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A COMPREHENSIVE PUBLIC-PRIVATE PARTNERSHIP CONCEPT FOR RESOURCES SUSTAINABILITY FROM A MEGA-PROJECT MANAGEMENT MULTI-LEVEL PERSPECTIVE

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ABSTRACT

This paper outlines an effective and comprehensive public-private partnership approach that has the potential to enhance natural resource management (NRM) and improve access to essential community services (CS). The paper is based on the institutional and resource-dependency theories on the management of Kenya Coastal Development Project (KCDP) community development fund (Known in Swahili as Hazina ya Maendeleo ya Pwani, HMP), financed by Kenya Government through a loan from the World Bank at the Kenya coast. The HMP fund targets CS and NRM sub projects implemented by communities in the six coastal counties. To ensure sustainability of HMP financed sub projects, the framework involved strategic planning, system design, finance usage, implementation, and connection of theory and practice based on research and interpretation. KCDP data on HMP financed community projects implemented since 2013-2015 was used in the evaluation of project performance. Counties with enhanced security, and improved socio-economic status benefit the most in the project. The coastal communities were more willing-to-contribute towards implementation of CS than NRM projects due to consumptive nature attached to the former in the short term. Gender parity in the HMP participation occurred, attracting more women than men. By careful designation of the project management framework, sustainable management of natural resources and access to most immediate needs, considered crucial by coastal residents are highly likely to be met.

Keywords: HMP, Public-private partnership, Community service, Natural resource management, Sustainability, Kenya coast.

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Contribution/ Originality

This study documents and discusses a comprehensive public-private partnership approach for resource mobilization and capacity building towards sustainable delivery of essential social and ecosystem services for improved wellbeing of the communities along the Kenya coast.

1. INTRODUCTION

Over 60 per cent of the total population of Sub-Saharan African coastal states live within 100 km of the coastline and derive their livelihood from the coastal and marine environment (UNEP, 2012). Heightened competition for resources, which has been influenced by societal dynamics and neoliberal economic policies, has increased the rate of exploitation of resources, thereby challenging their management effectiveness. For example, intensification in coastal infrastructural development and economic investment along the coast, are impinging on both fragile ecosystems and human livelihood sources. Such aspects prompt the need for community service (CS) and natural resource management (NRM) projects to achieve environmental sustainability and enterprise development. Additionally, a larger social issue concerns institutional challenges (UNEP, 2006). Management institutions are unable to address compliance, while skills and technological developments in the region, which may otherwise permit improvement of public attitudes towards conservation, are inadequate for enterprise sustainable development. Furthermore, management initiatives to conserve coastal biodiversity have been eroded with societal dynamism, exclusion of coastal communities, population growth, materialism and the proliferation of new value systems regarding resources (World Bank, 2012).

The diversified livelihood patterns of coastal communities are hampered by environmental problems such as declining resource base, competition, poor resource extraction methods amongst others. This is because, with different types of stakeholders (the stakeholder theory), it is not uncommon to find that one group of stakeholders are made better off at the detriment of another group of stakeholders of a given resource (Fadare, 2013). Through the rights they ascribe access, stakeholders have ownership and use of resources based on membership of the local community (Sunde and Isaacs, 2008). On the other hand, all organizations, whether public or private, rely on resources from their environment as well as acceptance of the societies in which they operate to generate societal benefit i.e. the resource and institutional dependency theories (Sheppard, 1995; Hatch, 2013). These rights also entail management obligations to reinforce or sanctify institutions established for resource conservation, and how participatory conservation processes can serve to reinvigorate local customs, becoming instrumental in maintaining biodiversity and environmental sustainability and management. As a result, the viability of many of these activities to sustain households is leading to overexploitation of the most accessible resources (UNEP, 2006). Rapid population growth is an intervening variable, population densities are increasing at a rapid rate in the coastal zone of the Western Indian Ocean region (UNEP, 2011; World Bank, 2012).

