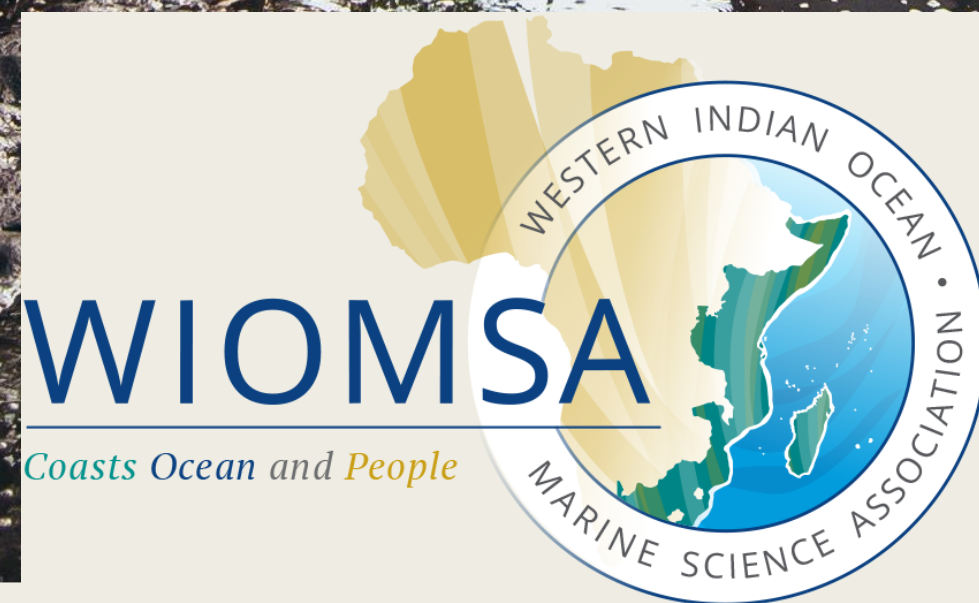
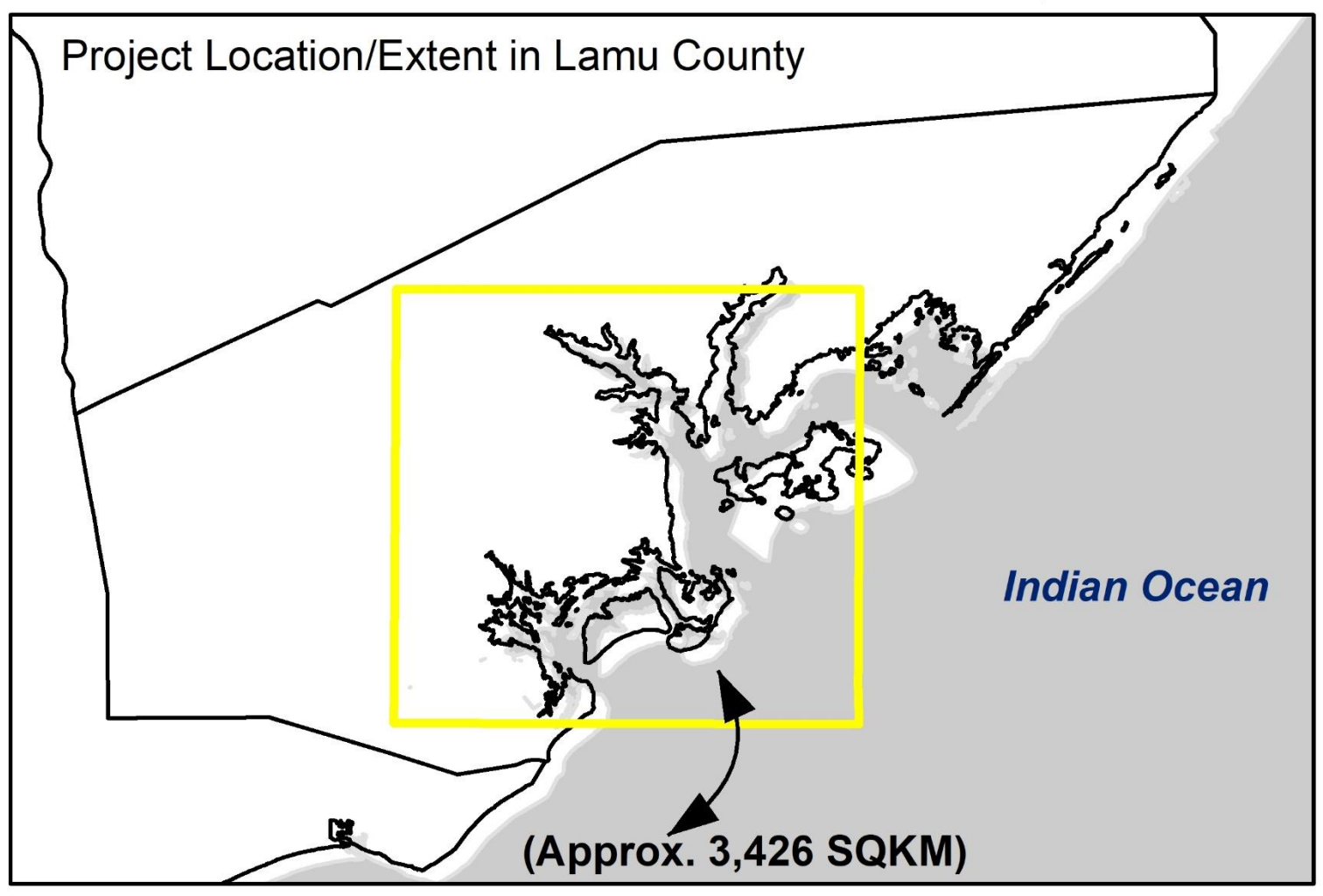
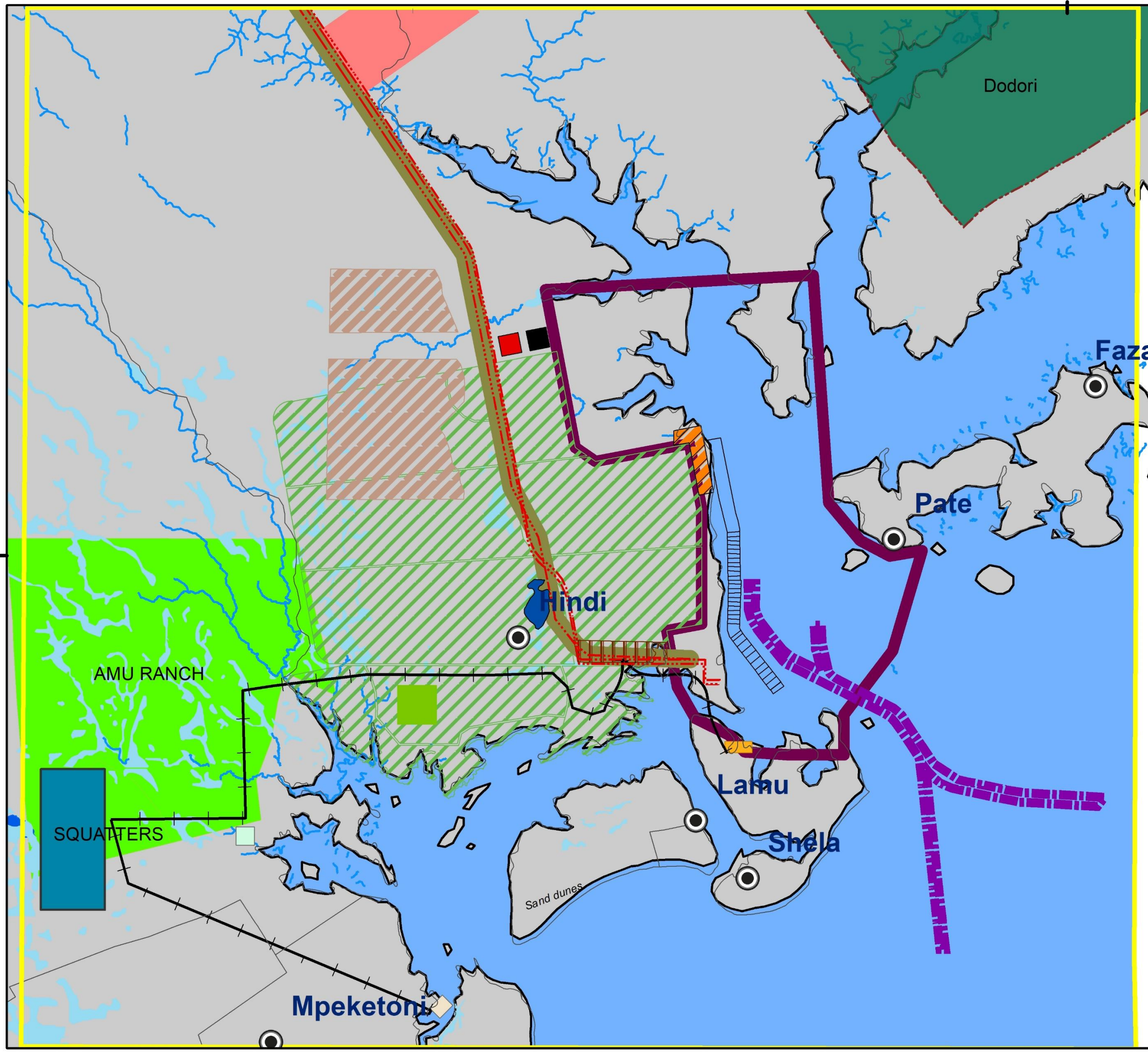


**THE LAMU PORT SOCIAL  
ASSESSMENT AND GREEN  
DEVELOPMENT  
RECOMMENDATIONS**

**Zac Maritim**

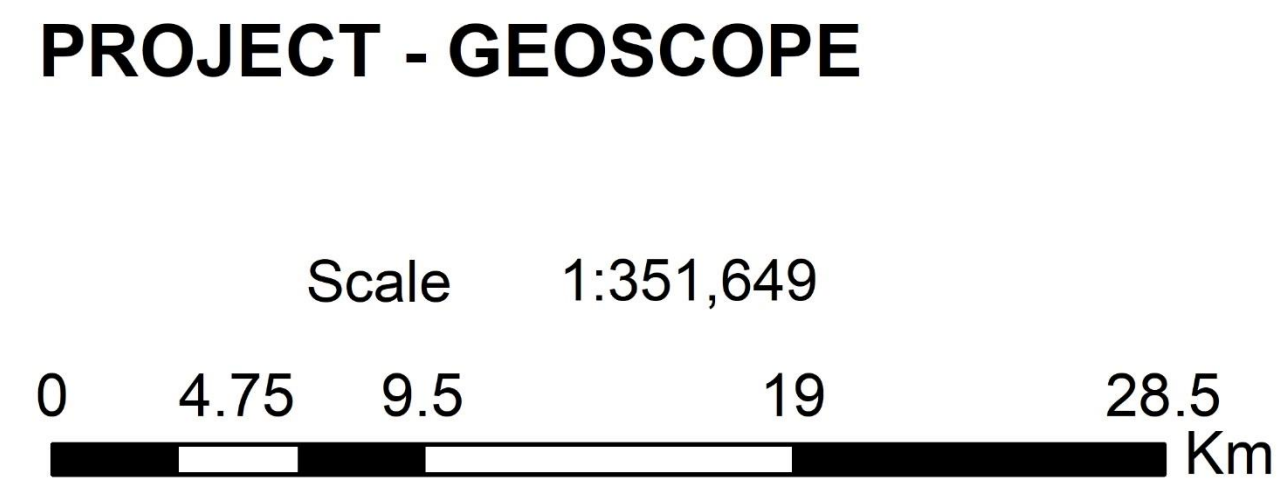
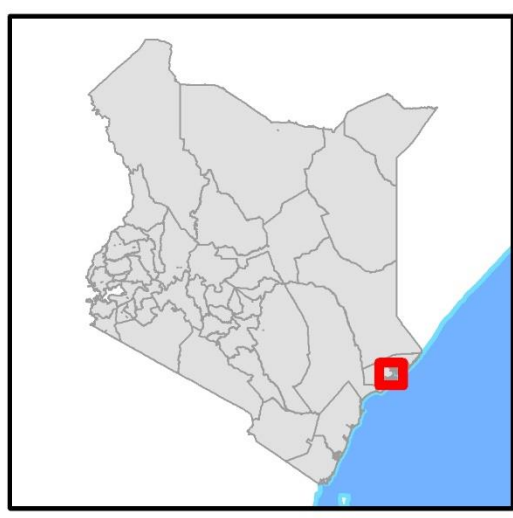






