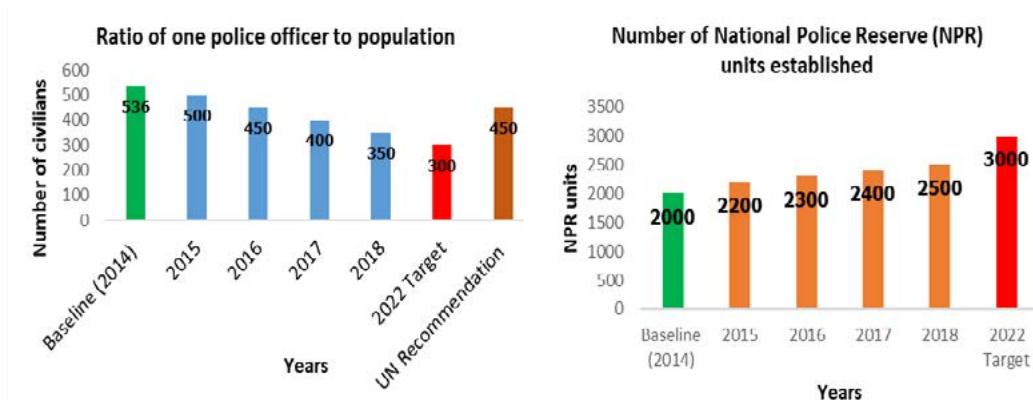


Figure 3: Police to population ratio and number of national police reserve units established

Improved access to early warning information reduced response time by 67% between 2014 and 2018. Moreover, the number of early warning reports acted upon increased by 150% since 2014 (Figure 4).

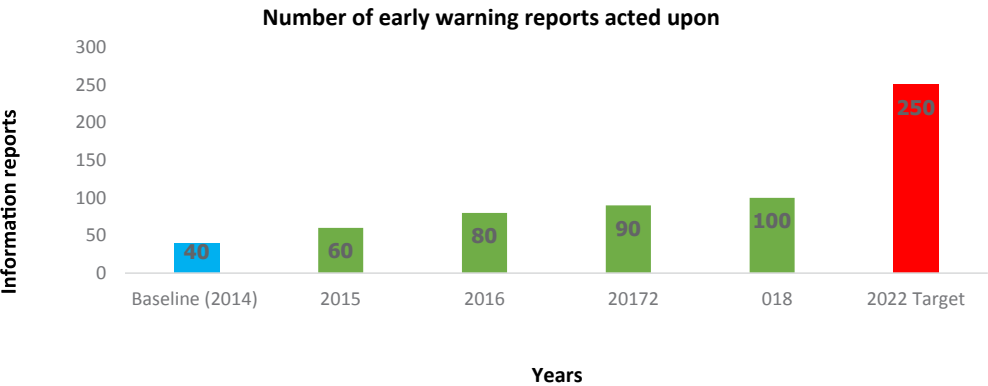


Figure 4: Early warning reports acted upon

**3.1.2 Reducing inter-community conflicts**

Community dialogue is an effective strategy in minimizing inter-community conflicts. In the ASALs, participants in peace dialogues record and sign binding peace accords for future reference. In 2018, communities in affected areas reviewed and signed 28 peace accords including cross-border peace agreements. This was a significant increment compared to the four accords that existed in 2014 and a slight increment relative to the 23 in 2017.

It is targeted that 30 peace accords should be effective by 2022 (Figure 5). During the reporting period, four intra and inter county alternative dispute resolution (ADR) mechanisms regarding resource management were operational. The plan is to operationalize 10 mechanisms by 2022. Moreover, cases of armed violence reported in 2018 reduced by 71% compared to 207 cases reported in 2014.

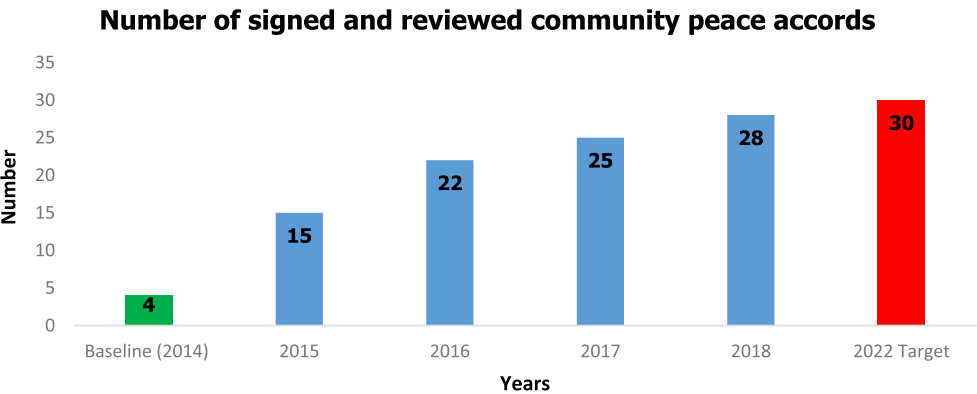


Figure 5: Number of reviewed and signed community peace accords



## 3.1.3 Mainstreaming peacebuilding in planning

Mainstreaming peace building in national and county governments plans is essential in enhancing resource mobilization and sustainability. In 2018, 12 counties had incorporated peace building in their County Integrated Development Plans (CIDPs) as planned. In this regards, the target is to ensure that all the ASAL Counties mainstream peace building in their third generation CIDPs. To support evidence-based decisions, stakeholders in the peace and security space conducted nine studies related to peace and security in the reporting period as planned.

## 3.2 Climate Proofed Infrastructure

Sectors contributing to this result area are roads, water, irrigation, energy, and ICT. This pillar has five results areas namely: 1) Prioritization of national infrastructure in ASALs; 2) Production of standard guidelines for climate-proofed design of ASAL infrastructure; 3) Improvement of county capacity

to plan, contract and supervise implementation of climate-proofed infrastructure; 4) Building of county capacity for infrastructure operation and maintenance; 5) Filling gaps on deficit of county climate-proofed productive infrastructure.

### 3.2.1 Access to electricity

Data on access to electricity was available at national level. Available electricity is an aggregation from various sources including hydro, wind, solar and geo-thermal. The number of households connected to electricity increased by 172% in 2018 compared to the 539,211 households connected in 2014 (Figure 6). Additionally, the number of primary schools, markets, and health centers connected increased by 266% from a baseline of 3,148 institutions in 2014 (Figure 6). The only limitation of the institution data is that it did not categorize according to the different institutions.

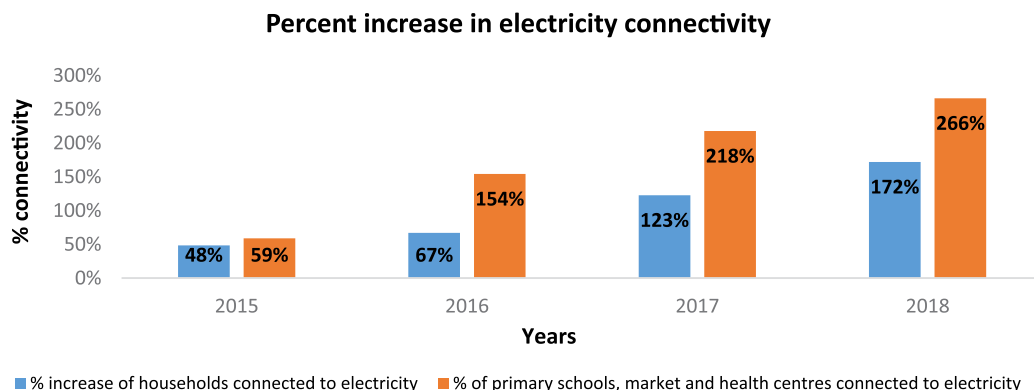


Figure 6: Connectivity to and reliability of electricity in Kenya

Connection to electricity is a necessary indicator but not a sufficient requisite of measuring access to electricity. System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI) are the proxies for measuring reliability of access to electricity. SAIDI is average outage duration per customer served

per year in minutes. SAIFI is the average number of interruptions that a customer experiences in a year. SAIDI decreased by 92% to 60 minutes in 2018 compared to 2014 and the plan is to reduce it by 100% by 2022. SAIFI reduced by 85% in 2018 from 89 in 2014 (Figure 7). The plan is to reduce it by 96% in 2022 (Figure 7).