Globally, there have been several projects in different coastal communities that are funded by different donors to address the aforementioned. Yet, the choice of a project to implement and the preferred beneficiaries has institutional, stakeholder and resource dependencies. Additionally, most of the projects lack sustainability aspects to ensure continuity and better practice of preservation (i.e. enterprise development) and conservation. However, Fazey *et al.* (2014) noted that simply creating and accumulating more knowledge does not necessarily translate into better practice for management. With improved accessibility to several research reports globally, little information is available in many developing countries on strategic interaction between funded project managers, stakeholders, and beneficiaries. Such a framework of interaction is referred herein as public-private partnership concept. Strategic interaction could form a better project model approach and analyses of the project performance to be accessed by marginalized groups in the society. This is of crucial importance to the generation of evidence informed policy and practice relating to management in the coastal areas (Rudd, 2011; Stanhope and Dunn, 2011; Geyer, 2012).

Though there exist several performance reports, many of them are based on questionnaires and interviews that assess the project based on beneficiaries' perceptions without the consideration of both public and private institutions involvement. Measuring project performance using such indicators by project managers and management scholars may be biased based on wrong local perceptions of victimization in cases of future anticipation of consideration for future funding due to high illiteracy levels and poor exposure. Thus, the extent to which knowledge generated through research and project implementation is likely to inform policy and practice depends on its relevance, legitimacy and accessibility (Pullin *et al.*, 2004; Contandriopoulos *et al.*, 2010; Stringer and Dougill, 2013) among all the stakeholders. In the long run, these aspects in turn depend on how knowledge is produced, shared with and between those who might use it, translated and/or transformed as it is shared, and the social context in which people learn about new knowledge (Reed *et al.*, 2009).

Therefore, the current study aims to provide insights into community development fund (Known in Swahili as *Hazina ya Maendeleo ya Pwani*, HMP), under the Kenya Coastal Development Project (KCDP) which is a multi-sectoral development project financed by the World Bank and the Global Environmental Facility - GEF (www.kcdp.co.ke/en/hazina-ya-maendeleo-ya-pwani-hmp. Through a *comprehensive public-private partnership approach, HMP seeks to enhance natural resource management (NRM) and improve access to essential community services (CS)* through engagement of Community Based Organizations (CBOs).). The model takes a participatory approach in which the target communities are involved from the preparation of HMP project concept to the development of full proposal and implementation. Using HMP data rather than interviews and questionnaires from project participants, this paper aims at highlighting the model approach used to offer effective and comprehensive management of mega-projects for management scholars. The inclusion of the project results herein are meant to

determine the main opportunities available, describe successes and challenges, and identify knowledge gaps using data from the management secretariat. The findings could also serve as a case study of project management for environmental and societal development in achieving sub-projects sustainability. In doing so, with effective and comprehensive mega-project public-private partnership model, this paper set out to assess variables of the project management as hypotheses for evaluation. They include (i) socio-economic status of a region do not influence project output, (ii) there is minimal variation in gender participation in the project implementation and management, (iii) environmental protection and management (NRM) projects are more preferred than community service (CS) projects in the developing nations, (iv) water supply projects for coastal residents are less preferred based on the proximity to the ocean, and (v) amount awarded by mega-projects is independent of amount requested and that which is contributed by beneficiaries. This is because very few authors have attempted to provide conceptual sets of critical success factors (CSFs) in the existing projects and even fewer empirical studies have attempted to explore the relationship between CSFs and project successes in development (e.g. (Khang and Moe, 2008)) for further usage. This study is significant for management researchers and scholars, donors, project supervisors and for national project coordinators and their project teams because its findings, if incorporated into different global training programs, may not only lead to promotion of socio-economic status of marginalized communities in different parts of the world, but also in the conservation, protection, and management of the environment.

2. METHODS

2.1. Case Study Area

Six Kenyan coastal counties involved in the project included Lamu, Tana River, Kilifi, Mombasa, Kwale and Taita Taveta (Figure 1). Like any other developing nation, the human population in the counties have in general low income, and as such a large fraction of the population is dependent on coastal and marine resources and ecosystem services. The biodiversity of these systems is thus under direct and indirect pressures through resource exploitation and anthropogenically-driven habitat degradation. There is very high rate of population growth and urbanization. Invariably many of the coastal communities rely on the ocean for their economic, social and cultural security (UNEP, 2015).