**Legend**

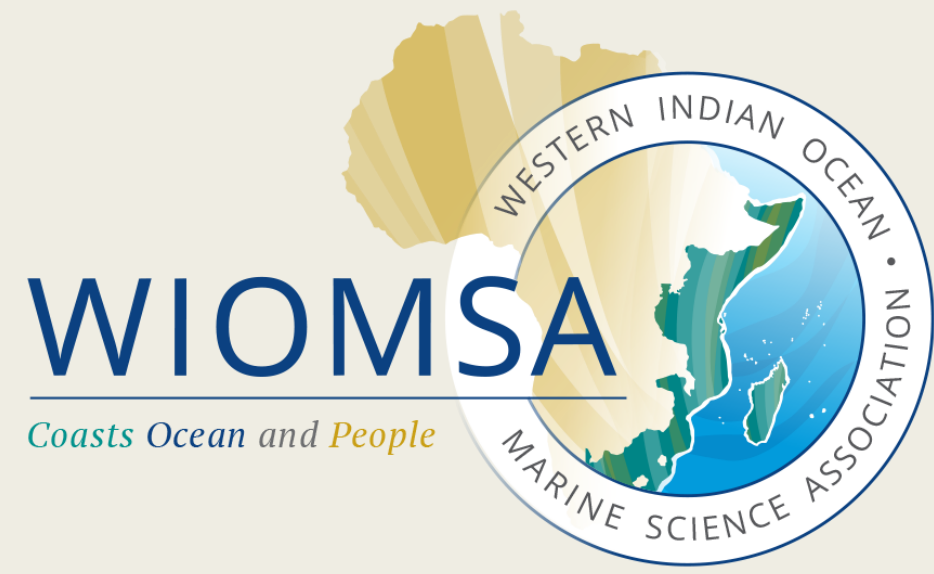
- Village/Trade Centre
- LAPSSET Alignment
- +— Mono Rail
- Project Geoscope
- Ward\_Boundary
- Amusement Park
- Belle Belle
- Berths
- Cattle Holding
- ▨ Coal Plant
- Cultural Centre
- Fishermans Wharf
- Lamu International Airport
- Oil Refinery
- Oil Tanker
- ▨ Railway Terminus
- ▨ Ranch
- Resort City
- ▨ Shipping Channel
- Infrastructure Corridor
- Special Economic Zone
- ▨ Lamu Metropolis
- ▨ Port Boundary
- ▨ Protected Areas
- ▨ LAPSSET Economic Corridor
- ▨ Delta



**Project Geographic Scope:**

- Area: Approximately 3,426 sqkm
- Location : Lamu County, largely Hindi Ward
- Key feature: LAPSSET Primary footprint.
- Ecologically Sensitive area:
- Rich Marine and Terrestrial habitat, wildlife, and the Ocean.





# **1. Status of Compliance With Environmental and Social Safeguards by Projects Under LAPSSET Programme**

## KEY FINDINGS

- 1. A feasibility study** for LAPSSET Programme was carried out prior to programme
- 2. SEA** was carried out while implementation of LAPSSET programme projects was in progress. As a result implementation of SEA recommendation to first address pre-existing could not be executed on time .
- 3. ESIA** for the first three berths of Lamu Port and associated infrastructure was carried out while implementation of the project was underway contrary to the requirements of environmental regulatory requirements.
- 4. All of the material borrow sites** for the Garsen-Witu-Lamu road were subjected to **EIA** although some of the EIAs for the site were carried out while extraction of the materials was either in progress or completed
- 5. Safeguards to protect farmers and pastoralist:** The LAPSSET Resettlement Action Plan (RAP) worked well in ensuring displaced persons were compensated for the land they lost to the project.
- 6. Safeguards to protect fishing community:** None of proposed safeguards have been executed; this is continuously negatively impacting on the fisher-folk economically, socially and their overall wellbeing.
- 7. Safeguards to protect local community from marginalization:** LAPSSET Corridor has a scholarship scheme for local community youths.
- 8. Safeguards to protect terrestrial flora and fauna:** Targeted planting of trees in public spaces to offset those lost during construction of Lamu Pott access road and Garsen-Witu-Lamu road and parts of the port and establishment and gazettement of wildlife corridors is yet to be implemented.
- 9. Safeguards to protect marine flora and fauna:** safeguards either not implemented or if they were, then they were not effective hence there performance in protecting marine flora and fauna from adverse impacts was poor.
- 10. Mangroves** were shielded from adverse impacts by minimizing areas cleared and conducting replacement planting of all cleared mangroves in adjacent areas. This safeguard was performing well as only 1.5 hectares of the projected 2 hectares were cleared.
- 11. Less than 10% of borrow pits** in Hindi and Witu areas were fully rehabilitated



## **Positive social impacts**

- Employment opportunities have been created
- Improved local business opportunities
- Reduced travel time
- Reduced motor vehicle operating costs
- Improved access to social services such as Medicare
- Improved road transport and communication
- Reduced commuter transport cost
- Improved local security in Lamu and its environs
- Access to scholarship from LAPSSET for local youths
- Improved infrastructure and property value

## **Negative social impacts**

- Loss of livelihoods such as access to fishing grounds in the port area
- Loss of livestock grazing corridors due to urbanization
- Loss of livestock water sources at Kibokoni, Chomo and Jambiani areas due to construction of Garsen-Witu- Lamu road
- Increase in human-wildlife conflicts due to influx of migrant workers to Lamu some ho have encroached wildlife spill/ migratory areas
- Increase in demand for bush meat due to increase in population from migrant workers resulting in surge of hunters for bush meat
- Dilution of local culture due to influx of migrant workers into Lamu area and their accompanying family members coupled with their interaction with indigenous Lamu people
- Increase in incidents of petty crimes as more business thrive in Hindi and Mokoe, cases of petty crime are also increasing.



# LESSONS LEARNT AND RECOMMEND BEST PRACTICES

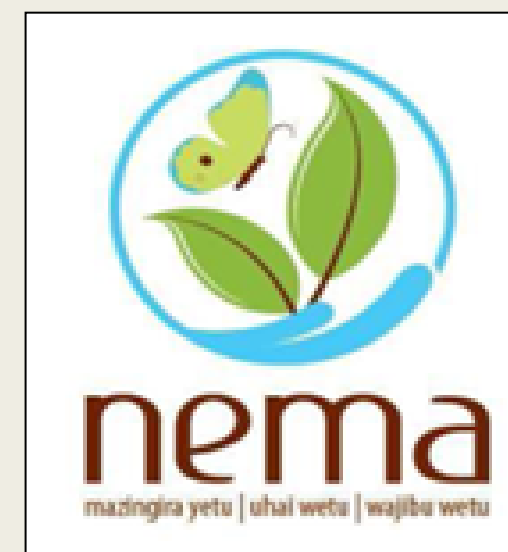
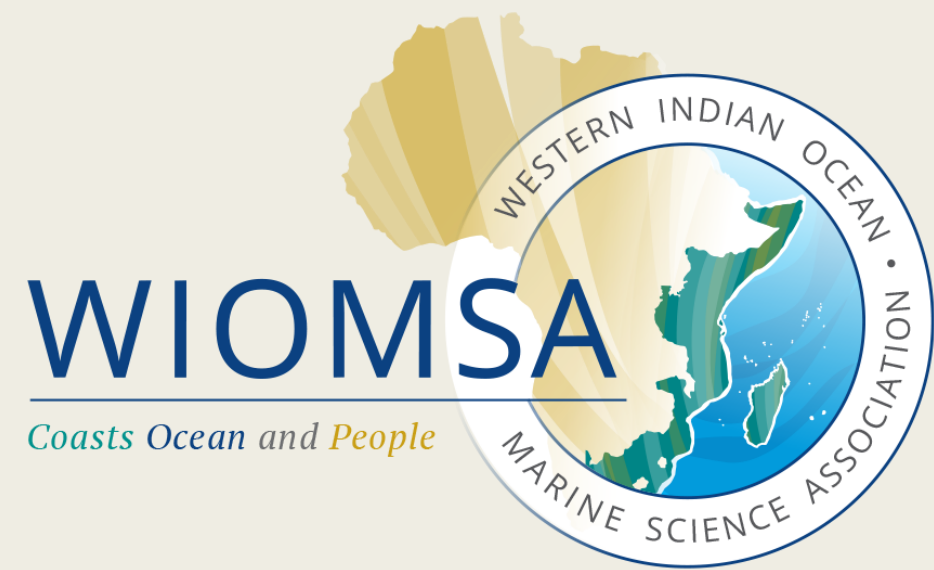
## Lessons learned:

1. SEA for the any proposed Programme or policy should be carried out before Programme implementation to ensure implementation of SEA recommendations
2. ESIAs for projects under LAPSSET should be carried prior to project implementation to ensure each project has an EMP to guide project implementation

## Recommendations

1. A detailed Environmental and Social Management and Monitoring Plan (ESMMP) for Lamu port and associated infrastructure to be developed.
2. The ESMMP to strictly be implemented to ensure strict monitoring of terrestrial, marine and social environments
3. All LAPSSET stakeholders to be continuously consulted in all phases of implementation of LAPSSET programme Projects





## 2. LAPSSET Impacts on Fisheries of the Lamu Archipelago



## KEY FINDINGS

- ❑ Mainly driven by direct impacts on fishing grounds, fish landing sites, related biodiversity and ecosystems
- ❑ Major drivers: noise related to dredge, sediment perturbations, little or no use of silt curtains to contain sediments etc., increased turbidity, sediment deposition within critical habitats (seagrass beds, reefs, creeks) which are breeding, feeding and nursery grounds (see sediment flood mapping)
- ❑ Ripple effects:
  - ✓ Displacement from fishing grounds
  - ✓ Displacement from landings sites and boat anchor sites (citing security and safety issues)
  - ✓ Resultant fisher migrations due to declining catches, lost fishing grounds and fish landing sites
  - ✓ Ripple effect of general fisher migrations (mass tragedies where fishers move, due to general movement of impacts fishers)
- ❑ Most impacted: fishers targeting reef species (e.g. *Lethrinus*, thrives in clear waters), seagrass bed species (e.g. Siganidae) and creek prawn fisheries (sediment floods impacts)



## KEY FINDINGS.....

- ❑ Archipelago fisheries are traditionally non-migrant fisheries (>40%)
- ❑ ≈31.3% of the fishers are migrate seasonally to richer fishing grounds; northwards during SEM and southern during NEMS.
- ❑ However, LAPSSET Project andas changed the dynamics, additional Lapsset PAP driven migrations accounting ≈ 27.8%.
- ❑ Major impacts on Matondoni with 7.7%; Amu (6.6%), Mtangawanda (4.3%), Mokowe, Kipungani and Mngini with 2.3% each, Shella (1.2% and Manda and Siyu at 0.8% and 0.4% of the sampled fishers, respectively.
- ❑ Seasonality accounts for 31.3% of the fishing vessel migrations in and out of the LAPPSET area with FRP boats (fiberglass) account for ~13% followed by Dau (6.6%), Mashua (6.18), and Jahazi at 2.7%). Hori, Mtori and Mtumbwi vessel types accounted for <2% of the migrations.
- ❑ The entry of the Lamu Port has seen the vessel migrations increase by 27.8% out of the project area, with FRP boats at (10.4%), Dau and Mashua (6.6%) while Hori, Mtumbwi accounted for <2% owing to their limited capacity to migrated, suggesting these as the most impacted fishers