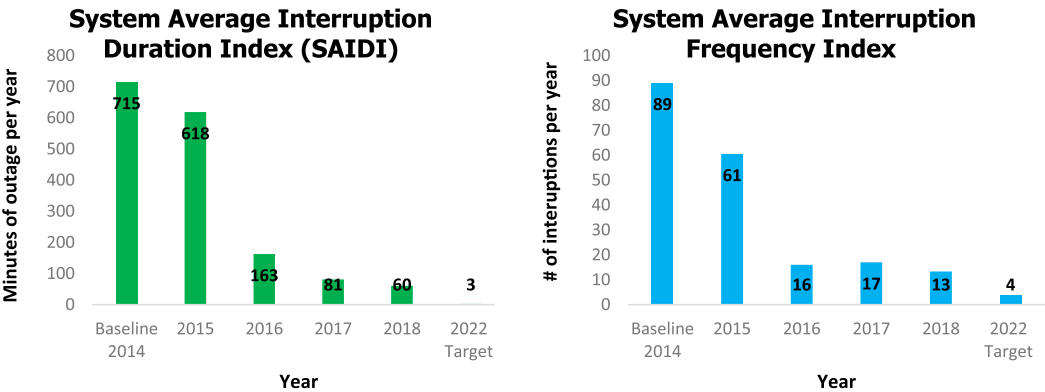


Figure 7: Connectivity to and reliability of electricity in Kenya

3.2.2 Access to clean and safe water and sanitation services

In 2018, 62% of ASAL population had access to clean and safe water compared to 60% in 2017. Target for 2022 is to have 80% of population accessing safe and clean water and sanitary services (Figure 8). Cases of water borne diseases reported reduced by 6% to 47,000 cases in 2018 compared to 2017 and 27% compared to cases reported in 2014 (Figure 8).

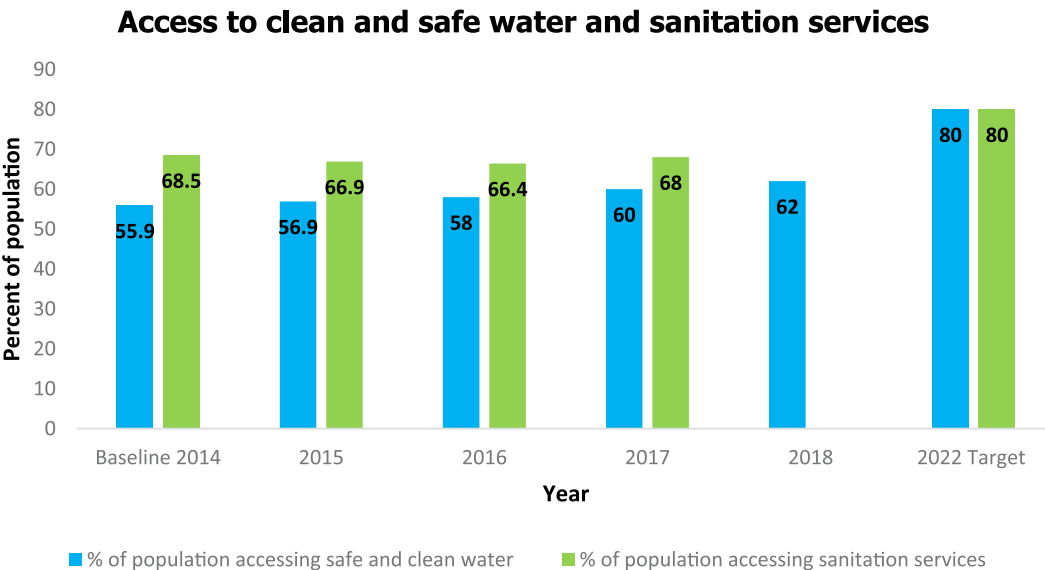


Figure 8: Access to clean, safe water and sanitation services

## 3.2.3 Climate proofed road and water infrastructure

Climate proofing involves management measures such as increasing frequency of maintenance schedules, structural measures, improvement of physical designs, and use of natural phenomena like swamps as flood sinks and source of water for livestock during dry spells (OECD, 2018<sup>3</sup>). In 2018, 283 climate proofed water infrastructure projects were completed in the 23 ASAL Counties, compared

to 733 completed in the previous year (Table 1). Similarly, the number of kilometers of roads constructed reduced between 2017 and 2018. To boost food security through production, land under irrigation increased by 40% in 2018 from 142,000 hectares irrigated in 2014. Nevertheless, the amount of land reclaimed reached an all-time low of 167 hectares in 2018 (Table 1).

3 <http://www.oecd.org/environment/cc/policy-perspectives-climate-resilient-infrastructure.pdf>

**Table 1: Climate proofed infrastructure**

Indicator	Baseline 2014	2015	2016	2017	2018	Target 2022
Number of climate proofed water infrastructure projects completed in counties	115	300	500	733	283	500
Number of kilometers of climate proofed roads completed	40	305	253	287	285	750
Number of hectares of irrigated	142,000	170,400	209,601	193,600	198,600	425,800
Number of hectares of land reclaimed	5,200	104	2,862	4,800	167	60,000

## 3.3 Access to Improved Health and Education Services

Data on human capital (health and education) was available at national level. Collaborative plans are underway to collect data for ASALs henceforth. The result areas under this pillar are: 1) Increase capacity and number of professionals working in the ASAL Counties; 2) Integrate technology, in the provision of health and education services in current systems; and 3) Increase demand for equitable and quality health and education services.

### 3.3.1 Access to education

In this sector, available data for 2017 and 2018 was not specific for the ASALs. However, it is noteworthy that the overall national enrollment to Early Childhood Development Education (ECDE) has increased steadily since 2014 (Table 2). Targets for gross and

net ECDE enrollment rate for 2018 were achieved. Compared to 2014, gross and net enrollment in ECDE increased by 7% and 8% respectively in 2018. Net enrollment rate for primary schools increased by 5%, whereas gross and net enrollment rates for secondary schools increased by 20% and 12% respectively in the reporting period. This shows that, access to basic education was improving in line with the free primary education and 100% transition policies of the Government of Kenya. Increased enrollment rates led to an improvement in transition rate of 7.2% in 2018 compared to 2014 although the target for the same year was 100%. Enrollment in Technical and Vocational Education and Training (TVET) increased steadily by 169% between 2014 and 2018 (Table 2). This is following the efforts of the national government to strengthen middle level training.

