PROGRESS REPORT ON SOCIOECONOMIC MONITORING IN TANA DELTA STUDY AREA, KENYA



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1.0. Introduction

1.1 Site description

The area is a low-lying plain is located north of the Kenyan coast. It has Kipini as the main rural trading center with a population of approximately 2000 people. The area experiences two monsoon seasons namely southeast monsoon (SEM) and the northeast monsoon (NEM). SEM usually occurs between May-October while the latter occurs between November and April. The Tana delta has mangroves along the main river course between Ozi and Kipini (including large areas with tall Heritiera littoralis - about the only place in Kenya where these are found) and in the tidal delta south of the main river where mangroves (dominated by Avicennia marina, but Rhizophora mucronata, Ceriops tagal, Bruguiera gymnorrhiza, Xylocarpus granatum, Sonneratia alba are also found). Although their numbers have declined considerably, this area is still home to crocodiles, hippopotamus and small numbers of wildlife. People in the study area include communities of agriculturalists and fishermen. All five species of marine turtles occurring in Kenya's waters appear in the World Conservation Union red list and are listed either as endangered or critically endangered, and the Kipini coastal area has been identified as a key nesting area and foraging ground for the rare and threatened sea turtles in Kenya.

1.2. Socioeconomic Monitoring objective

The broad objective of the socioeconomic monitoring programme was to study how the coastal communities use the coastal and marine resources in order to provide information that will be used to improve resource management for sustainability. This is the very first time that KESCOM has conducted such monitoring in the area. Specifically, the study aimed at addressing the following goals:

- 1. Identify resource use pattern and dependence
- 2. Determine the characteristics of resource users
- 3. Establish perceptions and socio-cultural beliefs associated with sea turtles

- 4. Establish the resource users' economic mainstay
- 5. Assess the management capacities of resource users

2.0. Methods used

Three villages were sampled namely, Tesso, Kipini, and Ozi. A total of 95 households were sampled in the survey interviews, while the Key informants totaled 36 persons. The monitoring process was done during NEM season.

Table 1: Shows the variables that were monitored and the methods used

Variables	Methods
1. Demographics	Household level (S), observation
2. Resource Use Patterns	Key Informant Interviews and household
	level (KI, S)
3. Attitudes and Perceptions	Key Informant Interviews (KI) Household
	level (S)
4. Resource Management	Key Informant Interviews (KI), Household
	levels (S)

3.0. Results

3.1. Demographics

Table 2: Demographics

Demographics at household level	Description	Percentage
	>45 yrs	28
Age group	16-25 yrs	6
	26-45 yrs	66
Gender	Male	6
Gender	Female	94
	Christian	14
Religion	Muslim	83
	None	3
	No education	22
Education	Primary level	67
	O level	11

- The average household size of the sampled population is six persons per house
- Only 6% of the household are headed by women
- A majority i.e. 83% of the households are Muslims
- 22% of the household heads have no formal education and only 11% have reached O level education
- Majority of the household heads belong to the age group of 26-45 years
- At household level, 40% of the respondents were Pokomo, who are predominant in Ozi village, 30% were Bajun predominant in Kipini, in Tesso a majority (23%) were Giriama while the remaining 17% were of other ethnic groups such as Somali, Arabs, Barawa, Digo, Kauma, Chonyi, Orma and the Sanye.

Economic mainstays in the area

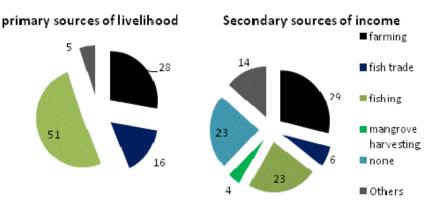


Figure 1: Percentage of individuals engaged in primary and secondary sources of livelihood

Over 50% (half) of the respondents sampled practice fishing as the primary source of livelihoods while a majority of them (29%) engage in farming as a secondary source of livelihood (Fig. 1). However, the amount of crop production is limited to and has remained at subsistence level with main crops including bananas, cassava, maize, mangoes, coconuts and rice. Rice is specifically cultivated in Ozi village, as observed during the fieldwork session. The methods used to exploit the fisheries resources ranged from diving, use of hand lines, long lines, fishing nets, monofilament nets, set nets, fish hooks, shark nets, traps, basket traps e.t.c. 23% of the interviewees solely depend one income generating activity. A small percentage of the people engage in casual labour, formal employment, self-employed activities e.g. small business and tourism related activities (these are presented as 'others' on the graph).