Such areas are ideal for increased funding opportunities for research and case study scenarios, especially targeting knowledge gaps such as the continental shelf and the deep ocean, conservation areas, resilience and habitat restoration and rehabilitation, but also aiming to increase the level of management processes. Another recommendation for the short-term is the establishment of comprehensive monitoring schemes for the coastal environment, while in the longer term there is a need of a progressively better integration of regional policies and the promotion of cross-sectorial linkages, allowing for more coherent approaches to ecosystem management and trans-boundary issues that are discussed herein.

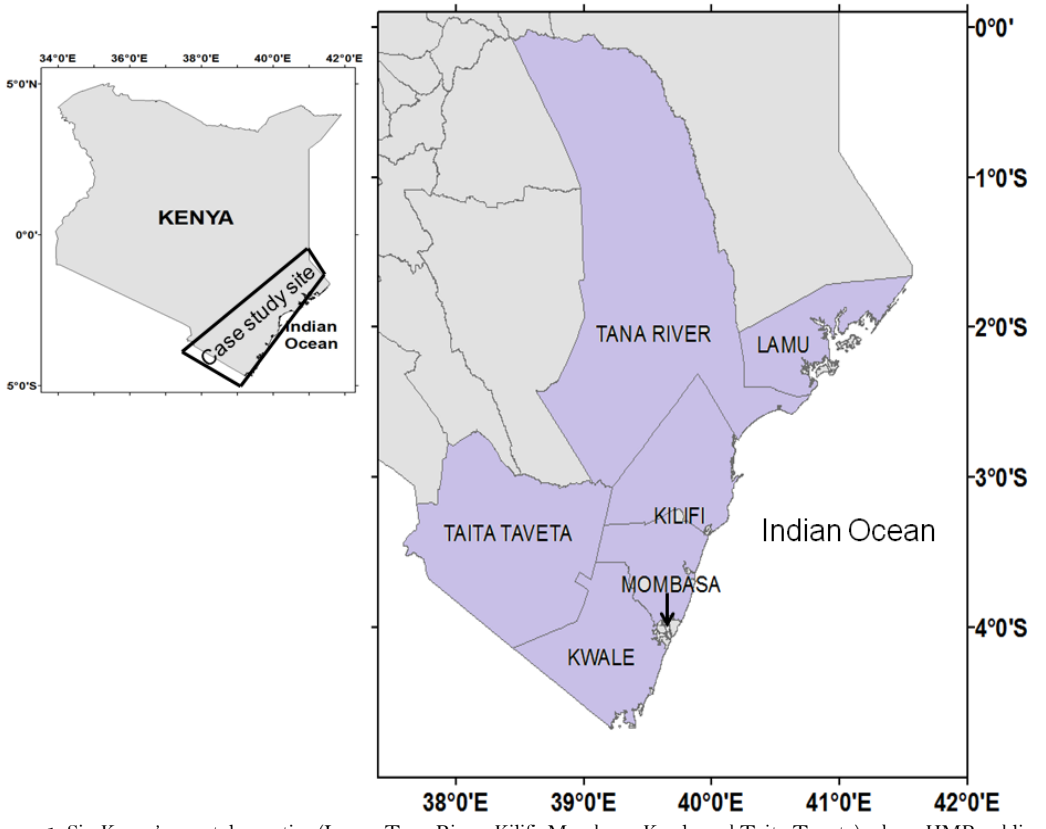
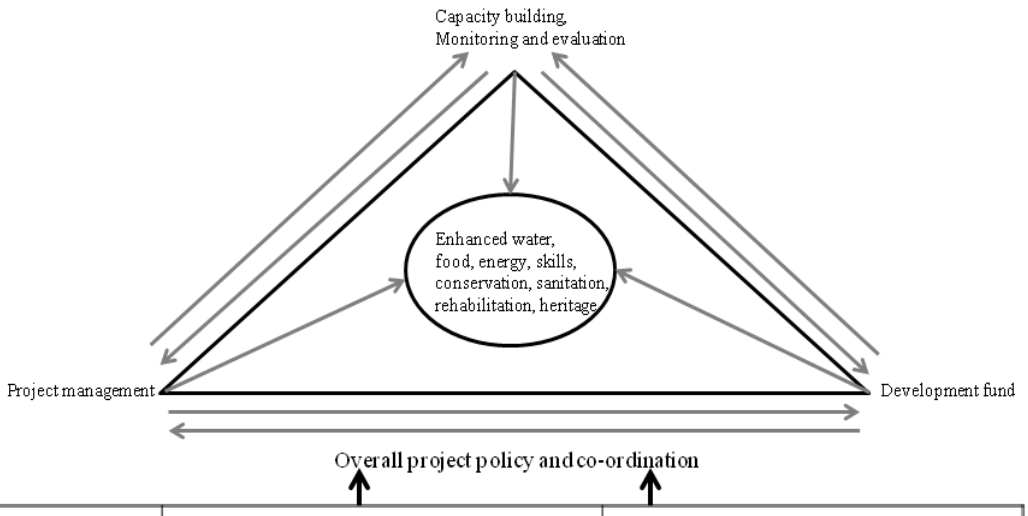