**Table 2: Access to education**

Indicators		2014	2015	2016	2017	2018
ECDE Gross Enrolment rate	National	73.6	76.4	76.6	77.1	78.4
	ASALs	69.4	70.0	72.5	NA	NA
ECDE Net Enrolment rate	National	71.8	74.6	74.9	76.9	77.2
	ASALs	59.4	68.9	66.5	NA	NA
Primary Gross Enrolment rate	National	103.5	103.6	104.1	104	104
	ASALs	67.9	69.0	69.9	NA	NA
Primary Net Enrolment rate	National	88.2	88.4	89.2	91.2	92.4
	ASALs	55.2	58.6	57.6	NA	NA
Secondary Gross Enrolment rate	National	58.7	63.3	66.7	68.5	70.3
	ASALs	17.3	19.6	22.0	NA	NA
Secondary Net Enrolment rate	National	47.4	47.8	49.5	51.1	53.2
	ASALs	13.3	14.0	15.1	NA	NA
Primary school completion rate	National	79.3	82.7	83.5	84	84.2
Transition rate from primary to secondary schools	National	76.1	81.9	81.3	83.1	83.3
Number of students enrolled in TVETs ('000')	ASALs	48	58	61	98	129
Enrolment in adult literacy program ('000')	ASALs	147	126	113	96	88

Note: The Gross Enrolment Rate can be over 100% as it includes students who may be older or younger than the official age group in a particular grade.

## 3.3.2 Quality of education

Proxy indicators for quality of education were teacher-to-pupil ratio, textbook-to-pupil ratio, and performance at Kenya Certificate of Primary Education (KCPE) and Kenya Certificate of Secondary Education (KCSE). Teacher-to-pupil ratio deteriorated in 2018 due to insecurity that led to non-local teachers exiting ASAL counties but textbook-to-pupil ratio improved (Figure 9).

### Teacher and textbook to pupil ratio in the ASALs

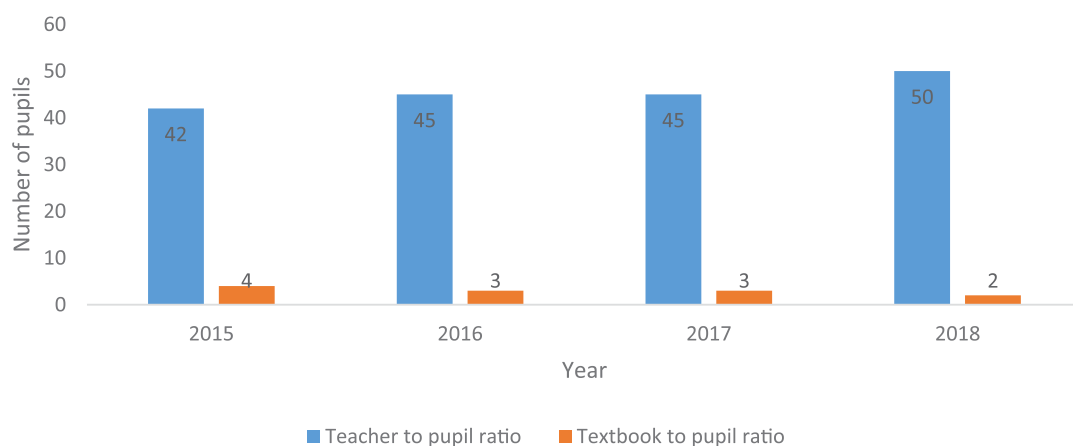


Figure 9: Teacher and textbook to pupil ratio in ASALs

## ENDING DROUGHT EMERGENCIES IN KENYA

Performance of ASALs in the KCPE remained below the national average in 2014 – 2018 (Figure 10). This was due to various challenges including inadequate infrastructure, understaffing, insecurity and nomadic lifestyle where pupils do not attend school

consistently. However, performance improved by 6% in 2018 compared to 2017 signaling success of various government policies to improve quality of education in Kenya and specifically in ASALs.

### Mean scores of Kenya Certificate of Primary Education

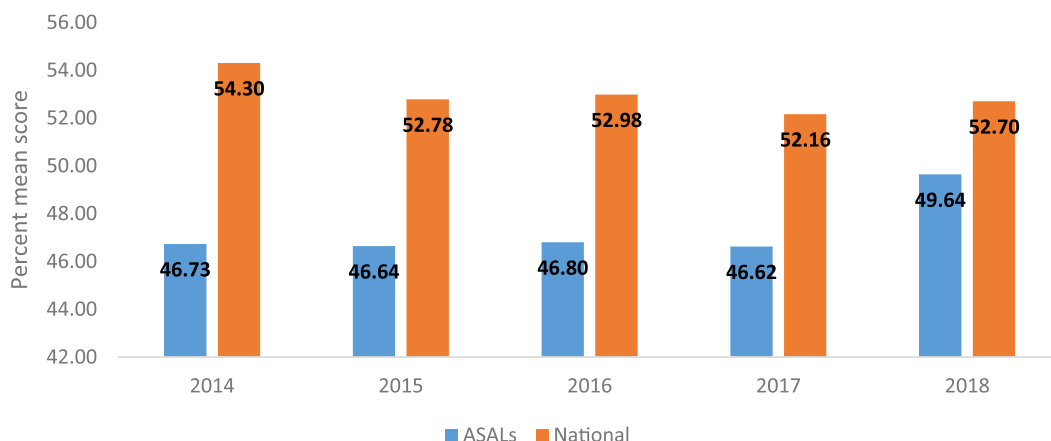


Figure 10: Performance in the Kenya Certificate of Primary Education Examination

Performance in the KCSE remained relatively lower for University qualifying grades (A – C+) compared to the national performance although the differences were not major (Figure 11).

### KCSE Performance

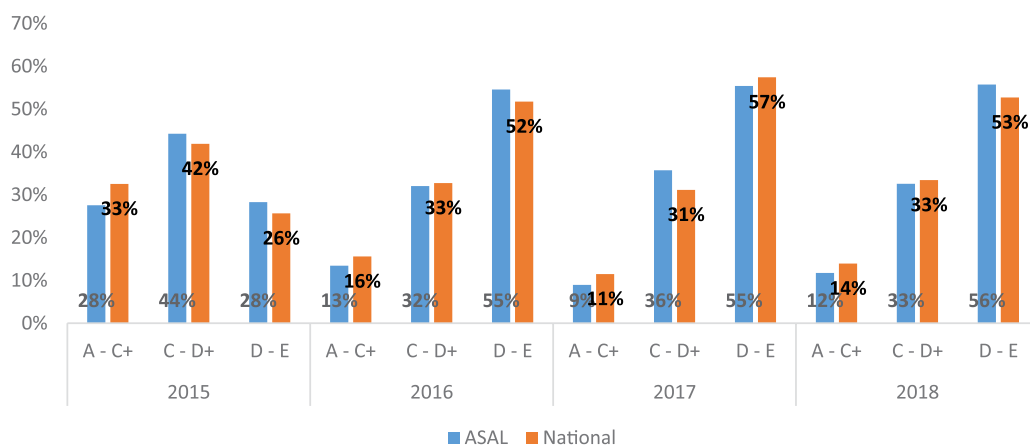


Figure 11: Mean grades in Kenyan Certificate of Secondary Education

3.3.3 Access to health services

Health is a devolved function thus counties are responsible for health investments. To measure progress made towards improving access to health services, three indicators were used namely nurse-to-population ratio, percent of deliveries attended by skilled personnel, and percent of children with acute malnutrition that had access to treatment.

Nurse-to-population ratio

The World Health Organization (WHO) recommends 45 health workers (nurses/midwives, clinical officers and doctors) for every 10,000 people in a population. The ratio in Kenya was eight health workers per 10,000 people, far below the WHO recommendation. The ASAL Counties were even worse with a ratio

of only two health workers per 10,000 population. There were inter-county disparities with Tharaka Nithi having the highest ratio of eight nurses per 10,000 people whereas Mandera had the lowest ratio of only one nurse for every 10,000 people.

Deliveries attended by skilled personnel

There was a steady increase in access to skilled personnel during childbirth as counties recruited health professionals. Construction of health facilities with maternity services also improved. Moreover, improvement in health seeking behavior among pregnant women contributed to the positive trend. Skilled personnel, as shown in Figure 12, attended to 54% of all births in the ASALs.