3.2. Customs and traditions related to sea turtles

Turtle oil is traditionally believed to have medicinal value that cures chest-related ailments such as coughs, cold, tuberculosis and asthma. It is also believed to cure ear problems, fever, bilharzia and relieve muscular pains. Turtle eggs are also believed to be a cure for coughs. Turtle meat is considered to have nutritional value and is believed to have a heating effect to the body, apart from being an aphrodisiac and a cure for gonorrhea.

3.3. Resource Management

3.3.1. Stakeholders in the study area

Table 2: List of stakeholders as mentioned by the respondents.

Category	Name
	Fisheries department
Government agencies	Forestry department
	County council
	Kenya Wildlife Service
	Beach Management Units
	Fish traders organization
	Motto fishermen youth groups
Community Based Organizations	Ozi Friends of the Marine Environment
	Tana Friends of the Marine Environment
	Focal Area Development Committee
	Delta Friends of Conservation
	Tana delta Company
	Mangrove harvesters
	Vessel owners
Investors	Fishermen
	Hotels
	Mulikani group
	Fish traders

Forty one percent (41%) of all the household respondents interviewed belonged to one or more stakeholder organizations. Of these 62% were members of the beach management units (BMU) in their respective village while the remaining percentage were members of other community based organizations.

Functions of BMU were highlighted as;

• Monitoring and managing coastal and marine resources

- Managing fishing and fish trade activities for example: registration of members, collection of revenue, conflict resolutions e.t.c
- Awareness creation on sustainable use of resources
- Ensuring compliance of the laid down government laws and regulations

A hundred percent of the community based organizations mentioned were identified as having a formal type of authorization. Three of these organizations were mentioned as those specifically involved in sea turtle and environmental conservation in the area. These are, Tana Friends of the Marine Environment, Ozi friends of the Marine Environment and Delta Friends of Conservation.

A few of the community organizations were said to be involved in alternative income generating activities such as tourism, fish farming and bee keeping. This could have a positive implication on the sustainability of the natural resources, in terms of easing the pressure of exploitation.

3.3.1. Community involvement in management of coastal and marine resources

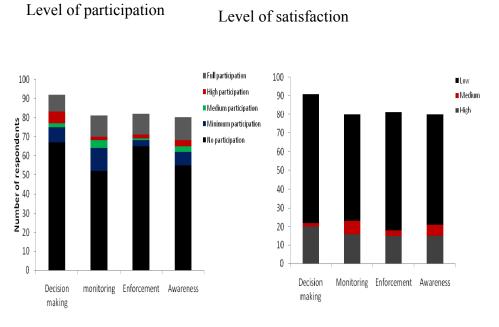


Figure 2: Level of community participation and satisfaction in management of resources

Majority of the individuals interviewed, >50-≤67 said that they are not involved/do not participate in any form of management of the coastal and marine resources. Over 70% of the respondents are totally not satisfied with their level of participation in managing the resources

3.3.3. Awareness and compliance to rules and regulations

140 120 ■ Licencing Numner of respondents ■ Gear laws 100 ■ Minimum fish size 80 ■ BMU laws 60 ■ Protected areas 40 ■ County council laws 20 Fish Traders Fishers Others

Awareness of rules and regulations

Figure 3: Level of awareness of rules and regulations by the different categories of users

A large number of the all the coastal and marine resource users are more conversant with licensing rules in their respective activities (Fig. 3). Fishermen (39 of them) were shown to be quite aware of gear rules such as mesh-size, banned gears.