Figure-1. Six Kenya's coastal counties (Lamu, Tana River, Kilifi, Mombasa, Kwale and Taita Taveta) where HMP public-private partnership concept of management was implemented.
Source: Drawn in ArcGIS 9.3.

2.2. Public-Private Partnership Management Concept

2.2.1. Model Structure

Figure 2 shows the HMP management model structure applied in the counties. The structure consists of three main pillars targeting enhancement of water, food, energy, skills conservation, sanitation, rehabilitation and heritage in the six counties based on the main features of the HMP windows. The pillars are capacity building on financial management, strengthening governance structures for enhancing project management by CBOs; and development fund for the coast (HMP). Therefore the pillars were to provide for overall framework for project coordination intended to (i) enhance capacity of CBOs in project management through training; and provision of grants for implementation of community projects focusing on NRM and CS for improved income and livelihood.



Issues	Window 1 - Natural Resource Management (NRM)	Window 2 - Community Service (CS)
Objective	Promote conservation and sustainable use of fishery, forestry and other natural resources in the six coastal counties.	Maximize social benefits by promoting services and actions that enhance social-wellbeing.
Community Contribution	10% of total project costs of which 5% must be in cash. In kind contribution was in form of labor, animals, equipment, land, raw material, volarised at local market rate per project period of ≤1 year per cycle.	
Disbursement modalities	Funds were disbursed in tranches of 40% upon signing of the agreement, 40 % after accounting for the first disbursement and last 20% after clearance by the County Liaison Officer (CLO) and County Liaison Manager (CLM). Upon successful completion of the first cycle of financing, a Common Interest Group (CIG) could apply for repeat funding in subsequent 2nd and 3rd cycles.	
Examples of projects	• Fish breeding grounds protection • Mangrove protection/replanting • Tree planting • Water pans and small dam construction	• Communal waste management • Community potable water supply • Cultural/eco-tourism • Community boat for community service

Figure-2. Interdependencies of the three main pillars of the HMP project management for institutional theory and resource-dependency theory targeting enhancement of water, food, energy, skills conservation, sanitation, rehabilitation, and heritage in the six coastal counties based on the main features of HMP institutional windows.
Source: HMP Operational Manual (2015)

HMP management had specific objectives structured into two windows through which at least 127 priority community projects are supported. Window 1 focuses on NRM, where community projects that promote conservation and sustainable use of fishery, forestry and other natural resources in the six coastal counties are supported. Window 2 involves CS which supports projects geared towards maximizing the social benefits and promoting services and actions that enhance social-wellbeing (HMPOM, 2015).

Figure 3 shows core values, approach, project exclusions and beneficiaries in the HMP implementation. The main targeted beneficiaries of HMP are Common Interest Groups (CIGs) which in this context refers to Community Based Organizations (CBOs) involving women, youth, self-help and vulnerable groups operating in the coastal region. These groups are registered with the relevant government departments. Where necessary, Non-governmental Organizations (NGOs) would be engaged to provide technical support to CIGs for up-scaling best management practices in sub-projects. The project applied the use of Community Driven Development (CDD) approach to provide grants to the community. The approach hands over the control over

planning decisions and investment resources for local development projects to community groups. In the HMP management context, the CDD concept manifested itself in the approaches shown in figure 3.