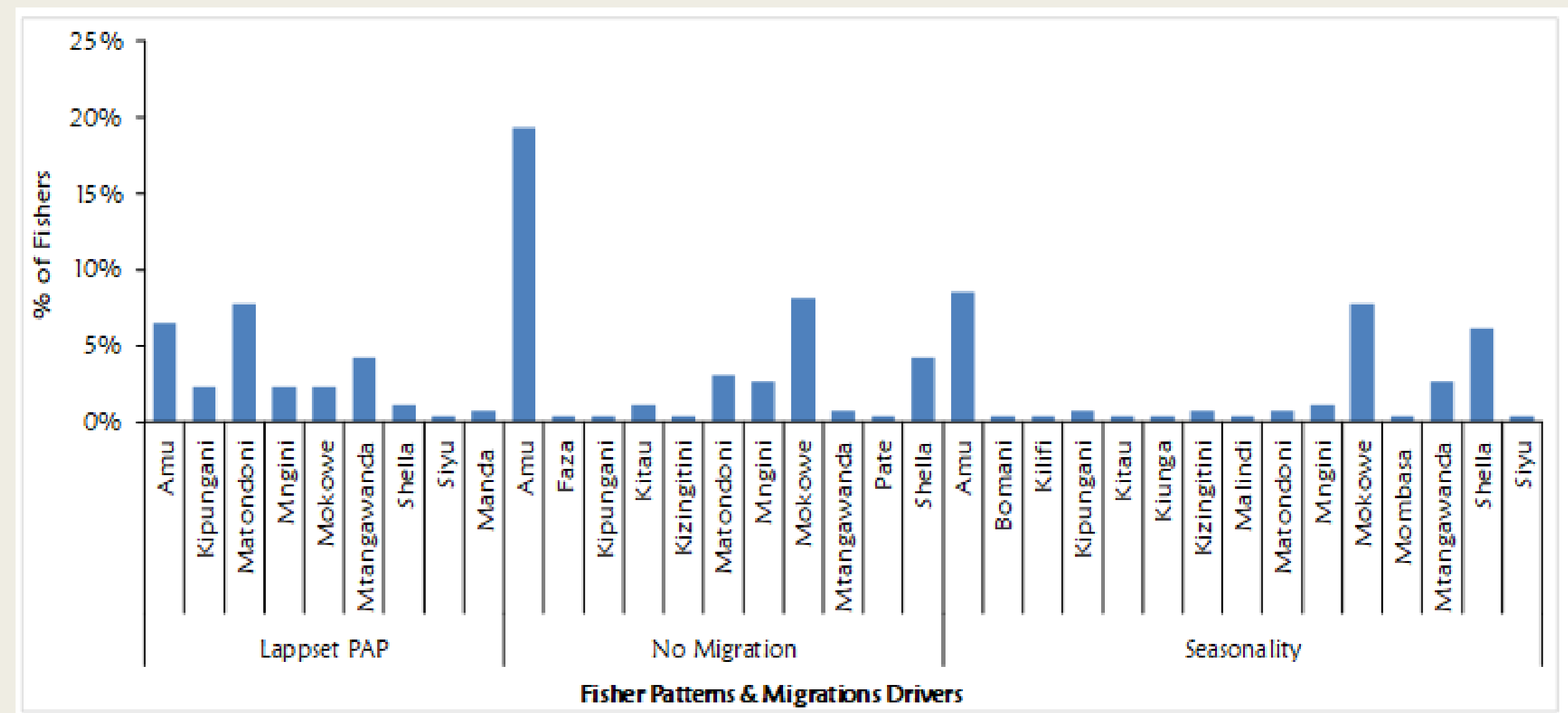


Figure 1. LAPPSET driven Fisher Migrations

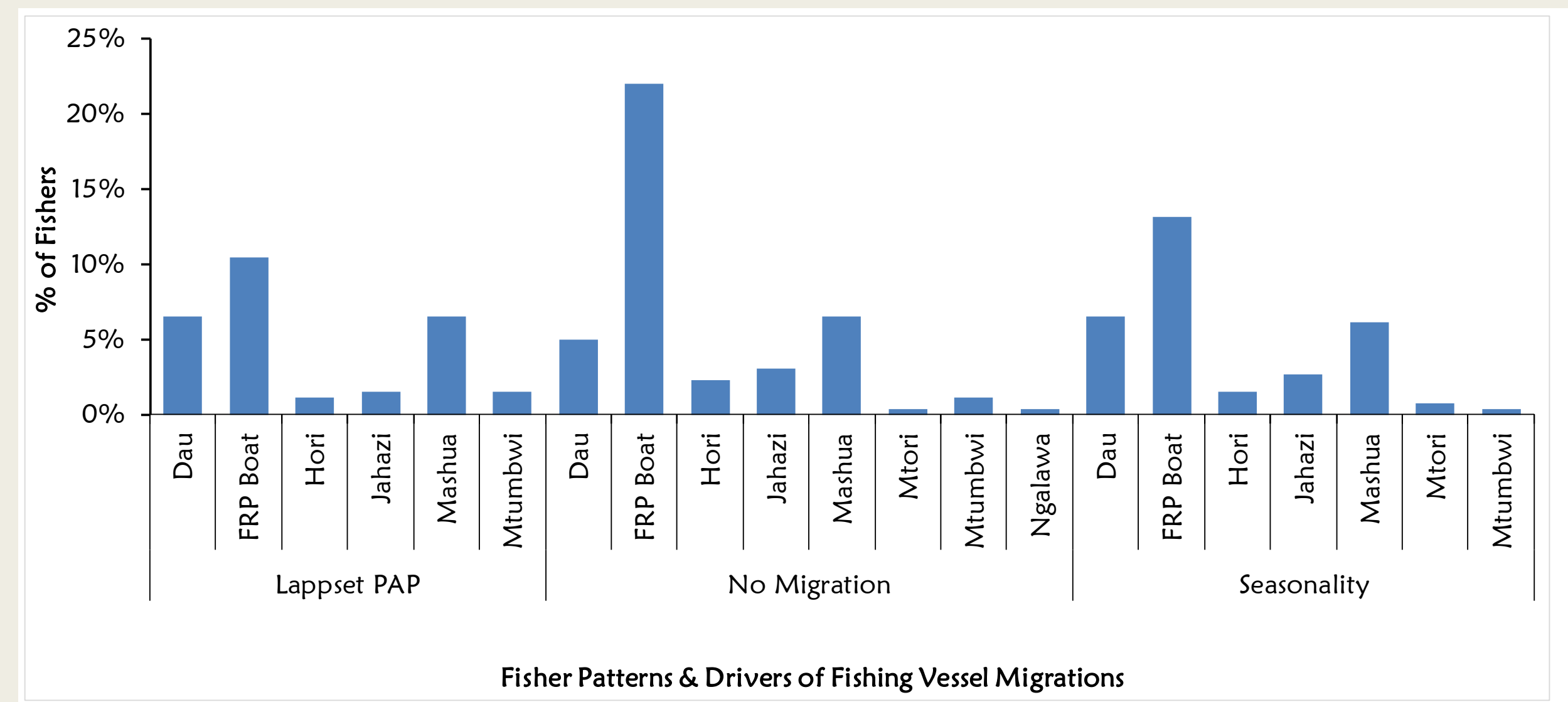


Figure 2. LAPPSET driven Vessel migrations



### 3. LAPSSET (Lamu Port) Impacts by Marginal Groups

- ❑ The most affected fishers were those with lower levels of education (primary & madrassa) at 15.8% and 8.1% likely due to limited opportunities for alternative livelihoods.
- ❑ Those with secondary level of education accounted for 3.1% of the survey respondents impacted by forced migrations

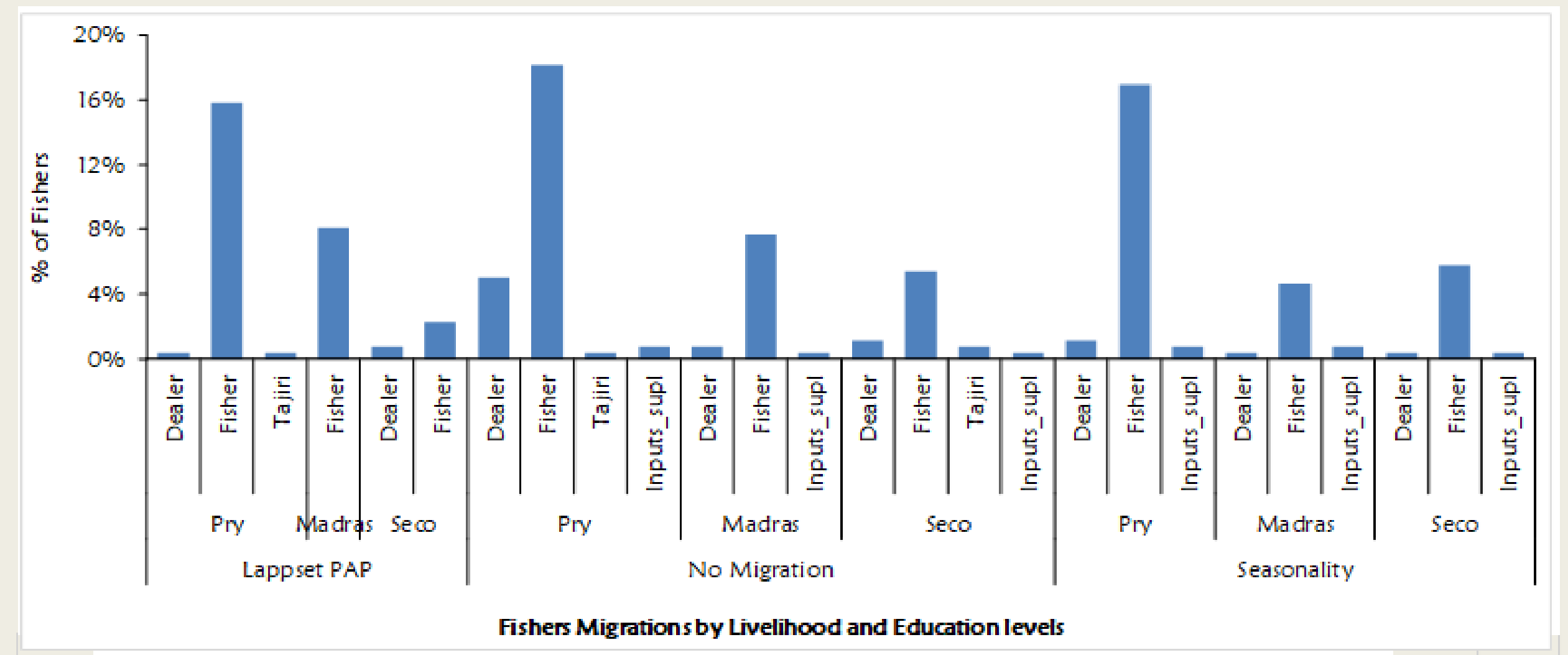


Figure 3. LAPPSET impacts by Fisher groups and Education levels

### 4. LAPSSET (Lamu Port) Impacts by landing sites

- ❑ Lapsset PAPs migrations accounted for 8.9% of the movements
- ❑ Most affected landing sites were Matondoni (3.19%) followed by Amu (1.93%), Kipungani (1.54%), Mtangawanda (1.16%), Shella (0.77%) and Mngini at 0.39% (Figure 5).
- ❑ The migrations were mainly tied to change of fishing grounds away from the impacted fisheries within these areas.

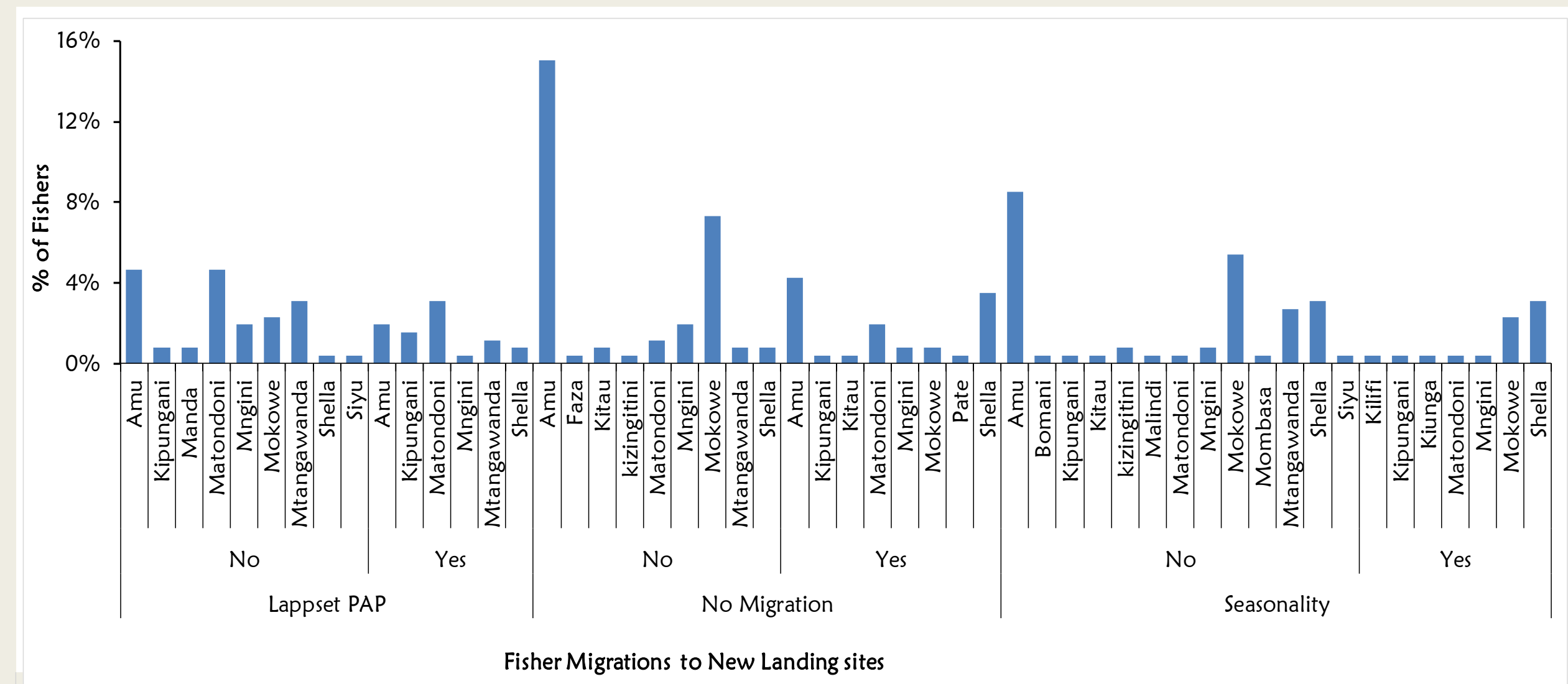


Figure 4. LAPPSET impacts by BMU and landing sites



## 5. LAPSSET (Lamu Port) Impacts Fish Landings

- ❑ LAPSSET fishery impacts were mainly linked to impacts on critical ecosystems such as mangroves, seagrass beds and reefs due to clearing as well as sediment deposition
- ❑ Landings within the BMUs bordering the Lamu Port declined by 62.6% (from 57.4 Mt/day to 21.5Mt/day before and during the construction. However, there was a slight recovery in overall landings to 23.9Mt/day after construction, putting the LAPSSET impacts to ~58.4% decline in catches
- ❑ Amu was the most affected site with landings declining from ~27.8Mt to a meagre 4.7mt before and after constructions while Mngini, Mtangawanda recorded higher landings after constructions likely attributed to fisher migrations