• Level of compliance to the rules and regulations

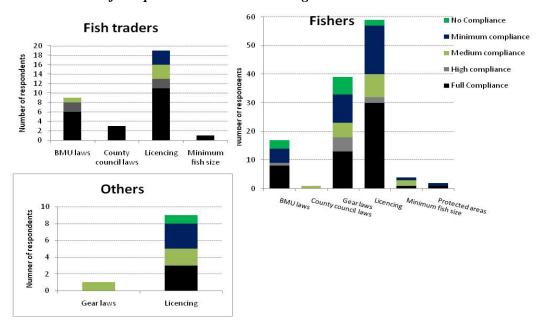


Figure 4: Level of perceived compliance to rules and regulations by different categories of users

Quite a number of all coastal resource users i.e. fish traders, fishermen and others who comprised of mangrove harvesters, conservationists and vessel makers, percieved licencing as fully complied to while a few of the fishermen and other resource users sighted default to the rule. A number of Fish traders and fishermen seemed to agree that BMU and minimum fish size rules are fully adhered to fully.

3.4. Attitudes and perceptions about resource condition

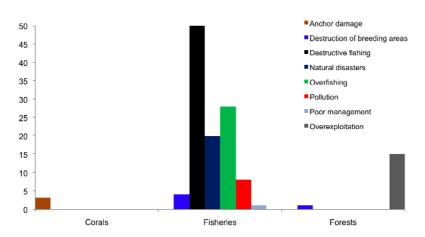


Figure 5: Perceived threats to the coastal and marine resources

A high number of the resource users (>50) percieve the fisheries resource (Fish, prawns, shells, lobsters) condition as being bad (Appendix 2). Further, as illustrated in figure 5 fisheries resources seem to face the greatest number of threats with destructive fishing (illegal gears) cited as the most prevalent threat, and overfishing as the second attributed to beach seines, high number of fishermen and foreign fishers. Climate change, specifically prolonged droughts, was also thought to pose a major threat to the resource. The greatest perceived threat to forests, which include mangroves was said to be overexploitation through presence of many investors in the resource and use of power saw during harvesting. Corals had a single perceived threat which was said to be anchor damage.

4.0. Conclusion/recommendation

It is unfortunate for sea turtles, as their eggs and oil are still perceived as having medicinal value and their meat as food. This could have major implications on their management and conservation in terms of increased chances of direct exploitation through poaching. There is therefore need to create more awareness on the vulnerability of the sea turtles to extinction in a few year to come, if exploitation of their critical populations continues. This can be achieved through emphasis of indirect exploitation of the resources say, through ecotourism as opposed to direct consumption of the resource.

Initiatives of alternative income generating activities in the study area such as beekeeping, fish farming, tourism, weaving though very minimal are a good sign of reduction of pressure of exploitation of the natural resources. More of such initiatives should therefore be encouraged. *Fish farming* in particular should be prioritized since results indicate that the fisheries resource condition is perceived to be bad and believed to face the greatest number of threats, much of which originates from destructive fishing and overfishing. Majority of the people are engaged in fish capture as a primary source of livelihood (over half percent), and a further 23% engaged in the same activity as a secondary source of livelihood. This means that there is a lot of dependence on the fishery, hence the need ease pressure on the already dwindling wild fish stocks. Bee keeping within the available mangroves should be explored as an alternative income generating activity, to reduce the already existing pressure on the resource as seen in the results, where overexploitation was singled out as the major threat to the mangroves.

A few fishermen and other resource users believe that there are a number of defiant to the licensing, BMU and gear rules. Furthers, results indicate that a large proportion of the community do not participate in any form of management (decision making, monitoring, enforcement and awareness) and a high number are not satisfied with their level of participation. It is therefore recommended that more community involvement in management of coastal and marine resources be done to ensure sustainable resource use and could also go a long way in reducing the number of individuals who defy the rules.