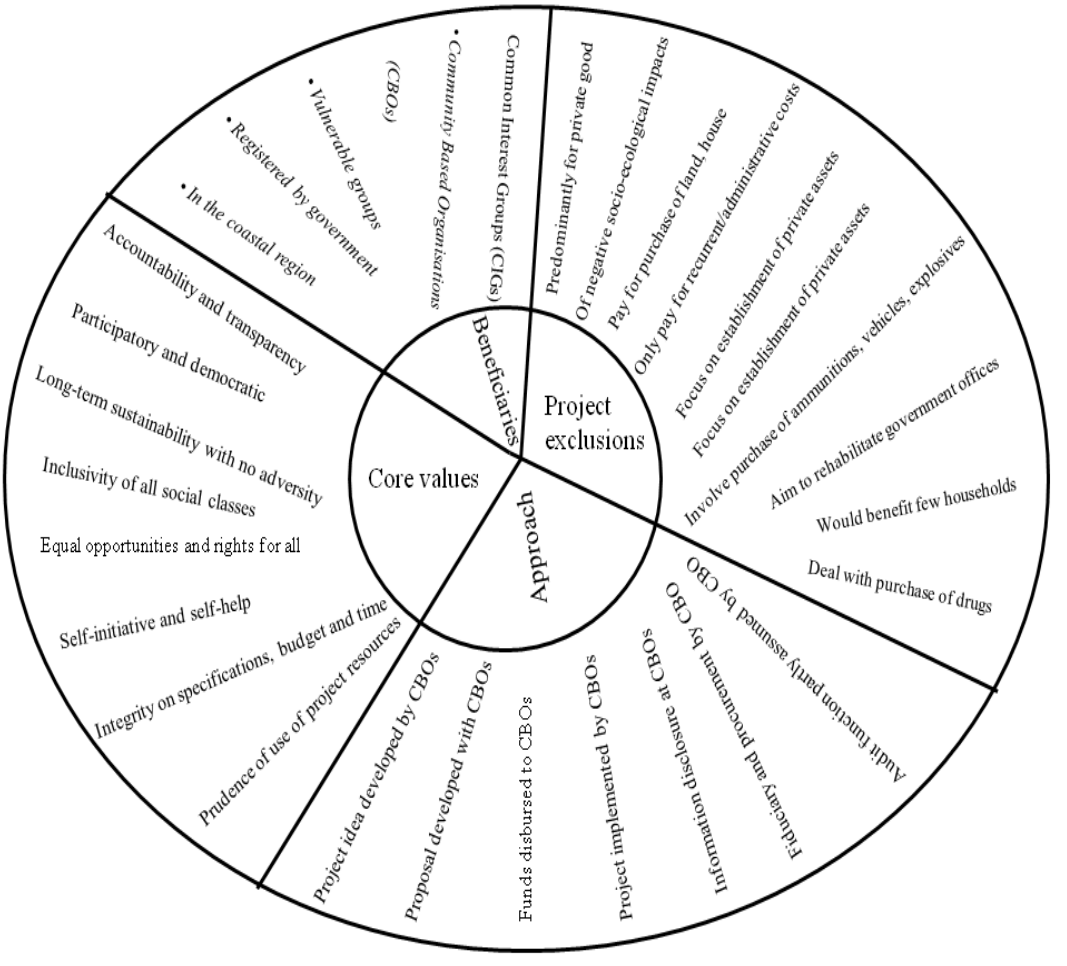


Figure-3. Themes on effective public-private partnership concept of project management for equity and optimum gain based on core values, approach, project exclusions and beneficiaries in the six coastal counties of Kenya.
Source: Drawn using HMP Operational Manual, 2015 concepts)

In this case, both windows 1 and 2 were marked by the nature of public goods and orientation. Window 1 was based on the intention to improve the natural resources of the coastal region. Window 2 targeted the provision of community services of common interest to the society at large. However, in some cases, there appeared no clear distinction between Windows 1 and 2, as there were activities that fall under both categories, thus complying with the terms and conditions of both windows. The dividing line was therefore considered on the basis of the main emphasis, focus, objective or predominant use of funds of the proposed activity. To ensure sustainability of the HMP sub-projects for environmental management and societal benefit, the respective terms and condition including the selection criteria for the NRM and CS sub-projects

were based on laid down rules and regulations (Table 1, 2) after thorough discussions by all stakeholders involved.