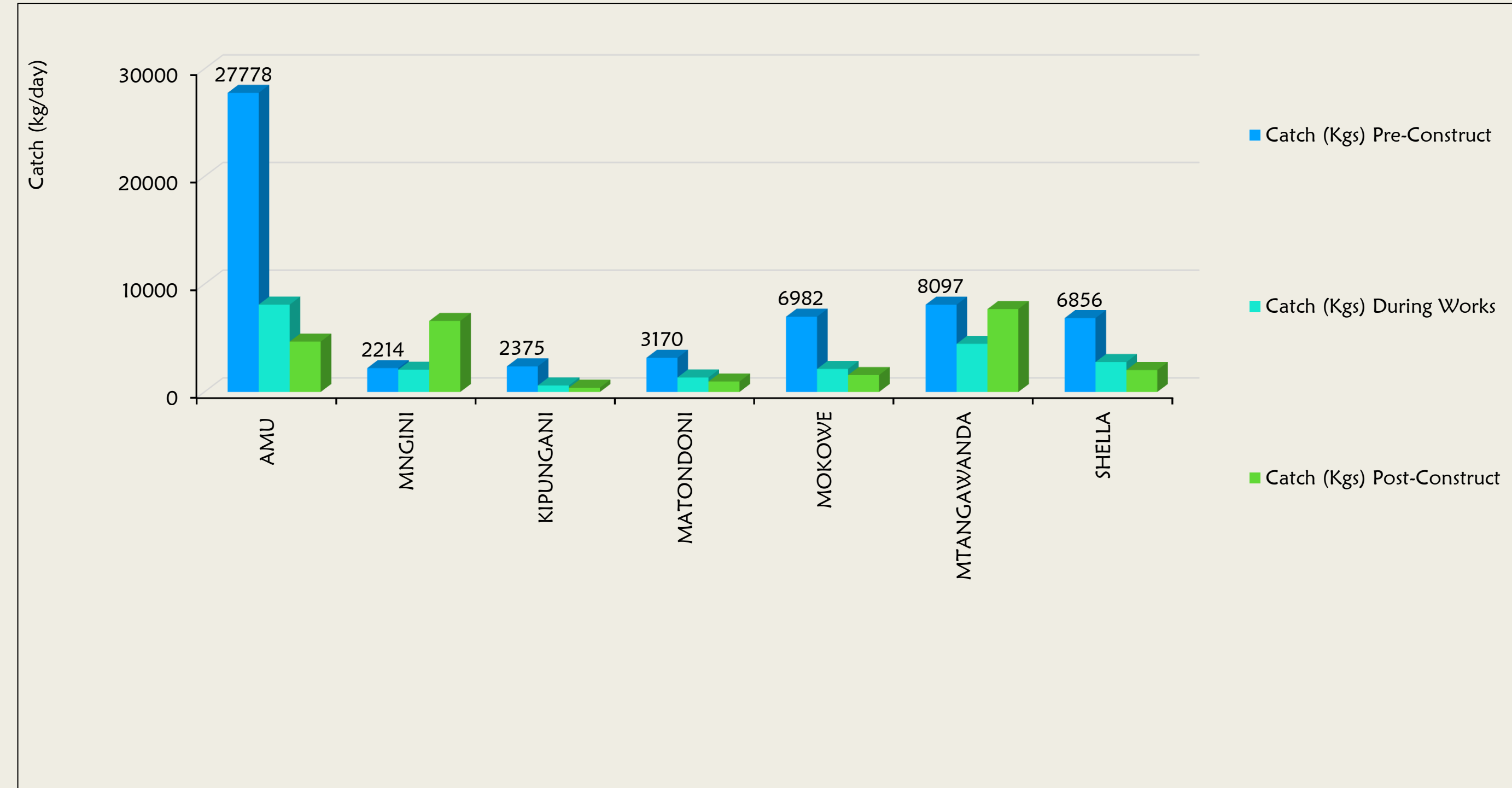
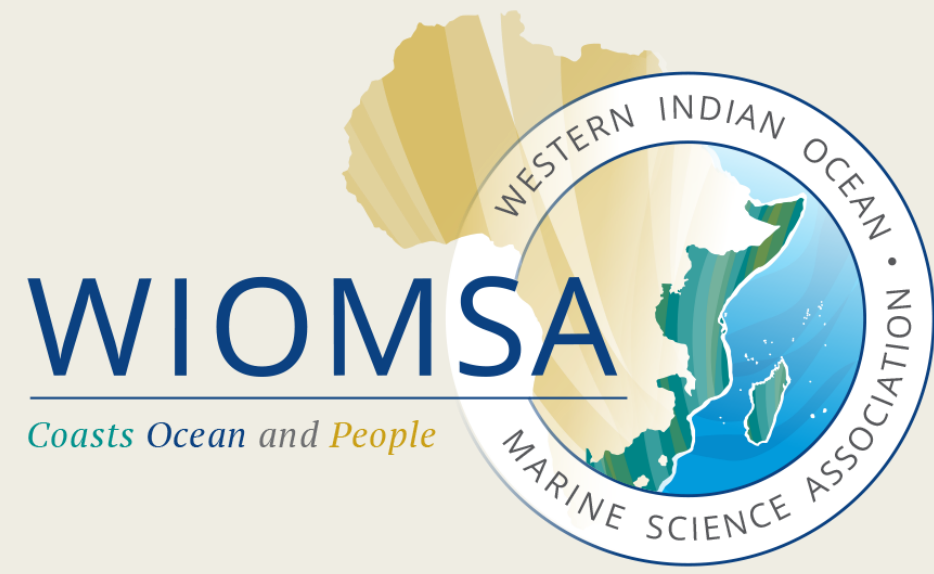


Figure 5. LAPPSET impacts on fish landings within the projected affected sites





### **3. Participatory Communication In Kenya's Large-Scale Infrastructural Development Projects' Planning & Implementation: A Case Of Lamu Port In Hindi Ward, Lamu West Sub-County, Kenya**



## Study Findings

### Deployment Of Participatory Communication

- There was little involvement of the local community in participatory communications needs assessment given that 36% responded in the affirmative to having been involved while 64% indicated that they were not engaged
- 78% of the respondents indicated that that they were not involved in the communication strategy design compared to 22% who responded in the affirmative
- Less than one fifth of the respondents were involved in implementation of communication activities in the Lamu Port project
- 26% of the respondents were involved in monitoring and evaluating the Lamu Port project communication strategy while a majority, 74% were not involved
- 29% of respondents felt the community did not understand issues confronting them nor get feedback regarding problem analysis and actions taken by the project. 25% of the respondents felt that the community is used symbolically to show the real appearance of participation
- Generally, 84% of the respondents felt that the local community did not understand the Lamu Port project and therefore did not participate effectively in its design and implementation. This is in line with the finding that only 14% of the respondents felt the community was informed and consulted and therefore understood the project design and operation. A paltry 2% indicated that the community contributed adequately and that they bore a high responsibility in the project.



## Study Findings....

### Factors Influencing Local Community's Participation in the Lamu Port Project

- Lack of transparency, attitudes and perceptions of the local community toward government led public participation had the greatest influence on the respondents followed by government priorities and timelines, and political interference
- Clashing schedules was also highlighted as a key factor that hampered participation as noted by one of the key informant from the local community for the largely Muslim community in the region:
- While the study findings point to public barazas being the most preferred communication platform, one key informant representing Kenya Ports Authority reckoned the inherent challenges that made the Lamu Port project owners not to fully deploy it despite its popularity and efficacy.
- Respondents attributed more influence to political leaders, the national and local governments and little or no influence to local community-based groups. This is in line with the earlier finding that the local community's opinion is not really a part of this project. In addition, it corroborates an earlier finding that local communities defer their decision making to their political leaders.

### Free Prior and Informed Consent

- 71% of the respondents did not consent to the Lamu Port project before it commenced
- 80% of the respondents did not know of the magnitude of the project
- 77% of the respondents did not have access to primary reports on the economic, environmental and cultural impact of the project.

A former planner at the Lamu County who was one of the key informants stated: *"In order to foster a participatory communication process in a large scale infrastructure project, the owners ought to consider the prevailing political dynamics including the influence local leaders wage, dedicate adequate resources to paint a proper picture of the expected economic benefits and losses to all affected citizens, availability of all relevant data and information in an easily accessible format and ultimately promote civic education supported by the various government agencies and civil society organizations at the local, national, regional and even international level depending on the magnitude of the project."*

- 78% of the respondents did not consent to the project, while 22% did consent to the project. This finding was corroborated by Kenya Ports Authority community liaison officer who stated as follows:



## CONCLUSION

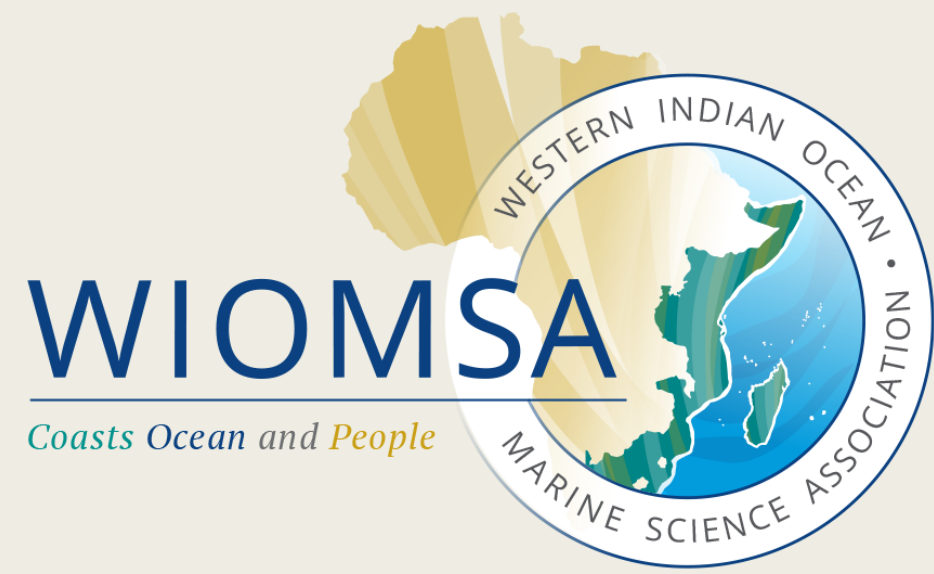
The Lamu Port project lacked a properly designed participatory communication process and plan. This implies that what the project owners deployed to allow for the local participation in the project lacked transparency and muffled the voice of the local community and hence did not gain from their participation. The project owners were equally agile enough to quickly pick the important lessons the first phase of the project which was the Lamu Port and tried to do better in the subsequent phases.