5.0. Lessons learnt

For collection of quality data/information, the community local leaders should be involved at all levels of the monitoring process. This gives them confidence and a sense of ownership in the research being conducted in their area ensuring a smooth monitoring process as was the case for the Tana delta monitoring. Interpretation of the field guides to local languages should be done in the presence of the enumerators to avoid ambiguity of the terms.

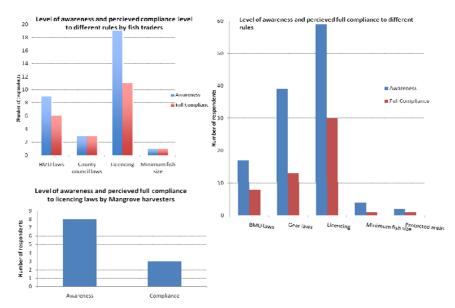
A major challenge that was experienced during the field work was failure to get the target sample size of the respondents (in Tesso village) which was suggested during the planning stage. This was due to the fact that the actual target population was quite low in the area. Accurate population sizes should therefore be established prior to choosing a site/village in which to conduct surveys.

6.0. Communication strategy

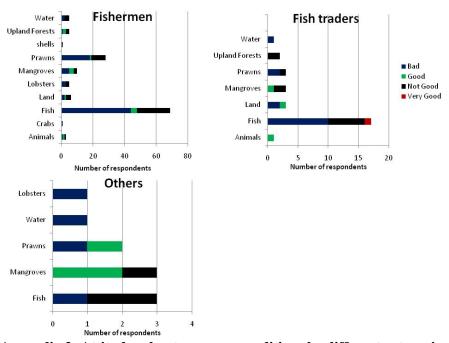
Objective for SocMon	Who needs to be informed of <i>SocMon</i> findings and their implication for planning, management, policy?	change or not?	What is the best media to use?	Resources required?
Determine the degree of dependence on the marine resource	the community, esp resource users -the MoF -policy makers -research agents in the area -KWS	-ease pressure on the resource	-video films on causes & effects of degraded reefs, mangroves, and dangers of overfishing in the sustainability of the resource -reports	-T.V sets -Video machine -DVD -CDs -Funds
		-to do more education and awareness meetings	-Use the local radio station to air this information -more public meetings -technical reports -newsletter	-personnel to contribute and edit articles -funds
		-encourage non- marine based alternative income generating activities	-newsletter -blog	-personnel to contribute and edit articles -funds
		-Sensitization of resource users on sustainable use of resources	-field extension workers to sensitize the users -reports	- more extension workers
Resource use patterns –how the communities use the resources	-resource users -policy makers -MoF -research agents in the area	-zoning – each gear its place	benefits of closed seasons/zoning -reports	-T.V sets -Video machine -DVD -CDs -funds
		- more sensitization to resource users, and the whole community	-field extension workers to sensitize the users -reports	T.V sets Video machine -DVD -CDs

		-Community		-fund
		participation in		-recruitment of more and
		resource		adequate field staff
		management		
Attitudes and	-the resource users	-promote use of	-Video films on	-T.V sets
perceptions	-MoF	non-destructive gear	effects of known	Video machine
(resource condition,	-local administration		destructive gear	-DVD
compliance		-MoF to enhance		-CDs
		surveillance	-Feedback	
			research findings	
			on this	
			-MoF extension	
			workers be given	
			powers to arrest	
			law breakers	
			-reports	

7.0. Appendices



Appendix 1: Graph of level of awareness and perceived compliance to different rules



Appendix 2: Attitudes about resource conditions by different categories of users

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Appendix 3: Site photos of Tana delta study area



A survey interview session



Sea turtle monitoring at Kipini coastal area



A key respondent displays his fishing gear



Banana plantation along the Tana River bank



A fishing vessel (boat) at the Kipini beach



Potential non-marine alternative income generating weaving artifact in Ozi village