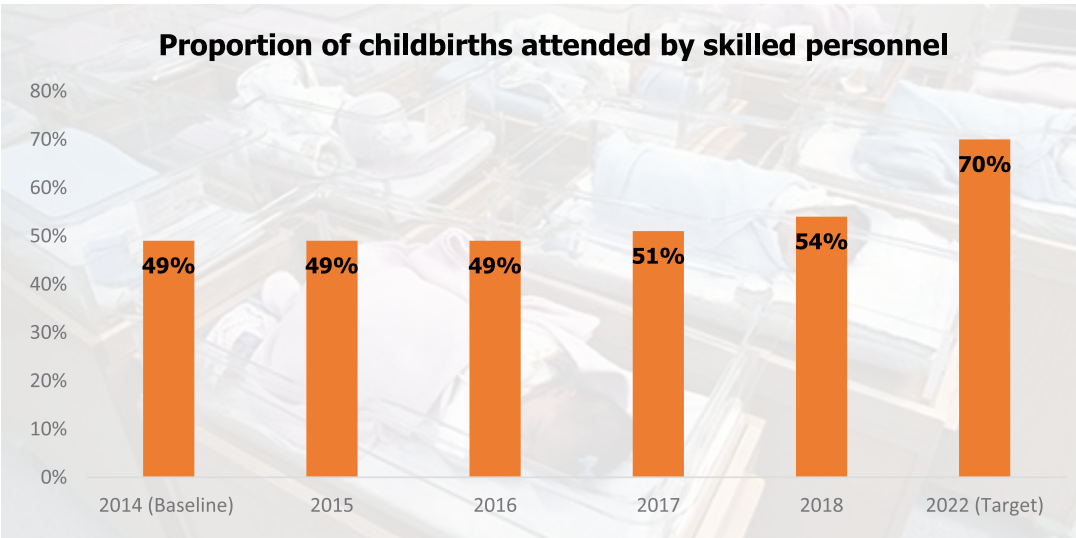


Figure 12: Proportion of childbirths attended by skilled personnel

Treatment of acute malnutrition

Acute malnutrition remains one of the biggest threats in ASAL Counties with some counties experiencing malnutrition levels above emergency threshold in any given year. To halt and prevent excess mortalities, treatment for acute malnutrition is therefore paramount. To ensure malnourished children have access to treatment, counties invested in capacities of health workers, provision of safe

storage of nutrition commodities and conducting regular integrated outreaches in the hard-to-reach areas in addition to equipping health facilities and recruitment of additional personnel. Severely malnourished children accessing treatment increased to 84% in 2018 compared to less than 505 in 2014. The 2018 proportion surpassed the 2022-planned target (Figure 13).

## Proportion of children with acute malnutrition accessing treatment

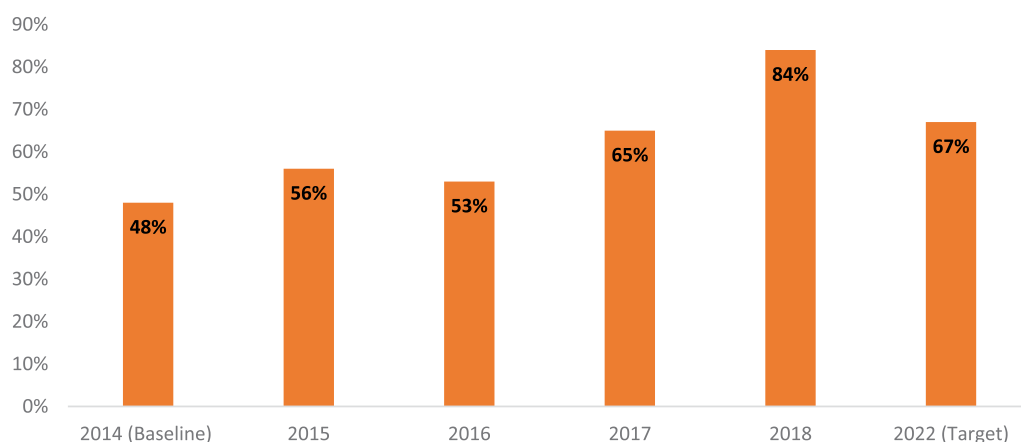


Figure 13: Percent of children with severe acute malnutrition accessing treatment

Data on mortality rates are available once every five years and therefore Table 3 presents projected values. Mortality rates are declining nationally.

**Table 3: Mortality rates in Kenya**

Indicators	Baseline 2014	2015	2016	2017	2018
Neonatal mortality rate per 1000 live births	22	20.8	20.4	20	19.6
Infant mortality rate per 1000 live births	39	33.3	32.4	31.8	30.6
Under 5 mortality rate per 1000 live births	53	51.1	49.4	47.9	46.4
Maternal mortality rate per 100,000 women who gave birth	362	353	346	342	340

Source of data: <https://knoema.com/atlas/Kenya/topics/Demographics/Mortality/Adult-mortality-rate>

## 3.4 Sustaining Livelihoods

Inequalities in resource distribution limits sustainability of livelihoods in the ASALs because they lead to vulnerabilities, increased unpredictability of dryland environments and economies, and institutional weaknesses. To address the limitations, the Government made significant investments to ensure sustainable livelihoods. The reported results areas herein are:

- 1) Increased income by:
  - i) Increasing production of milk, hides and skins.
  - ii) Improving livestock marketing.
  - iii) Increasing production of non-conventional livestock (fish, poultry and apiculture) and drought resistant crops (sorghum and millet).

- 2) Improved management of water, crops and rangeland resources by:
  - i) Improving crop production.
  - ii) Improving governance of land tenure.
  - iii) Improving natural resource management.
- 3) Operationalization of quarantine systems.

### 3.4.1 Production of milk, hides and skins

The average milk produced in ASAL Counties in 2018 was 365.7 million liters (Table 4). This was a 63% increase compared to 2017 and 13% more compared to 2014. Low milk production in 2017 was due to the severe drought experienced in all the ASAL Counties. Milk prices varied depending on

season. In the dry season, price range was Ksh. 40 - 100 per liter while in the wet season, prices reduced to Ksh. 40 - 80 per liter mainly due to increased supply.

Production of hides and skins increased by 86% and 135% respectively in 2018 owing to increased off take in response to drought and demand for livestock based products. Production of hides and

skins in 2018 met the target of 2.6 million and 7.3 million pieces respectively, a 13% and 11% increment in the production of hides and skins compared to 2017 (Table 4).

Despite the severe drought of 2017, production of hides and skins was relatively high since even with high mortality, it is possible to salvage the commodity.

**Table 4: Production of milk, hides and skins**

Unit of production	2014 (baseline)	2015	2016	2017	2018	2022 (Target)
Milk in million kgs	323.0	342.4	373.2	223.9	365.7	395
Number of hides produced in millions	1.4	1.6	1.8	2.3	2.6	3.4
Number of skins produced in millions	3.1	3.4	3.8	6.6	7.3	8.5

### 3.4.2 Fish, chicken, apiculture and crop production

Fish, poultry, and bees are non-conventional livestock while sorghum and green grams are drought tolerant crops grown in the ASAL Counties.