## RECOMMENDATION

- Large-scale infrastructure project owners must prioritize a robust participatory communication process during the design and implementation stages; not as a fringe benefit that they grant as and when they wish but as a human being's birthright that is undeniable and unpreventable
- Participatory communication is a key planning tool for decision making and implementation of large-scale infrastructure projects
- For adequate and full participation, women should be separated from their male counterparts given the gender hindrance in participation in certain cultures

- Project implementers should paint a clear picture on the vision of the large infrastructure projects for all to see and buy into, especially the host community. The architectural models ought not to be kept in a few privileged members/representative's offices but distributed in churches, mosques, jetties and other relevant places where community members congregate including during public barazas
- Information on projects should be provided in local languages for ease of understanding
- Public Barazas being the most preferred model of communication should be encouraged as well as easily accessible advertisements and mass media
- Projects owners should adequately and transparently describe the key benefits of large scale infrastructure projects to host communities in order to obtain free prior and informed consent
- Large infrastructure projects ought to respect cultural values as well as eco-sensitive regions in order to gain acceptance and avert opposition
- Benchmarking trips should be organized not only for politicians as it is the norm but also for local leaders and community members in order for them to understand the grand vision
- Citizens have an obligation to participate and not defer it to their leaders which often occurs

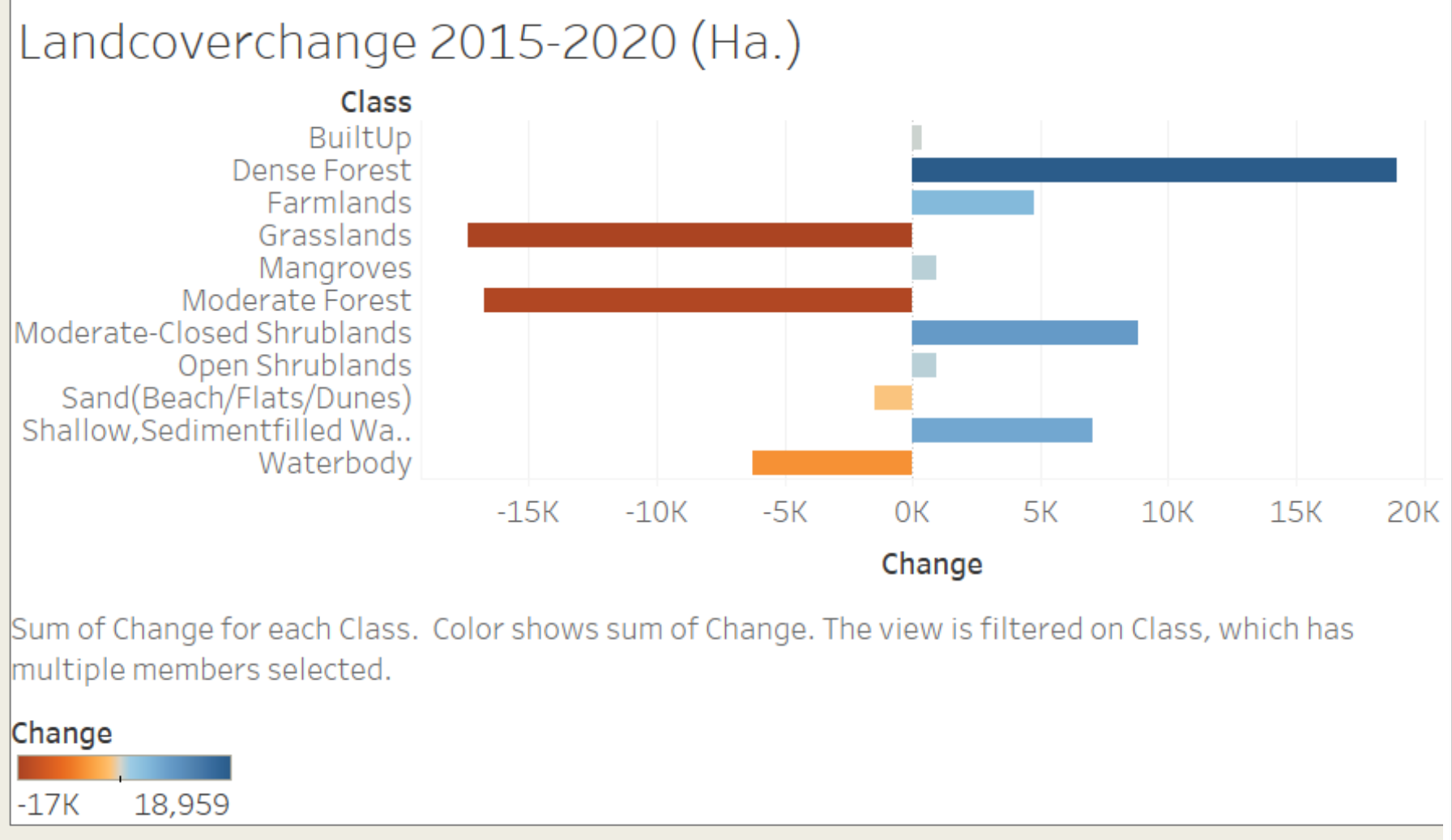
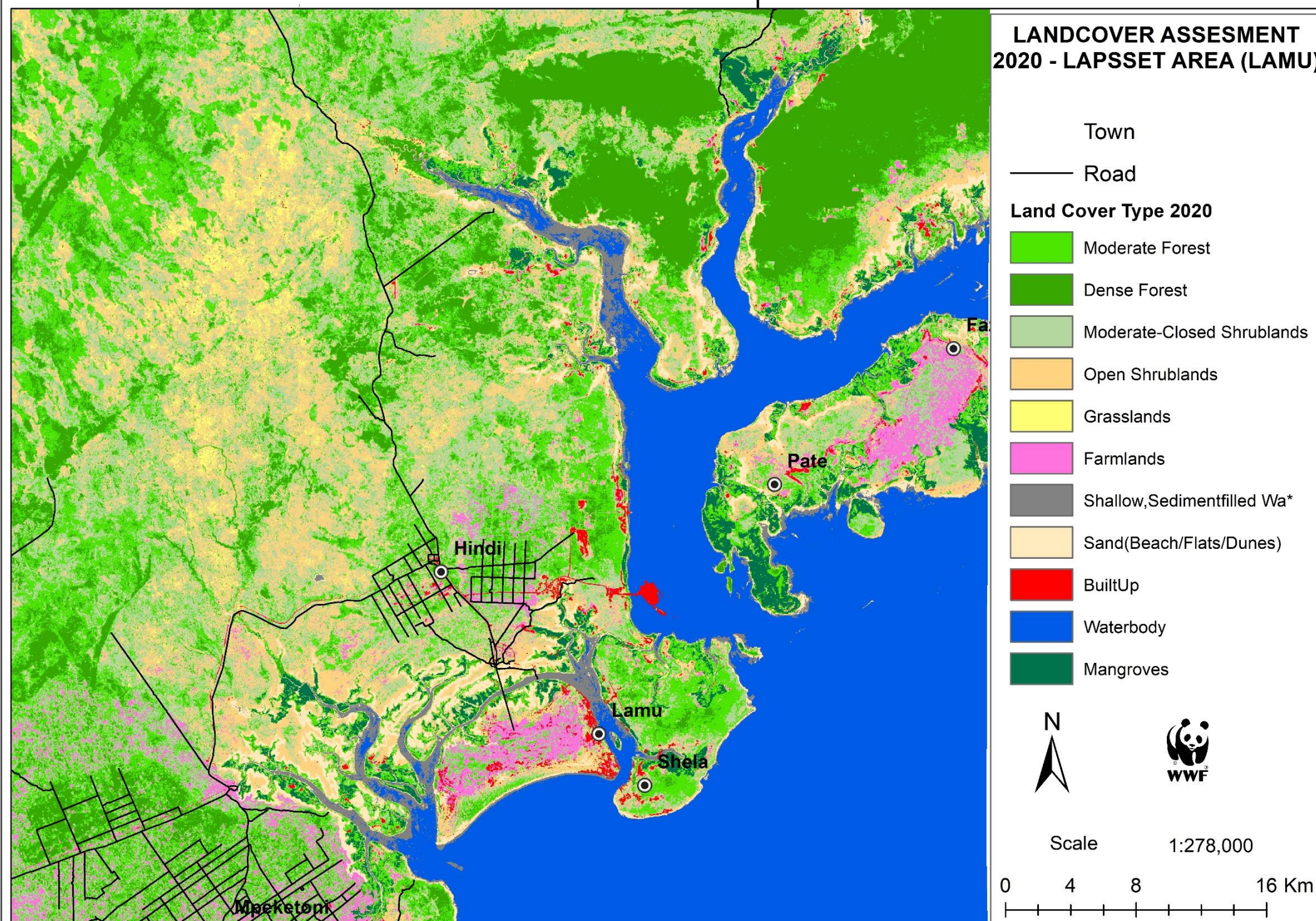
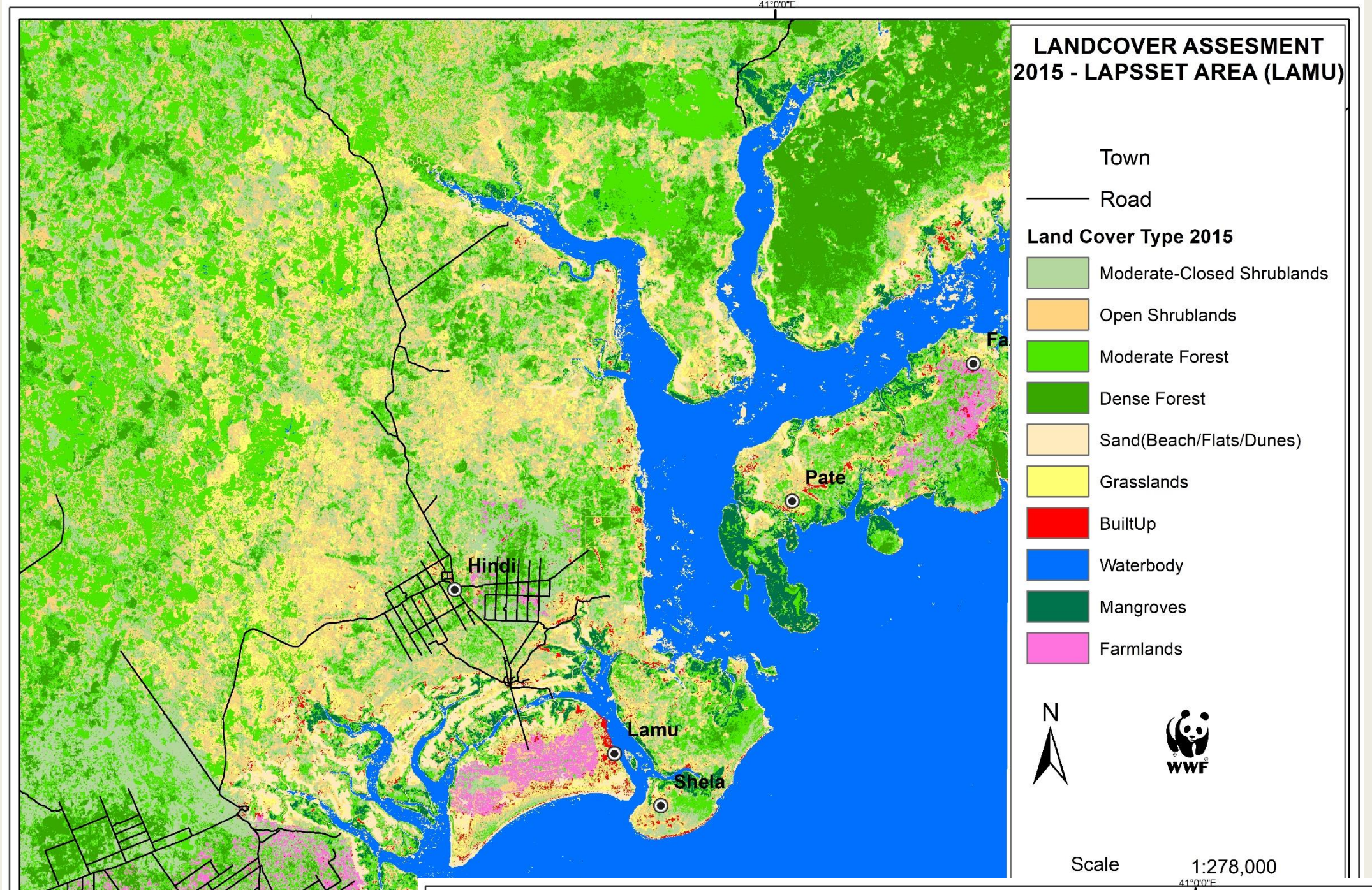
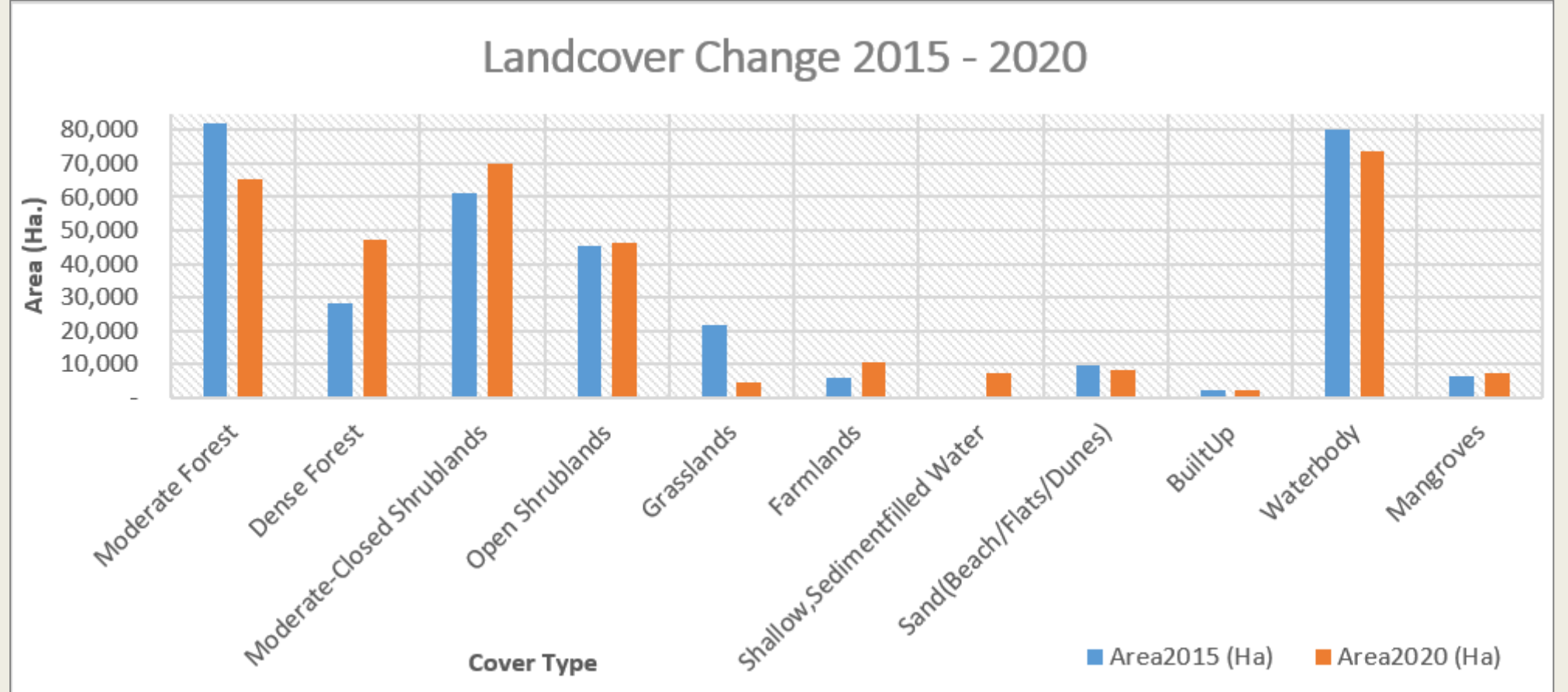