Appendix 4: Field guides used during the field sessions

a) SocMon Survey guide

Tarehe:	•••••	Nambari	ya fomu
Eneo:	•••••		
Jina la anayehoji:	•••••		
Jina la mhojiwa:	•••••	Shughuli ya mhojiv	va
shirika lisilo la kiserik yake.Tuko/niko hapa k wajibu wetu wa ulinzi utakazotoa hapa zitati mazingira. Tunaamini	Utangtu/natoka kali, linalojiushisha na wa minajili ya kukusan wa mazingira kwa ush umika tu, katika utafiti kuwa habari utakazotu mjadala tutakaokuwa k	katika shirika la KES o uhifadhi wa kasa pam nya takwimu ambazo z irikiano na jamii ya en wetu na kuimarisha ju upatia ni za kweli na k	oja na mazingira zitatusaidia kutekeleza neo hili. Habari zozote zhudi za kuhifadhi
	Mas	wali	
S12. Tambua shug inajishughulisha nazo.	huli kuu za pwani	na baharini amb	azo kaya/jamii yako
S13. Ni bidhaa au hu pwani na baharini?	ıduma zipi muhimu zi	nazozalishwa kutoka	na na shughuli hizi za
S14. Ni mbinu zipi hu	tumika kupata bidhaa a	u huduma zilizotajwa	. S13
S15.Taja masoko leng	wa ya bidhaa au hudur	na zilizotajwa katika S	513
S12 – 15: Shughuli,	Bidhaa na huduma, M hudi		ngwa kwa bidhaa na
S12 - Shughuli za pwani na baharini	S13 - Bidhaa au huhuma za pwani na baharini	S14- Mbinu/Njia	S15 - Soko lengwa la bidhaa au huduma

rasilimali za	kipimo cha 1 mpaka 5, ni kwa kiasi pwani? (kipimo 1-hakuna ushirikishw kati,4- juu kidogo 5- ushirikishwaji kikamil	raji, 2- wanashirikishwa kid	
UpereKuong	maamuziembajiegeza ufahamusheria/Kushika doria		
K17b. Kwa	kipimo cha 1 mpaka 3 (1 = Chini, 2 = a na kiwango chako cha ushirikishwa		_
UpereKuon	maamuzi mbaji		
S18a. Je, kur la wadau?	na mmoja kutoka kaya/jamii yako amb	aye ni mwanachama wa s	hirika lolote
	— ndio, yuko katika shirika lipi? , nia raslimali zipi za pwani na bahari ki		
S19b. Unawo ukitumia kip	ezaje kuelezea hali ya sasa ya kila moj imo cha: <i>Nzuri sana (5), Nzuri (4), S</i>	a ya raslimali zilizotajwa	
Mbaya sana	(1)		
	Raslimali	Hali ya sasa	
			_
			- -

S20. Ni matishio gani makubwa kwa afya ya	rasilimali za pwani zilizotajwa S19a.
1	
2	
3	
4	
S21. Hapo awali ulizitaja shughuli za pwan (angalia S12). Je, kuna sheria na kanuni zina	i na baharini unazojishughulisha nazo kama
	o 1-hakuna utiifu, 2- utiifu kidogo, 3. kwa amilifu), ni kwa kiasi gani watu wamekuwa
S24a. Mbali na matishio uliyoyataja, una usimamizi wa raslimali za pwani?	ona ni yapi matatizo makuu yanayokabili
S24b. Unaona ni nini suluhisho kwa matatizo	o haya yaliyotajwa katika S24a?
Matatizo makuu	Suluhisho