**Table 5: Livestock and crop production**

Livestock breed/crop species	2014 (Baseline)	2015	2016	2017	2018	2022 (Target)
Fish produced ('000' MT)	20.0	21.0	22.05	22.9	24.5	26.5
Indigenous chicken (Million live birds)	10.6	11.3	12	11.7	12.3	13
Honey sold (MT)	14,573	12,188	17,901	15,700	16,014	16.9
Sorghum produced ('000' MT)	72.6	103.0	57.9	46.5	52.7	104.4
Green grams produced ('000' MT)	107	96.6	107.3	132.7	134.8	154.4

Fish production was 23% higher in 2018 compared to 2014 due to capacity building of stakeholders on blue economy and provision of fishing equipment (Table 5). Turkana County produced 7,587 MT of fish, the highest tonnage of fresh water fish while Kwale County produced the highest tonnage of marine fish in 2018. Meru County produced 63 MT of aquaculture in 2018, the highest in the country. The average cost of fish in the reporting period was Ksh. 150 per kg at landing site while market price was Kshs. 300 per kg. Indigenous chickens reared were 12.3 million in 2018, a 16% increment compared to 2014. The price of chicken ranged from Ksh. 500 to

Ksh. 800 per live bird depending on their size and the market. The ASAL produced 16,014 MT of honey in 2018.

Crops of interest in the ASALs were Sorghum and Green grams because of their tolerance to drought. Production of sorghum was 52.7 MT while that of green grams was 134.8 MT. Kitui County produced 62,516 MT of green grams in 2018, worth Ksh. 3.7 billion, the highest in the ASALs as a result of the Ndengu revolution initiative by the County government of Kitui.



## 3.4.3 Livestock marketing

Cattle sales increased by 10%, sheep and goat sales increased by 16% while camel sales increased by 6% in 2014 – 2018 due to favorable weather conditions that improved animal body condition coupled with strengthening of market linkages. Targeted sales for 2018 of 2.9 million cattle, 7.1 million sheep and goats (shoats) and 0.053 million camels were achieved

(Table 6). The average market price for Camels in 2018 was Ksh. 39,500 per head, Ksh. 24,000 per head of Cattle and Ksh. 2,600 per head of sheep and goats. Selling price of shoats in 2018 was 44% higher compared to 2014 while the price of camel increased marginally by only 2%. The price of cattle remained the same.

**Table 6: Number of livestock sold in millions**

Number of livestock sold	2014 (Baseline)	2015	2016	2017	2018	2022 (Target)
Cattle	2.9	2.8	2.9	3.1	3.2	3.4
Sheep & Goats	6.1	6.4	6.9	6.6	7.1	8
Camels	0.051	0.052	0.052	0.051	0.053	54,624

## 3.4.4 Improved animal health

Quarantine facilities were used to enforce phytosanitary standards to ensure quality livestock and livestock products. Three quarantine facilities were operational in 2018 as planned namely Bachuma, Kurawa and Miritini. The three facilities are located in the coastal region as a strategy to accessing the lucrative albeit stringent export market. There is a plan to complete the construction of the Isiolo holding ground into an international slaughterhouse facility-cum-feedlot. By 2022, five quarantine facilities will be operational.

## 3.4.5 Governance of land tenure and management of natural resources

High rate of land fragmentation in pastoral areas is attributable to weak land tenure system and land grabbing for non-pastoral activities, in particular establishment of conservancies and private enclosures. The combined effects of these changes pose challenges to livelihoods in ASALs. Improved governance of land tenure will therefore provide incentives for Natural Resources Management, particularly in areas prone to resource based conflict. During the 2018 reporting period, all the 23 ASAL Counties where NDMA operates had operational land use plans.

The Community Lands Act of 2016 provides for registration of community land. The land registration process involves target community holding public

participation forums, preparing land inventories and finally submitting their application for registration. In 2018, none of the ASAL Counties had their land registered. Besides community land, the County Government Act 2012 and CIDPs guide counties on how to plan for the utilization of their land resource.

## 3.5 Building Resilience to Drought and Climate Change

Drought Risk Management (DRM) and Climate Change Adaptation (CCA) interventions pursued the following objectives to strengthen institutional and financing framework in Kenya:

- 1) To integrate drought risk reduction, climate change adaptation and social protection measures into development policies, plans, budgets and activities at national and county levels.
- 2) To use information in making decisions on concerted and timely action in responding to drought, climate and socio-economic shocks.
- 3) To develop and strengthen scalability and response mechanisms for timely and well-coordinated assistance to drought-affected populations.
- 4) To build capacity of relevant institutions and ensure that legal frameworks for drought risk reduction (DRR), CCA and social protection (SP) exist at all levels.

3.5.1 Integration of drought risk reduction, climate change adaptation and social protection in planning

To integrate DRR, CCA and SP in planning, the key interventions reported for the year 2018 were the National Drought Emergency Fund (NDEF), Hunger Safety Net Programme (HSNP) and the County Climate Change Fund (CCCCF) mechanism. The NDEF will ensure that money for drought response, preparedness and resilience activities is readily available when needed. NDMA piloted the NDEF concept using funds provided by the European Union. The key lesson from the pilot was that, dedicating funds for drought preparedness and response is effective in reducing the effects of drought. Lessons from the pilot guided the design of NDEF.

The HSNP is an unconditional cash transfer program implemented in Turkana, Wajir, Mandera and Marsabit, the four poorest and most drought vulnerable Counties in Kenya. The core objectives of HSNP are to provide regular cash transfers to selected vulnerable households and as part of a national integrated social protection mechanism. HSNP regular beneficiaries receive Kshs 5,400 every two months. Figure 14 shows the number of households that were receiving regular bi-monthly cash transfers during the reporting period.



Figure 14: Number of households receiving regular cash transfers per month

## ENDING DROUGHT EMERGENCIES IN KENYA

The CCCF mechanism supports county governments to mainstream climate change in their planning as well as prepare them to access climate related finance in support of adaptation at local level using inclusive planning and governance structures. Isiolo, Garissa, Kitui, Makueni and Wajir Counties successfully piloted the CCCF mechanism. Scaling out to other counties is ongoing based on lessons learnt from the pilot Counties. During the reporting period, the five counties institutionalized the CCCF mechanism. They committed 1-2% of their development budgets to finance climate change related interventions. The CCCF mechanism implemented by NDMA through Adaptation Consortium (ADA Consortium) has benefitted more than 500,000 direct beneficiaries

with over 100 community-prioritized public goods investments across the five pilot counties.

Through the support of the Kenya Meteorological Department – a member of the ADA Consortium – the five pilot counties developed Climate Information Service (CIS) plans that are playing crucial role in the county development planning, for managing development opportunities and risks and for mitigation and adaptation. The CIS plans are essential in mainstreaming climate change into planning and budgeting as they provide a framework for access and use of climate information and products. Figure 15 shows the level of DRM/CCA/SP integration at national and county levels.

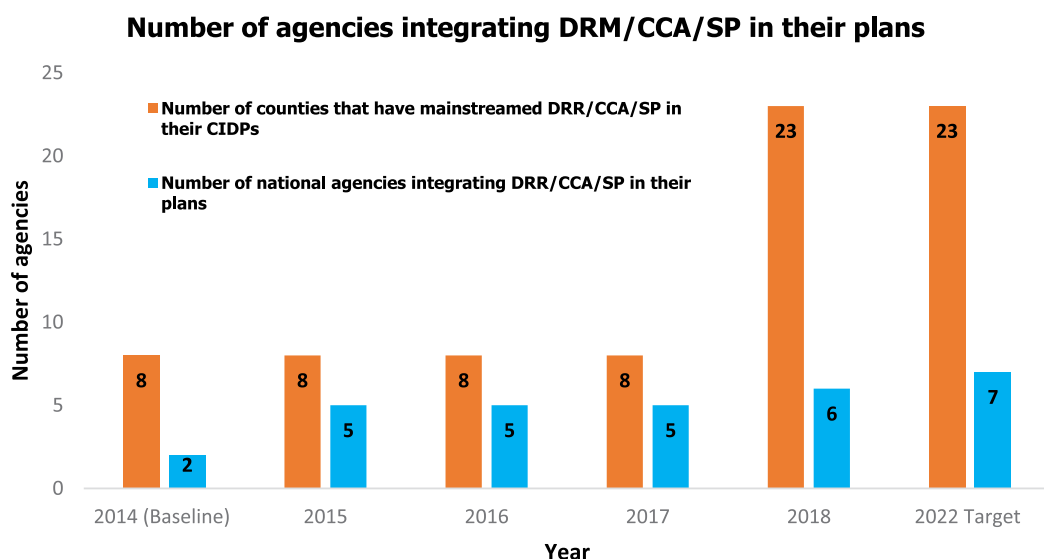


Figure 15: Integration of DRM/CCA/SP on planning

3.5.2 Enhancing early warning

The result areas for enhancing early warning were: 1) counties have new livelihood zone maps; 2) counties have hazard maps; and 3) produce integrated phase classification maps (IPC).