Table-1. Terms and conditions of the HMP Windows in achieving sustainability of the HMP management of projects

Item	Terms and conditions
Target groups	Common Interest Groups (CIGs) which in this context refers to Community Based Organizations (CBOs) such as women, youth, self-help and vulnerable groups operating in the coastal region.
Eligibility criteria	**Category 1: Large Size Grant** Applicants in this category are CIGs that have existed for 5 years or more **Eligibility criteria** • Strong financial management capacity as evidenced by audited financial statements for 3 years; • Copies of annual bank statements for 3 consecutive years; • Evidence of having management grants of similar or higher amounts; • Clearly defined development plan/project proposal; • Clear roles and responsibilities of office bearers; • Evidence of work undertaken in NRM or CS; • Project objective geared towards NRM or CS. • Registered with relevant government department **Category 2: Middle Size Grant** Applicants in this category are CIGs that have existed for 3-5 years **Eligibility criteria** • Copies of annual bank statements for 2 consecutive years • Evidence of having management grants of similar or higher amounts • Clearly defined development plan/project proposal • Clear roles and responsibilities of office bearers • Evidence of work undertaken in NRM or CS • Project objective geared towards NRM or CS • Registered with relevant government department **Category 3: Small Size Grant** Applicants in this category are CIGs that have existed for 6 months to 3 years **Eligibility criteria** • Copies of bank statements for the period in operation • Clear roles and responsibilities of office bearers • Clearly defined development plan/project proposal • Project objective geared towards NRM or CS • Registered with relevant government department

Source: HMPOM (2015).

2.2.2. Project Implementation

The implementation of the HMP public-private partnership management activities are undertaken by hired staff operating under but not being part of the Project Coordinating Unit (PCU). Overall responsibility is vested with the HMP Manager, who monitors and guides all operations. The manager is assisted by the County Liaison Manager (CLM), who supervises and guides 12 County Liaison Officers (CLOs), who are located in the six coastal counties. The CLOs represents the KCDP at the county level, conducts information and awareness campaigns, assists

CBOs to develop full projects from their own concepts, and are actively engaged in the monitoring process. A Project Vetting Committee (PVC) consists of KCDP staff, Project Coordinator, NGOs and representatives of relevant government departments. The role of the PVC is to appraise the community projects along the selection and eligibility criteria and make decisions for funding under the HMP grant mechanism. The PVC allows the re-submission of a proposal that has been rejected on the grounds of non-compliance with the terms and conditions after incorporating the appropriate modification (HMPOM, 2015).

Table-2. Selection criteria for HMP sub-projects to achieve sustainability for environmental management and enterprise development

a) Natural Resource Management (NRM) Sub Projects		
No	**Aspect**	**Relative Weight %**
1.	Extent of degradation of the ecosystem for conservation	20
2.	No. of potential beneficiaries from the proposed project	20
3.	No. of potential actors/activists	10
4.	Uniqueness and innovativeness of proposed project	15
5.	Extent of impact on the environment and people's lives	15
6.	Sustainability potential of proposed project	20
Total Score		**100**

b) Community Service (CS) Sub Projects		
No	**Aspect**	**Relative Weight %**
1.	Track records of the applicant	10%
2.	Extent of potential benefits to the community	20%
3.	Number of potential beneficiaries	15%
4.	Potential for replication in coastal counties	10%
5.	Innovativeness and uniqueness of project	15%
6.	Extent of matching contribution above the minimum	15%
7.	Long lasting effects to the community	15%
Total Score		**100**

Source: HMPOM (2015).