************	rı yamet	fanyika vizu	ırı?				
~~~			<u> </u>				
			uhimu ulizozitaja umuhimu katika	-	` •	/ *	zipi za
			2	-	` •	/ *	zipi za
			2	-	` •	/ *	zipi za
			2	-	` •	/ *	zipi za
pwani i	na bahar		2	-	` •	/ *	zipi za
	na bahar		2	-	` •	/ *	zipi za
pwani i	na bahar		2	-	` •	/ *	Zipi za  Chanzo ch cha mapato(S1

Watu wa familia*(S8) tambua watu wote wanaoishi katika familia kwa majukumu(mfano mtoto, mama, shangazi, mjomba)	Taja ida Chini ya miaka 15	adi ya wali Zaidi ya miaka 16	Wake	Waume	Idadi ya watu ambo kiwango cha juu cha elimu kilichofikiwa ni (uliza tu kama ni miaka>16) (S5) ilivyoelezwa kwenye S2				
					Hajasoma	Darasa 1-4	Darasa 4-8	Shule ya upili	Chuo

baba au mama)

nzima)

# b) SocMon Key Informant guide

Tarehe:	
Eneo:	
Jina la anayehoji:	
Jina la mhojiwa:	
Shughuli ya mhojiwa:	
Utangulizi;	
Mimi/sisi nitu/natoka katika shirika la <b>KESCOM</b> ambalo ni shirika lisilo la kierikali linalojiushisha na uhifadhi wa kasa pamoja na mazingira yake.Tuko/niko hapa kwa minajili ya kukusanya takwimu ambazo zitatusaidia kutekeleza wajibu wetu wa ulinzi wa mazingira pamoja kwa ushirikiano wenu na jamii ya eneo hili. Kwa vile wewe una ushawishi, ujuzi na ufahamu mwingi katika jamii hii, umechaguliwa kutoa habari muhimu tunazozilenga. Habari zozote utakazotoa hapa siri zitatumika katika utafiti wetu na kuimarisha mazinira na wala sio kwa madhumuni mengine. Tunaamini kuwa habari utakazotupatia ni za kweli na kuaminika.Naomba ushirikiano wako kwa mjadala tutakaokuwa nao.	
<u>Maswali</u>	
K18: Ni shughuli zipi za pwani ambao watu wa eneo hili hutekeleza ili kujipatia mapato na kujikimu kimaisha?	
K18-Shughuli za pwani na baharini	

- K19. Ni bidhaa au huduma tatu muhimu zipi hupatikana kutokana na shughuli hizi za pwani?
- K20. Ni mbinu zipi hutumika katika kupata bidhaa au huduma zilizotajwa awali (K19a)?
- K21. Kwa mujibu wa bidhaa au huduma zilizotajwa katika K19a, thamani yake ni ipi ukizingatia mahitaji na bei (Chini, Kadri, Juu)
- K22. Soko la msingi (la kwanza) ni lipi kwa bidhaa na huduma zilizotajwa

K18-Shughuli za pwani na baharini	K19 - Bidhaa na huduma za pwani na baharini	K20 Njia/Mbinu (za msingi)	K21 -Thamani ya bidhaa au huduma	K22 -Soko lengwa la bidhaa na huduma (la msingi)
_				

K24a. Kadiria kiwango cha matumizi ya shughuli za pwani na watu wa nje, *Watu wa nje ikimaanisha watu wasio wakaazi wa Kipini, Ozi au Tozi. (Chini, Kadri, Juu)

K24b. Je, wengi wa watu hao wa nje, ni wakutoka wapi?

K18-Shughuli za pwani na baharini	K20a, K20b - Njia/Mbinu (za msingi)	K24a-Kiwango cha matumizi na watu wa nje	K24b - Asili ya wageni wanaotumia rasilimali

K25a. Taja aina za athari zinazotokana na shughuli	
ya	(Orodhesha shughuli moja
kwa nyingine kulingana na K18 iliyotajwa mbeleni) ky	wa kasa.
K25b. Kadiria athari ya shughuli ya	
(Orodhesha shughuli moja kwa nyingine kulingana na	a K18 iliyotajwa mbeleni).kwa kasa.
(Chini, Kati, Juu, Hakuna)	