## **4. Impacts of LAPSSET on Land use/Cover (NatCAP) , Land Tenure and Critical Ecologically Significant Areas**



No.	Class	Area2015 (Ha)	Area2020 (Ha)	% Area2015	% Area2020	% change
1	Moderate Forest	81,974.43	65,240.91	23.90	19.0	(4.88)
2	Dense Forest	28,399.77	47,358.81	8.28	13.8	5.53
3	Moderate-Closed Shrublands	61,375.14	70,200.45	17.89	20.5	2.57
4	Open Shrublands	45,403.38	46,337.49	13.24	13.5	0.27
5	Grasslands	21,691.44	4,298.22	6.32	1.3	(5.07)
6	Farmlands	6,009.39	10,737.99	1.75	3.1	1.38
7	Shallow,Sedimentfilled Water	-	7,032.69	-	2.1	2.05
8	Sand(Beach/Flats/Dunes)	9,695.79	8,241.57	2.83	2.4	(0.42)
9	BuiltUp	1,956.78	2,348.01	0.57	0.7	0.11
10	Waterbody	80,152.92	73,927.26	23.37	21.6	(1.81)
11	Mangroves	6,354.09	7,289.73	1.85	2.1	0.27
	<b>Total</b>	<b>343,013.13</b>	<b>343,013.13</b>	<b>100.00</b>	<b>100</b>	<b>-</b>

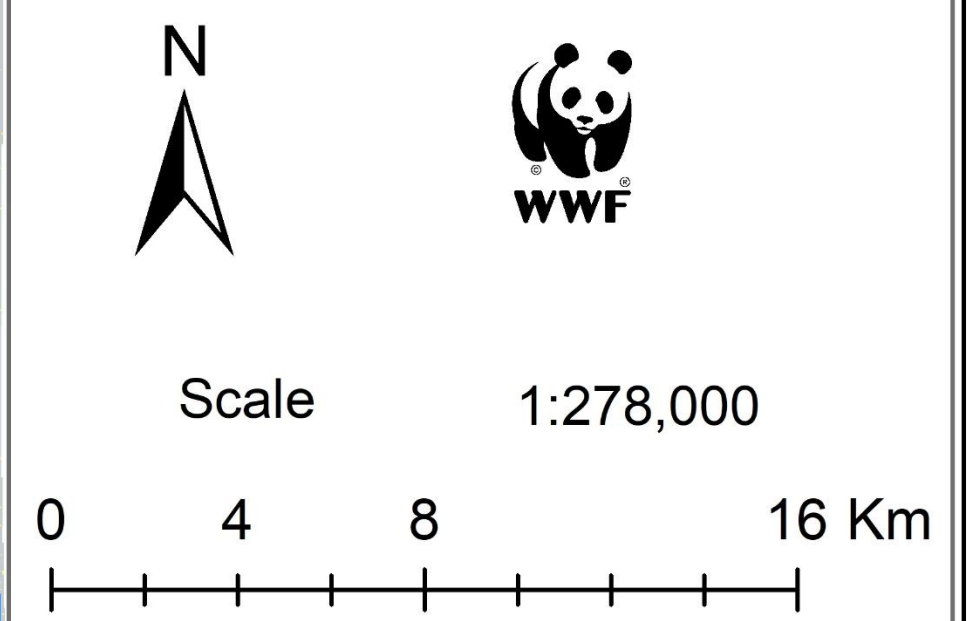
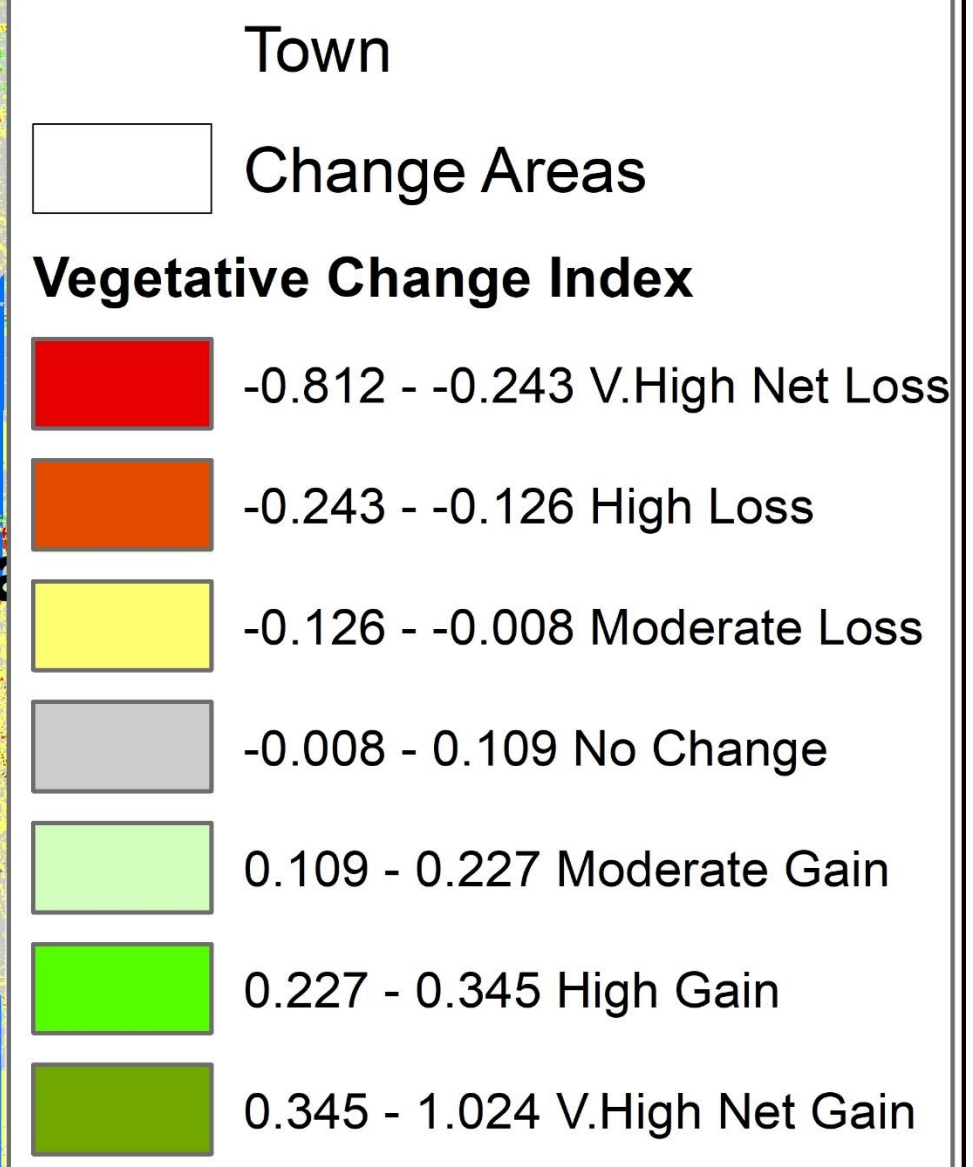


Most changes in natural capital registered in the area directly correlate with LAPSSET activities key among them being:

- ✓ Sedimentation on ocean waters around creeks.
- ✓ Conversion of grasslands, moderate forests and open shrubs to built-up and farmlands



### VEGETATION CHANGE HOTSPOTS MAP (2015 - 2020)



## Key Land use /cover Shifts <=2015 to 2020:

### 1. Conversion to Agriculture

- Moderate Forest, Moderate -Closed Shrublands and open grasslands lost to agriculture.

#### Direct Drivers :LAPSSSET

- ✓ Demand for food due to population influx esp. Hindi, Lamu
- ✓ Access to markets for farm products due to proper road connectivity

### 2. Conversion to Built Up

- Moderate -Closed Shrublands and open grasslands lost to built-up.

#### Direct Drivers :LAPSSSET

- ✓ Construction bloom (Raising demand for Human settlements in Hindi, Road connectivity Hindi to Lamu port, Airport expansion & traffic in Manda)

### 3. Sediment filled waterbody

#### Direct Drivers :LAPSSSET

- ✓ Dredging by LAPSSSET, Land use conversion to agriculture , forest destruction causing large volumes of sand /silt deposits along narrow creeks with low tidal waves

### 4. Forest conversions to Shrublands /Grasslands.

- ✓ Land Fragmentation: Conversion of traditional group ranches to freehold private lands in North West a major contributor to this shift.





**1. Land conversion to agriculture:** there was a significant increase in agricultural land within the study area from approx. 6,000ha in 2015 to around 10,700ha in 2020. This change was noticeable albeit at different scales within the southern zones of the study area from Faza to Mpeketoni through Hindi villages where LAPSSET's primary footprint sits. Comparatively Faza and Mpeketoni regions registered higher agricultural activities over this period, moderate forest, moderate shrublands and open grasslands were the most impacted by this conversion.



*Expansive areas covered by sand flats. Coupled with LAPSSET dredging, such areas around creeks have registered high sediment levels on ocean waters*

**2. Land conversion to built up:** Major land use/cover shifts to built up occurred in the central parts of the study area largely impacting Hindi town towards the sea where the Lamu Port is situated. Key developments in this zone include major road constructions connecting Hindi town as a growth centre and the LAPSSET primary components like the port and Manda airport; other changes relate to the incremental construction of human settlements and transportation infrastructure including Manda airport in Hindi and Lamu towns respectively. These changes directly correlate with LAPSSET developments which have attracted population influx around the LAPSSET project areas for a variety of direct and indirect economic and social development interests.



*Grasslands & Shrublands conversion to agriculture*

**3. Sediment filled/turbid waterbody:** While comparing the 2020 and 2015 land use/cover maps, it became apparent that around 7,000ha covering the central lying creeks surrounding the Lamu island contain sand/silt deposits resulting in higher turbidity and subsequent shallow depths of the fringe waters. While this has been largely attributed to the large-scale dredging commissioned by LAPSSET, other land use conversions in the catchment areas like agriculture might imply high siltation rates. These changes have direct implications on livelihoods such as fishing where fishermen have been forced to migrate to other fishing grounds.



*Growing areas under builtups in Hindi town*

**4. Forest conversion to shrublands and grasslands:** This change is commonly observed in the North western parts of the study area. Majority of these changes have been influenced by the increased land demand in the areas resulting in land tenure conversions in the region where group ranches have been subdivided to freehold private lands resulting in land clearance paving way to human settlements.