Livelihood zoning involves defining economic activities that can thrive in a particular geographic area thus improving relevance and accuracy of data. NDMA and partners have been reviewing existing livelihood zones in all the 23 ASAL Counties. As at 2018, the review of the livelihood zones was incomplete with a plan to complete the exercise during the 2019/2020 financial year. Eight Counties (Baringo, Turkana, Laikipia, Marsabit, Garissa, Kwale, Tana River and Kilifi) had hazard maps as at the time of reporting. This achievement surpassed the target of six hazard maps.

NDMA coordinates biannual multi-stakeholder food security assessments through the leadership of the

Kenya Food Security Steering Group (KFSSG) to contribute to early warning information. Partners in the assessments are county Governments through the County Steering Group (CSGs). The purpose of the assessment is to determine the impact of rainfall on food security. The assessments use Integrated Food Security Phase Classification (IPC) method that compares situation in a given time with the same time of previous years. The KFSSG conducts two assessments yearly, one for the short rain and another for the long rain, and this was the case for 2018.

3.5.3 Adoption of innovations

Mobile applications; DCF; vegetation condition index (VCI); scalability mechanism; crop insurance; and livestock insurance were planned for adoption during the reporting period. Figure 16 shows the number of technologies adopted.

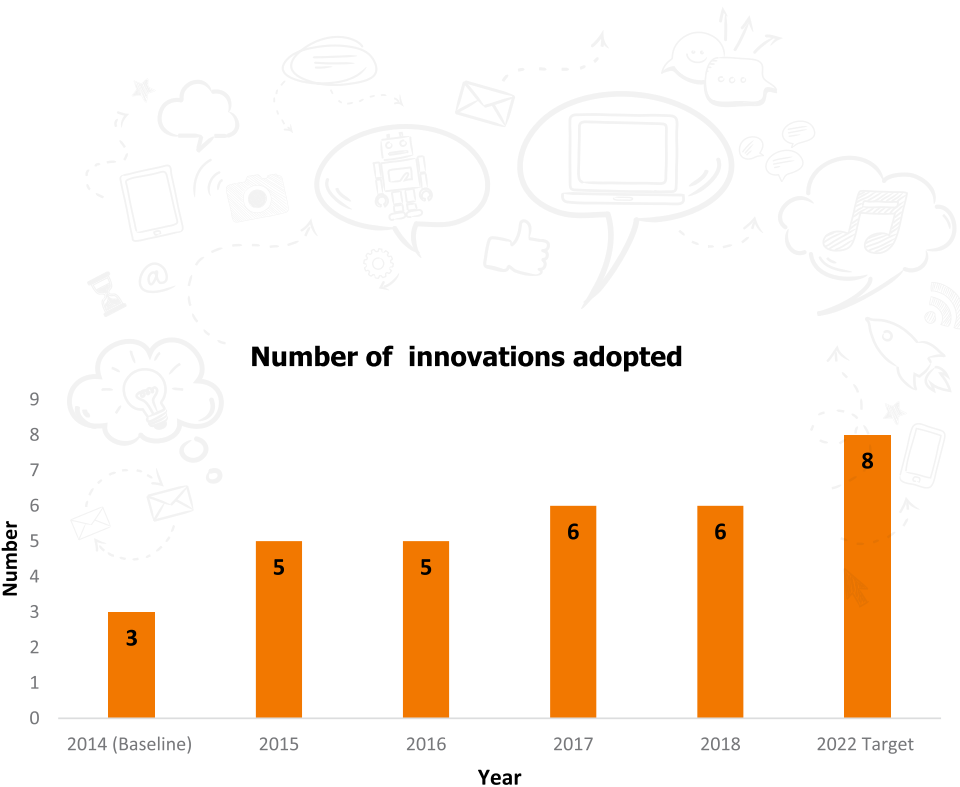


Figure 16: Number of innovations adopted

## ENDING DROUGHT EMERGENCIES IN KENYA

### 3.5.4 Enhanced efficiency of drought response mechanisms

Improving drought response mechanisms has reduced response time by 82% from 45 days in 2014 to 8 days 2018 due to improved efficiency following development of standard operating procedures (SOPs) by the livestock sector. This time excludes procuring goods and services. Government and partners invested Ksh 217,957,460 in responding to drought (Table 7).

**Table 7: Investment in response in Arid Counties for the 2018/2019 financial year (Ksh)**

County	Agriculture	Coordination	Health & Nutrition	Livestock	Security	Water	Total
Baringo	-	1,733,900	1,615,200	14,093,450	1,068,000	7,219,600	25,730,150
Garissa	-	4,990,800	-	27,605,600	843,500	7,034,000	40,473,900
Isiolo	-	686,650	-	2,876,650	807,800	5,219,200	9,590,300
Laikipia	-	678,800	-	-	-	1,286,100	1,964,900
Mandera	867,700	1,471,600	634,500	23,514,350	-	15,777,100	42,265,250
Marsabit	-	982,000	-	1,011,600	1,456,200	5,373,800	8,823,600
Samburu	-	659,250	1,050,900	963,600	-	1,671,800	4,345,550
Tana River	-	756,100	713,650	-	470,000	3,359,700	5,299,450
Turkana	-	3,576,200	1,380,000	23,504,000	4,103,500	9,144,250	41,707,950
Wajir	-	1,184,000	207,200	21,392,800	3,788,560	6,836,400	33,408,960
West Pokot	-	851,600	-	-	2,530,950	964,900	4,347,450
<b>Total</b>	<b>867,700</b>	<b>17,570,900</b>	<b>5,601,450</b>	<b>114,962,050</b>	<b>15,068,510</b>	<b>63,886,850</b>	<b>217,957,460</b>

3.5.5 Scalability mechanisms

Scalability mechanisms provide fast and effective response to reach more people that are vulnerable during emergencies than the number initially targeted. In 2018, NDMA and the Ministry of Health had operational scalability mechanisms. NDMA manages a shock responsive scalable unconditional cash transfer mechanism. The mechanism is triggered by a VCI criteria with four categories namely extreme drought (less than 10), severe drought

(10-20), moderate drought (20-30) and no drought (35 and above). Normally, 26% of the registered households are on regular cash transfer. Depending on the intensity of a drought episode, the scalable mechanism is able to include extra households through an emergency fund. Severe drought result in 50% of households in the HSNP MIS benefiting, and covers 75% of the registered households during extreme drought as summarized on Figure 17.