K18-25. Shughuli, mbinu,njia, utaratibu wa matumizi, viwango na aina na viwango vya.

K18-Shughuli za pwani na baharini (Orodhesha shughuli moja kwa nyingine kulingana na K18 iliyotajwa mbeleni).	K20 Njia/Mbinu (za msingi)	K25a Aina ya athari (za msingi)	K25b Kiwango cha athari

K33c. Elezea mila na desturi zinazohusiana na shughuli za pwani zilizotajwa K18?

K33d. Ni kwa kiwango kipi ambacho sheria na kanuni zinazohusiana na mila na desturi zilizotajwa zimezingatiwa? ( kipimo 1-hakuna uzingatiaji, 2- uzingatiaji kidogo, 3. kwa kiwango cha kati,4- juu kidogo 5- uzingatiaji kikamilifu)

K33. Sheria za umilikaji zisizo rasmi, Mila na desturi

K18-Shughuli za pwani*	K33a. umilikaji na utaratibu usio rasmi	K33b Kiwango cha kuzingatia utaratibu usio rasmi	K33c. Mila na desturi zinazohusiana na shughuli za pwani	K33d. Kiwango cha uzingatiaji wa mila na desturi zinazohusiana na shughuli za pwani

K33e. Eleza baadhi ya kanuni na tamaduni zinazohusiana na kasa.					
K2. Tambua makundi K18.	matatu	ı makuu ya wada	au kwa kila shu	ghuli ya	pwani iliyotajwa
		K2: W	^T adau		
K18-Shughuli za pwani	Kundi la wadau 1		Kundi la wadau 2		Kundi la wadau 3
K34. Kama jamii, kuna vivutio ambavyo wadau waliotajwa wanapata au wanapatia jamii ili kuoengeza faida ya uhifadhi au ushiriki katika usimamizi wa raslimali za pwani na baharini?(Hazina ya jamii, mikopo midogo)					
K34. Vivutio kwa jamii					
Kundi la wadau(K2)	Aina ya motisha/vivutio Wanapata au wanapatia jan faida		ata au wanapatia jamii		
		<del> </del>		1	

K35. Katika usimamizi na utekelezaji wa shughuli za pwani, je, wadau waliotajwa wanashirikishwa kwa kiwango kipi?( kipimo 1-hakuna ushirikishwaji, 2- wanashirikishwa kidogo, 3. kwa kiwango cha kati,4- juu kidogo 5- ushirikishwaji kikamilifu)

# K35: Ushirikishwaji na kuridhika kwa wadau

K2-Kundi la wadau*	K35a-Ushirikishwaji wa wadau (1 mpaka 5)**	
*tengeneza orodha kulingana na makundi ya wadau yaliyotambuliwa katika wadau (K2) **( kipimo 1-hakuna ushirikishwaji, 2- wanashirikishwa kidogo, 3. kwa kiwango cha kati,4- juu kidogo 5- ushirikishwaji kikamilifu)		

K36a. Ni mashirika yapi ya kijamii yanayofanya kazi katika eneo hili?

K36b. Je, mashirika hayo ni rasmi au si rasmi?

K36c. Mashirika haya yaliyotajwa yanajihusisha na nini haswa?

K36: Mashirika ya kijamii na ya wadau

K36a - Mashirika ya kijamii	K36b -Rasmi au si rasmi	K36c -Kazi zake kuu

(Orodhesha shughul	li moja kwa nyingine kulingana na K18 iliyotajwa			
	na gani, na nani anayeruhusiwa kufanya shughuli			
K37b. Ni nani (shughuli, umri, jinsia) mwingine ambaye lazima ashauriwe ili shughuli iweze kufanyika, kupanuliwa, au kubadilishwa?				
K. 37: Ng	guvu na ushawishi			
K18- Shughuli za pwani*	K37a -Mashirika/watu binafsi ambao wanafanya maamuzi			
1.				
2.				
3.				
J.				
4.				
5.				

K37a. Orodhesha mashirika au watu binafsi wanaohusika katika kutoa maamuzi juu ya

shughuli_