*Increasing land under coconut plantation in Faza, Pate*



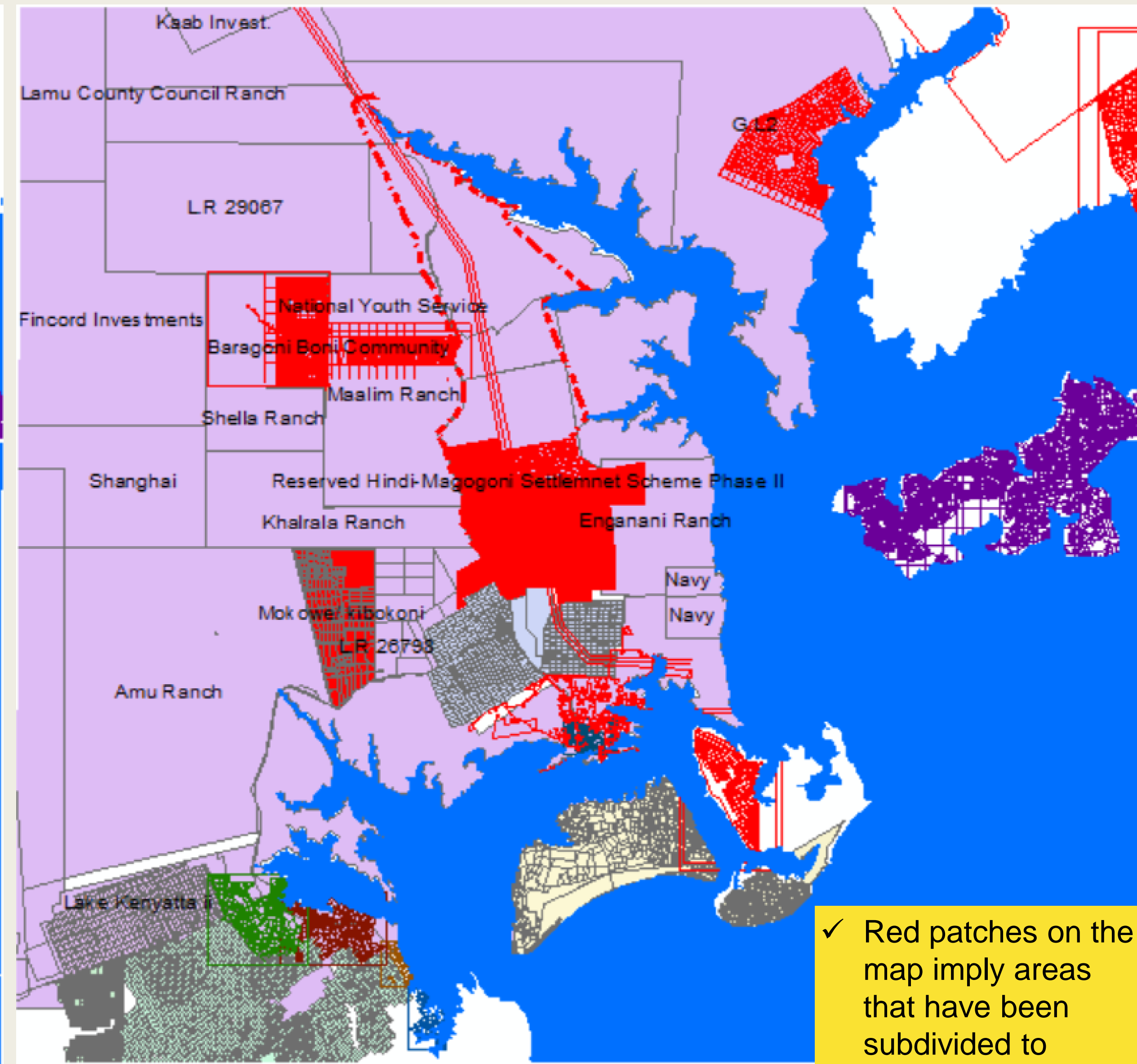
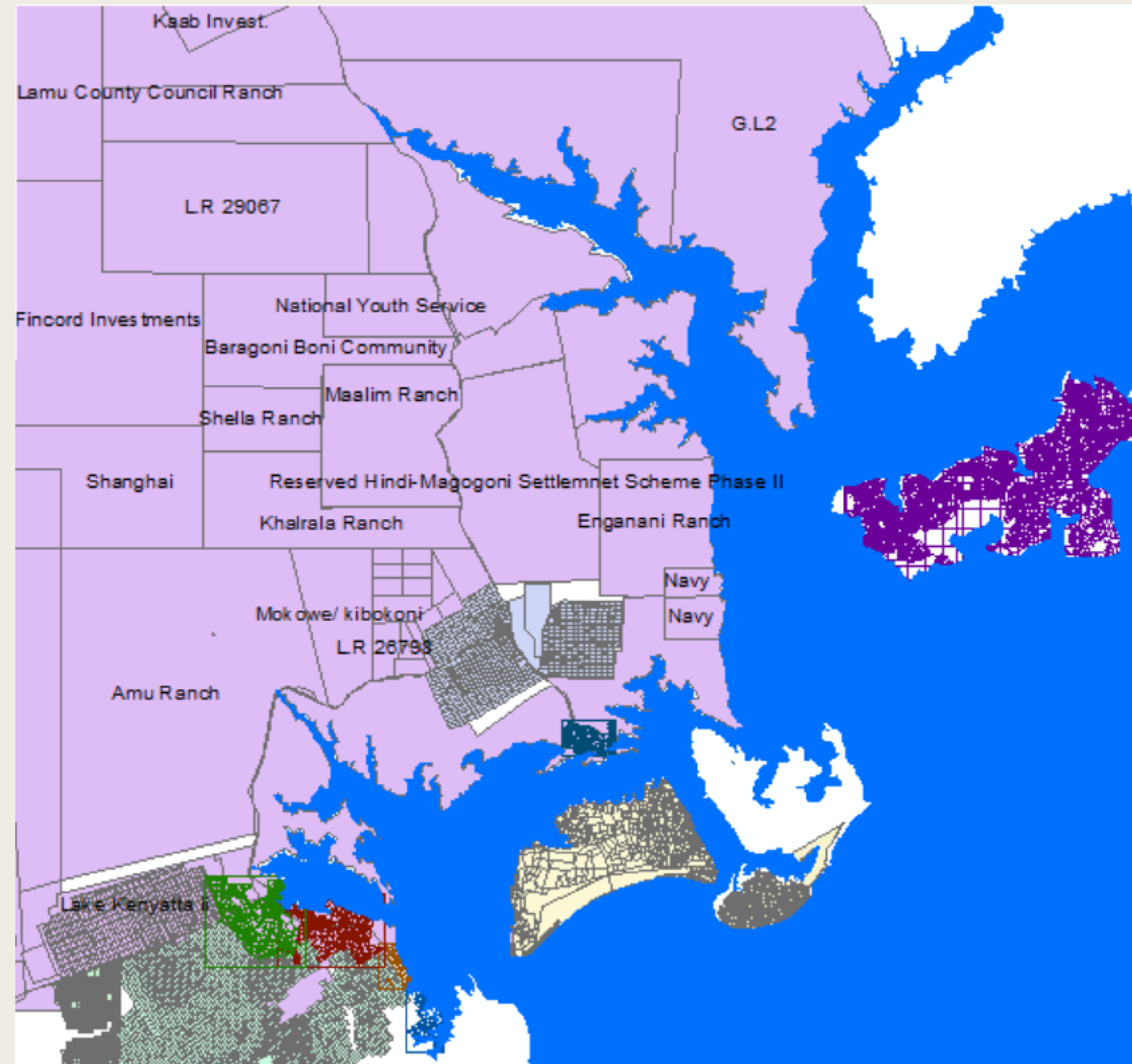
*Expansive lands under agriculture in Mpeketoni regions*



# LAND TENURE

## Scenario 2015

## Scenario 2020

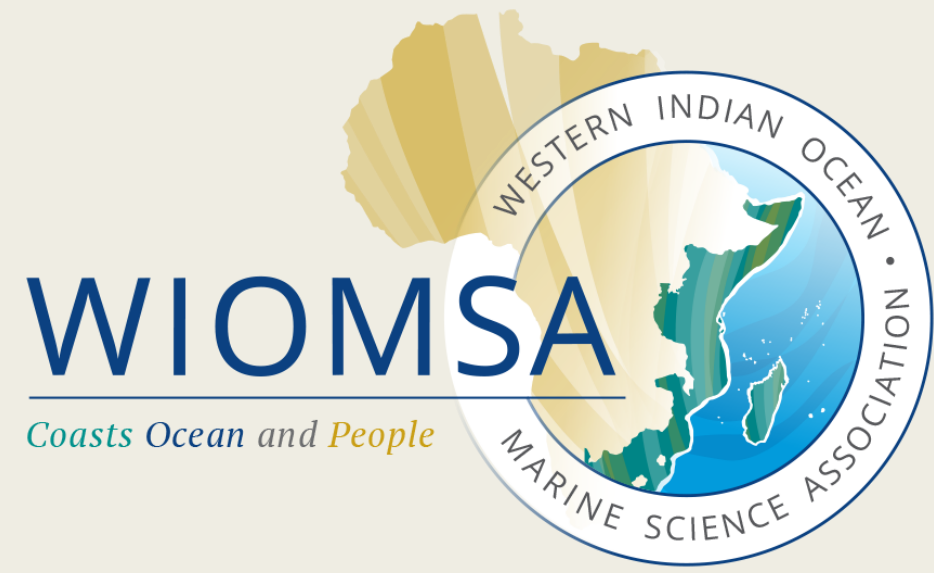


✓ Red patches on the map imply areas that have been subdivided to private land parcels between the period 2015 to 2020

✓ Shifting landownership from traditional community group ranches to private lands especially in rangelands North and west of Hindi(LAPSSET Primary footprint)

✓ Increased value of land in the last 10 years due to LAPSSET  
✓ Land prospection one of the leading factors to tenure change