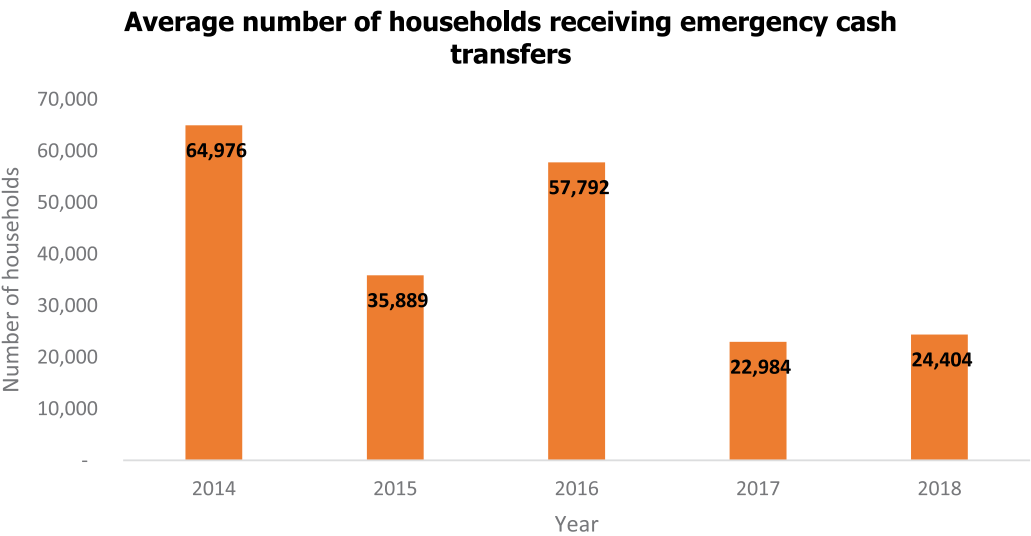


Figure 17: Average number of households receiving emergency cash transfers

The State Department of Health manages an Integrated Management of Acute Malnutrition (IMAM) surge model. The model enables the department to predict and cope with surges in cases of acute malnutrition. In the model, caseload thresholds are set. Meeting a threshold triggers actions in a phased way for flexibility. This increases resilience of the health system against shocks and stresses experienced in the ASAL areas. During the reporting period, Turkana, Marsabit, Samburu, West Pokot, Baringo, Tana River, and Isiolo Counties had the IMAM surge model operational.

3.5.6 Policy and legal frameworks

Mainstreaming DRR, CCA and SP into government plans requires relevant policies and legal environment. The policy and legislative framework

for climate change in Kenya aligns CCCF the Climate Change Act (2016), the National Adaptation Plan (2015) and the National Climate Change Action Plan (NCCAP). The regulatory framework guides enhancement of Kenya’s response to climate change and achieve its goal of low-carbon climate-resilient development.

The Counties that piloted CCCF adopted two approaches in institutionalizing CCCF. Kitui and Makueni Counties enacted regulations under the Public Finance Management Act 2012. Isiolo, Wajir and Garissa Counties enacted a County Climate Change Fund Act. The CCCF pilot Counties passed five DRM/CCCF laws in 2018 compared to none in 2014.

## 3.5.7 Coordination of drought risk management

NDMA continued to strengthen drought coordination structures at national and county levels. It supported three intergovernmental technical committee<sup>4</sup> meetings that galvanized county governments to take their statutory responsibility for emergency response and financing. The Kenya Food Security Meeting convened twice during the reporting period to validate the findings of the drought and food security assessments for the year. The Kenya Food Security Steering Group<sup>5</sup> conducted food security assessments for short and long rains as well as a mid-season assessment in May 2019. County Steering Group spearheaded coordination structures at the county level. CSGs held 267 meetings in the 23 ASAL Counties. Moreover, NDMA supported 49 ad hoc CSG meetings.

## 3.6 Institutional Development and Knowledge Management

### 3.6.1 Knowledge generation and utilization

NDMA published four EDE related policy briefs against a target of two. The good performance was associated with the transitioning of HSNP-II to HSNP-III and therefore the need to report on various achievements and lessons learnt. Moreover, the need to scale out the CCCF mechanism required rigorous documentation of evidence. The Authority also produced five research papers in 2018. This was 50% of the target for 2018 and 63% of the target publications in 2014. The explanation for the poor performance is that in 2018, only the ADA consortium was actively involved in research.

NDMA produced 10 drought related studies in collaboration with partners to enhance evidence-based decisions towards building resilience of

vulnerable communities. This surpassed target by 80%. To enhance knowledge sharing, the process of developing a centralized knowledge management and information sharing (KM & IS) platform began in the 2018/2019 financial year. NDMA profiled knowledge users and specified the requirements of the platform. Failure to operationalize the KM & IS platform in 2018 was due to lack of a guiding strategy which was still under development.

### 3.6.2 Knowledge sharing

Five knowledge-sharing forums were held: ASAL Stakeholder Forum (ASF), Pastoralists Parliamentary Group (PPG), Platform for Disaster Risk Reduction (PDRR), ASAL conference, Pastoralists Leadership Summit (PLS), and the Devolved Climate Finance (DCF) Alliance. This was an increment by two forums compared to three in 2014 - ASF, PPG and PDRR.

### 3.6.3 Management and accountability structures

The National EDE coordination structures are the National Steering Committee, the Pillar Groups and the Technical Working Group (TWG). NDMA and development partners provided the coordination structure to plan and implement various activities. Sector plan for DRM and EDE MTP-III was developed. In 2018, pillars conducted 15 quarterly meetings as opposed to the 24 planned due to a shift in priority towards response as the drought situation worsened.

Some of the outcomes of the pillar meetings included development of a concept note for conflict management in Turkana, West Pokot, Baringo and Elgeyo Marakwet Counties; dissemination of the consolidated drought response report which

4 The Principal Secretary responsible for drought matters chairs the intergovernmental Technical Committee. It draws membership from other relevant ministries including water and agriculture. The role of the committee is to advise sectors on appropriate drought measures and resource mobilization for drought response interventions.

5 The Kenya Food Security Steering Group is the technical arm of the Kenya Food Security Meeting. The group undertakes drought and food security assessments. It draws membership from relevant ministries including devolution & ASALs, agriculture, livestock and fisheries and development partners such as UN agencies.

highlighted priority interventions for preparedness and response; and reviewing and refining the EDE M & E framework. The EDE National Steering Committee (NSC) met twice in 2018 as planned to analyze performance of the pillars during MTP-II and deliberate on ways of enhancing performance during MTP-III. The team also deliberated on differences noted in drought response since the inception of EDE leading to the review of IDDRSI Kenya Country Program Paper. The EDE TWG convened three meetings to review key performance indicators of the EDE M & E framework against a target of four meetings.

NDMA county offices spearheaded county coordination structures. Embu, Garissa, Kilifi, Kitui, Kwale, Laikipia, Lamu, Mandera, Meru, Narok, Samburu, Taita Taveta, Tharaka, Wajir and West Pokot Counties received coordination funds. Each county received up to Ksh 800,000, though actual amounts disbursed varied among counties depending on the activities and budgets they proposed (Table 8). Activities included convening CSG meetings, mapping of key EDE partners, reviewing NDMA's coordination role at county level and monitoring progress of EDE projects.

**Table 8: Advances for strengthening coordination at county level**

	County	Amount advanced in Ksh. (2018/2019 FY)
1	Embu	795,470
2	Garissa	769,700
3	Kilifi	800,000
4	Kitui	800,000
5	Kwale	799,990
6	Laikipia	800,000
7	Lamu	768,850
8	Mandera	780,500
9	Meru	793,000
10	Narok	800,000
11	Nyeri	800,000
12	Samburu	790,160
13	Taita Taveta	687,900
14	Tharaka	780,320
15	Wajir	800,000
16	West Pokot	795,000
	<b>TOTAL ADVANCE</b>	<b>12,560,890</b>



## 4.0 OPPORTUNITIES, CHALLENGES AND RECOMMENDATIONS



### 4.1 Opportunities

#### Pillar 1: Peace and security

- 1) The county structure, which is an important link between local communities and national government, is an opportunity for strengthening early warning and feedback mechanisms.
- 2) Advancement in technology can support peace and security interventions by improving communication, tracking and recovery of stolen livestock.

#### Pillar 2: Climate proofed infrastructure

- 1) Abundance of renewable energy (solar and wind) in the ASALs.
- 2) Existence of a coordination structure between national and county governments.
- 3) Availability of underutilized land resources.
- 4) Partnership between the KMD and NDMA enhanced accessibility of weather information

#### Pillar 3: Human capital

- 1) Existence of an operational Education Management Information System (EMIS). The EMIS is a source of reliable data on the state of education in the ASALs.
- 2) Pro-education initiatives of the national government. Government of Kenya has provision for learners in TVETs to access loans through higher Education Loan Board to increase access. At primary level, school feeding and low boarding school programmes also increase access to basic education.

#### Pillar 4: Sustainable livelihoods

- 1) Devolution is an opportunity of working on improving resource allocation guided by priorities of target communities.
- 2) Improvement in core infrastructure including roads and power that can support livelihoods.
- 3) Large number of pastoral parliamentary group members (108 elected leaders) strengthen lobbying and advocacy efforts for relevant investments and policies that accelerate development in the ASALs.

#### Pillar 5: Drought risk management

- 1) Amendment of the NDMA Act and development of regulations will support the core mandate of the Authority more strongly.
- 2) Existence of partners with diverse capacities (technical and financial) on DRM and CCA.
- 3) Availability of tested applied technology and practices in DRM and CCA.
- 4) County Climate Change Fund Mechanism identified as a priority in the National Climate Change Action Plan, 2018-2022.

#### Pillar 6: Institutional development and knowledge management

- 1) The ASAL Policy recommends establishment of various ASAL institutions.
- 2) Institutionalization of knowledge management strategy in NDMA lays the path for organizational support.
- 3) DCF alliance is an opportunity to share lessons and strengthen the mechanism.
- 4) Interest by the National Treasury on the CCCF mechanism.

### 4.2 Challenges

#### Pillar 1: Peace and security

- 1) Insecurity episodes are highly unpredictable requiring strong early warning and coordination mechanisms. This in turn can facilitate timely response.
- 2) Gap in policy inhibits implementation of interventions targeting to ensure peace and security. There is also no policy to enable government to fund peace committees limiting their operations.
- 3) Poor infrastructure hampering timely response even when early warning information is readily available.
- 4) Dynamism in conflict and emerging trends, including expansionist tendencies and border conflicts, radicalization and violent extremism extractives and cyber-crimes.

#### Pillar 2: Climate proofed infrastructure

- 1) Inadequate understanding and awareness of climate proofed infrastructure.
- 2) Inadequate funding to implement costly climate proofed infrastructure interventions.
- 3) Weak coordination in some sectors e.g. accessing county on some investments is difficult since there is no liaison person to link the counties with national government.
- 4) Slow change of attitudes and practices due to other factors such as culture.
- 5) Effects of climate change at times jeopardizes gains of climate proofed infrastructure e.g. if a climate proofed dam is not recharged for more than 90 days, it can as well dry.
- 6) Communal land tenure system is unfavorable for long-term investment. For example, relocating and compensating communities to pave way for development projects is complicated, expensive and often politicized.

#### Pillar 3: Human capital

- 1) Inadequate foodstuffs and late delivery constraints the school feeding program.
- 2) Madrassa/Duksi education system of education is popular among Muslim communities. This leads to low rate of enrollment and retention of pupils in formal education system despite the Madrassa not being a recognized education system in Kenya.
- 3) Inadequate number of skilled and motivated teachers translates to unfavorable teacher learner ratio in the ASALs. Ultimately, this reduces quality of education.
- 4) Nomadism forces learners to follow their families in search of water and pasture leading to inconsistency in school attendance.
- 5) Insecurity has led to mass exodus of teachers from ASALs over time denying learners in the ASALs ample time for education.
- 6) Lack/inaccurate data regarding enrollment in TVETs given the significant number of training centres that are not registered and accredited by relevant authorities.

#### Pillar 4: Sustainable livelihoods

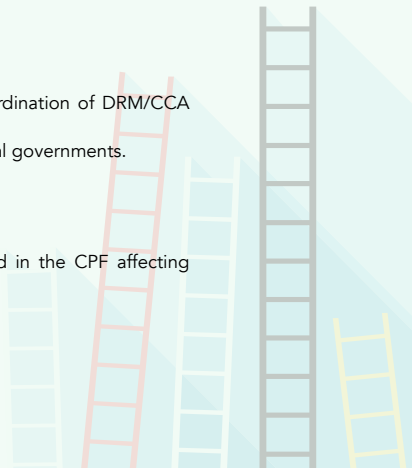
- 1) Invasive plant species especially *Prosopis* spp resulting in decrease in quantity and quality of pasture.
- 2) Limited investments by the private sector due to risks involved resulting in underdeveloped livestock value chains especially weak market linkages.
- 3) Semi-skilled and insufficient workforce.
- 4) Resource based community conflicts in ASALs.
- 5) High incidences of drought, pests and diseases leading to low livestock and crop productivity.
- 6) Lack of a central repository of DRM/CCA information. This makes access to such information time consuming.

#### Pillar 5: Drought risk management

- 1) Some counties are yet to operationalize DRM/CCA thus limiting coordination of DRM/CCA interventions.
- 2) Policy is unclear on some shared functions between county and national governments.

#### Pillar 6: Institutional development and knowledge management

- 1) Lack of a centralized knowledge management system.
- 2) TWG and CSG not constituted according to the guidelines provided in the CPF affecting delivery of their terms of references.



## 4.3 Recommendations

### Pillar 1: Peace and security

- 1) Strengthen early warning and early response mechanism by enhancing coordination between national and county governments as well as adopting technology for peace and security.
- 2) Fast track the operationalization of the National Policy on Peacebuilding and Conflict Management to boost peace and security efforts.
- 3) Strengthen community participation in matters of peace building and conflict management.
- 4) Enhance funding, coordination and leadership by National and County Governments to ensure sustainability of peace building and conflict management processes.

### Pillar 2: Climate proofed infrastructure

- 1) Invest more in generating energy from renewable sources.
- 2) Strengthen coordination structure between national and county governments.
- 3) Capitalize on underutilized land resources.
- 7) Increase understanding of climate proofed infrastructure among stakeholders.
- 8) Strengthen fund raising strategies in addition to government funding especially by developing proposals that identify funding gaps clearly.
- 9) Align EDE interventions with local context including culture and religion to improve ownership among target communities.
- 10) Register communal land for ease of management.

### Pillar 3: Human capital

- 1) Build capacity of head teachers to update the EMIS with accurate data.
- 2) Create awareness and facilitate learners to access government loans meant for education.
- 3) Ensure adequate and timely delivery of foodstuffs to achieve the aim of the school feeding program of keeping learners in school consistently.
- 4) Enforce access to formal education by Muslim communities in addition to the Madrassa/Duksi education system.
- 5) Train locals to fill gaps of teachers and health personnel who leave the ASALs due to insecurity.
- 6) Build more boarding schools to minimize movement of learners during school time.

### Pillar 4: Sustainable livelihoods

- 1) Strengthen surveillance for and control of livestock and crop pests and diseases.
- 2) Centralize storage of DRM/CCA information for ease of retrieval and minimize chances of loss.
- 3) Fast-track enactment and implementation of the National Livestock Policy to boost livestock economy.

### Pillar 5: Drought risk management

- 1) Integrate DRM and CCA in all ASAL counties.
- 2) Harmonize policies and legal frameworks on DRM, CCA and SP.
- 3) Strengthen the CSGs.

### Pillar 6: Institutional development and knowledge management

- 1) Reconstitute EDE TWG as per the the CPF.
- 2) Operationalize a KM platform.

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