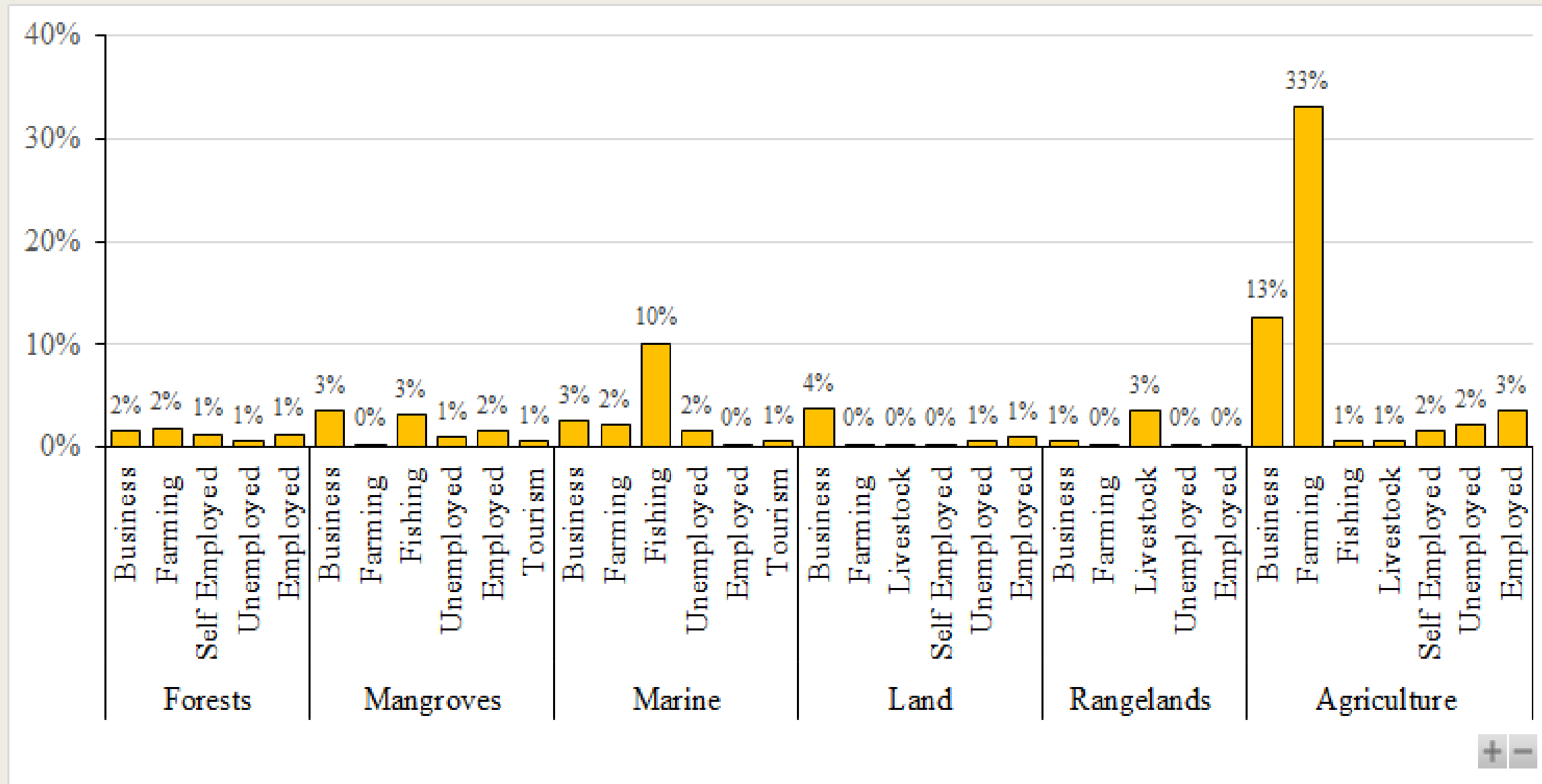


**5. A Socio-economic Assessment of Impacts of LAPSSET Infrastructure Project on Livelihoods in Lamu County, Kenya.**

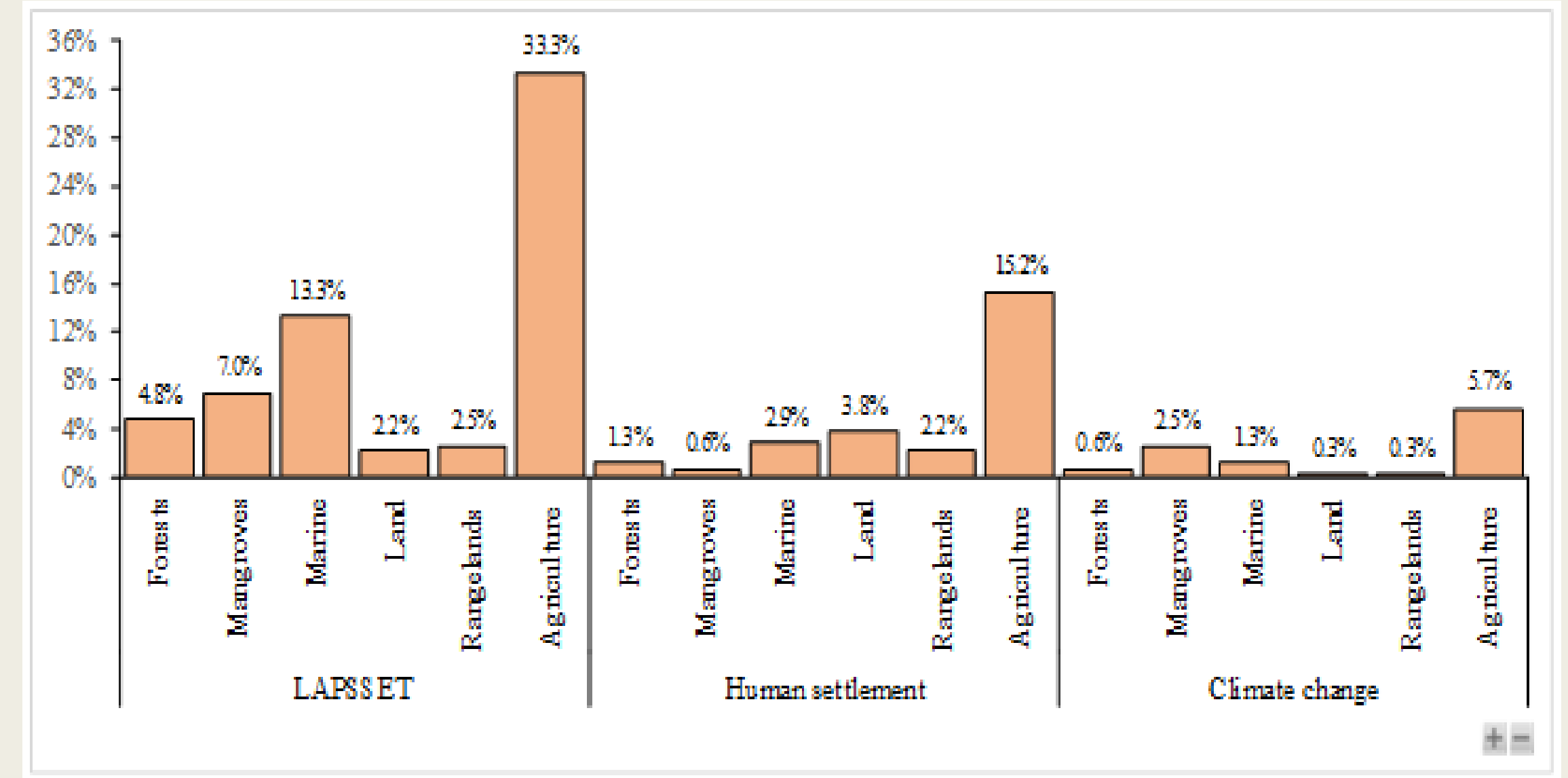


# Key Findings

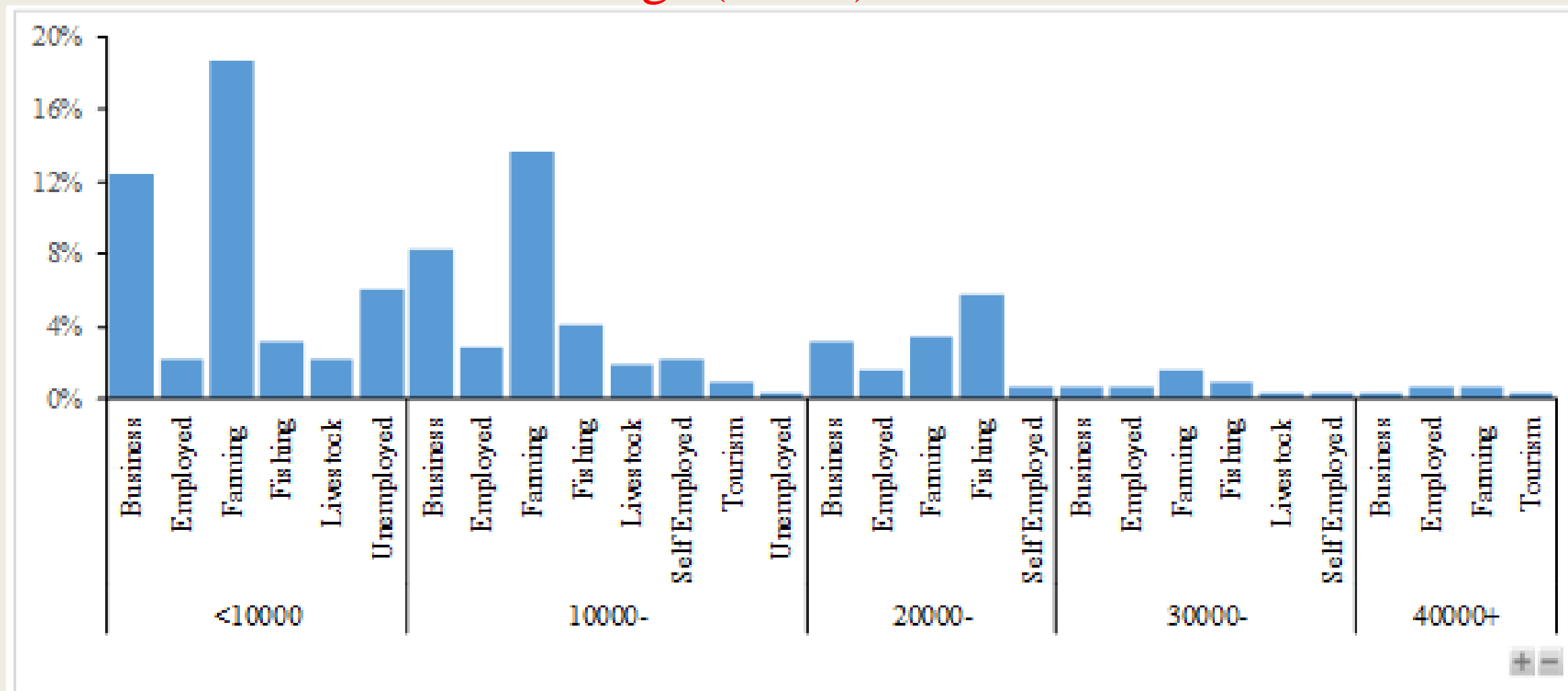
## 1. Livelihood Dependency on NRs



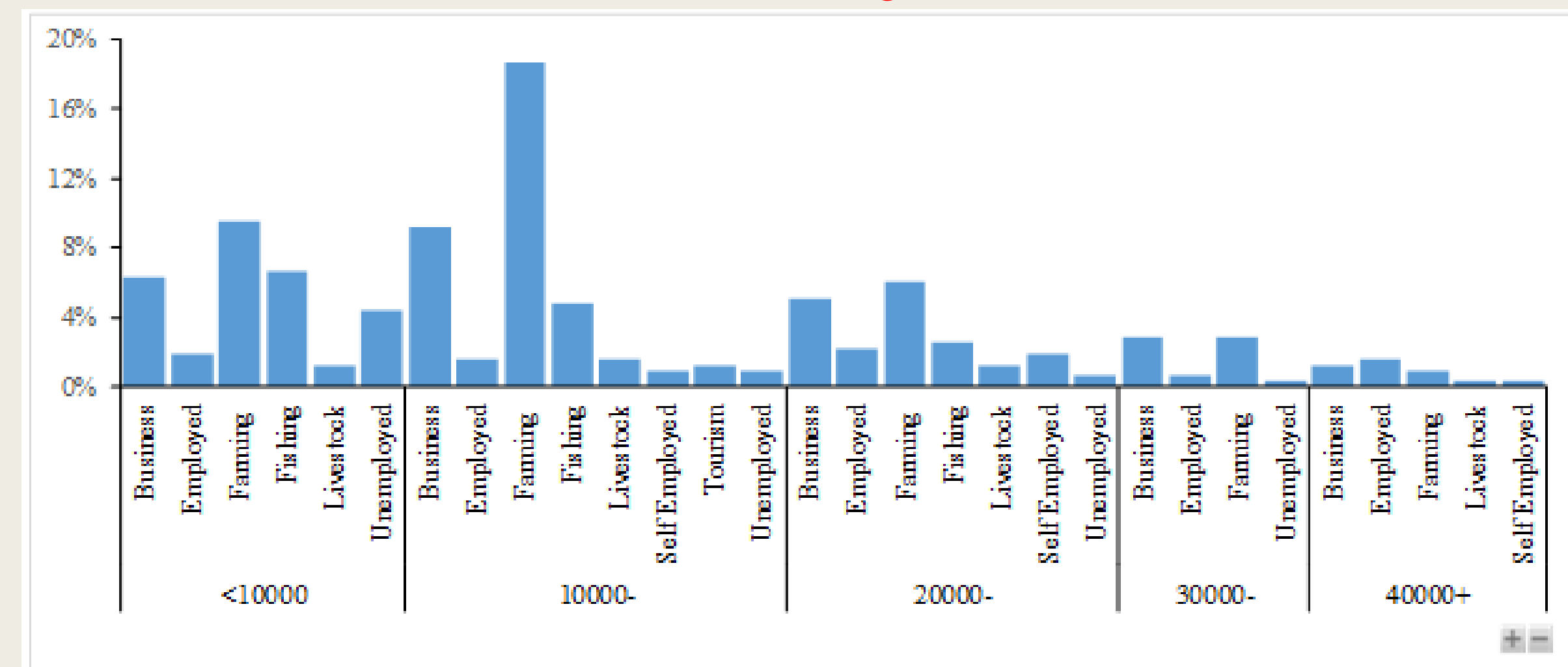
## 2. Current Anthropogenic Pressures to NR



## 3. Pre-LAPSSET Earnings (PAPs)



## 4. Post-LAPSSET Earnings (PAPs)





#### 4. Key Findings....

The following table summarizes the positive and negative impacts of the LAPSSET

<b>Positively</b>	<b>Negatively</b>
<ul style="list-style-type: none"><li>-Creation of employment opportunity</li><li>-Roads expansion</li><li>-Scholarship opportunity</li><li>-Increased rental income</li><li>-Business has expanded due to increased human settlement</li><li>-Better roads to the market has made it easier for me to trade</li><li>-Better infrastructure and enlightenment to locals</li></ul>	<ul style="list-style-type: none"><li>-Decreased fish catch (Fish population has been reduced around the LAPSSET project route due to construction of port)</li><li>Dredging at the sea has disrupted fish (It destroy fishing activities and mangroves)</li><li>-It lower living standard due destruction of fishing activities</li><li>-Fishing areas banned due to port</li><li>-Land loss</li><li>-Agricultural land was destroyed when mining marram for road construction (Agricultural land has been degraded)</li><li>-Resettlement of my relatives and business associates</li><li>-Affected me and most of this area since people left the farms to live in town and it becomes difficult to practice farming because of wild animals due to a large area of bushes</li></ul>

#### **Conclusion and Recommendations**

From the study's findings, there is no doubt that large-scale infrastructure projects affect a variety of stakeholders to very different degrees as argued by Mefalopulos, (2008). The respondents identified many issues that constituted how their livelihood and environment had been impacted by the LAPSSET project. The major impacts included effects on: ecosystems, people's Livelihoods, ecosystem, fisheries activities and challenges they faced as occasioned by the concerned project. This therefore calls for effective 'listening of the variegated voices' in order to build trust between project implementers and PAPs that ultimately would help in reducing the social distance between communicators which ensures smooth exchange of information and feedback and ultimately ensure success of the project. The following sections summarize the key findings as informed by the studies objectives.



# MANDATED INSTITUTIONS' CAPACITY ASSESSMENT-OCA

- Governance and Leadership
- Financial Resources and Management
- Human Resource and Administration
- Information Management
- Equipment and Infrastructure