The project implementation takes a participatory approach in which the target communities are involved from the preparation of the project concept to the development of full proposal. The project actively supports the community mobilization and participation in the HMP sub-projects. The implementation approach began with the identification of sub-project beneficiary community groups through targeted mobilization workshops held in the six coastal counties. The objectives of these workshops are to disseminate information on the HMP grants and provide guidance in the development of proposals by the community for funding (www.kcdp.co.ke).

Given the variability of skills and knowledge required to implement projects, KCDP strengthens governance structures of CIGs in specific functions such as procurement, financial management and social audit. In this regard, KCDP supports the establishment of committees that are critical in the day to day management of the HMP sub-projects. They include: Project Management Committee (PMC); Procurement Sub Committee (PSC); Finance Sub Committee (FSC) and Social Audit and Integrity Committee (SAIC) (www.kcdp.co.ke).

In addition, KCDP facilitates capacity building of successful CIGs to improve their skills and technical capabilities in implementation of their sub-projects. As a consequence, CLOs undertake an assessment of the skills and knowledge level of each applicant with a view to close any gap, and inquire about the demand for learning and training. Depending on the need of applicants, training and technical support is provided by CLOs within their own capacity, and then by other institutions and agencies such as Coast Development Authority (CDA) or other experts engaged on short-term basis. Targeted trainings focuses on leadership, group dynamics, project and conflict management, procurement and financial management, social accountability and complaint handling among others (www.kcdp.co.ke).

The basic requirements for application of HMP grant are certificate of registration, proof of eligibility in the category applied for, and a completed grant application proposal which can be obtained from the CLO offices. The complete review and appraisal processes of the grant application take approximately 6 weeks. All applicants are informed of the decision made on their applications. Unsuccessful grant applications are re-submitted for consideration after review and addressing the reasons for their rejection in the first instance (HMPOM, 2015).

2.3. Data Analyses

Data from HMP management secretariat conducted from 2013 to 2014 were used to assess the level of performance of the project, as well as to generate socio-economic, and (environmental) management information of the project output. Primary data were entered and analyzed, using Statistical Package for Social Sciences (IBM-SPSS Inc. version 20.0 IBM Corp. Released 2011, IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: USA) to obtain descriptive, correlation and inferential analyses, cross-tabulations and chi-square (χ^2) goodness of fit. STATISTICA software package (Statsoft Inc., 2010, version 8.0) was also used in the analysis and construction of box and whisker plots. Level of significance was at $p < 0.05$.

3. RESULTS

About 5871 coastal people were directly involved in the implementation of HMP management projects (Table 3). Kwale (41.80%, n = 2454) and Kilifi (17.99%, n = 1056) counties had the highest number of participants and the least number of direct beneficiaries were from Tana River (9.90%, n = 581) and Lamu (6.39%, n = 375) counties. Similarly, the highest number of participants in CS was from both Kwale (40.38%, n = 1736) and Kilifi (22.64%, n = 972) counties. The highest number of males (43.85%, n = 1149) and females (40.17%, n = 1305) who participated in both categories (CS and NRM) of projects were recorded in Kwale County. Several projects under CS (n = 5) and NRM (n = 3) lacked male participants, while females were present in all the project categories. There were no significant differences among counties for males (χ^2

= 191.79, df = 180, p = 0.26) and females (χ^2 = 234.61, df = 205, p = 0.08) participation in the various HMP management projects. Similarly, no significant variations occurred among males (χ^2 = 34.72, df = 36, p = 0.53) and females (χ^2 = 54.67, df = 41, p = 0.08) who participated in either CS or NRM projects. However, gender parity (χ^2 = 172.97, df = 41, p = 0.00) in the HMP participation in the entire six counties occurred and was skewed towards females (55.33%, n = 3249) than males (44.67%, n = 2620).

Table-3. Descriptive statistics for project type and direct beneficiaries of the HMP project in the Kenyan coast. Project type for societal benefit (enterprise development) and environmental sustainability included CS-Community Service; and NRM-Natural Resource Management.

County/Project	Members			Male			Female		
	Sum (n)	Min. (n)	Max. (n)	Sum (n)	Min. (n)	Max. (n)	Sum (n)	Min. (n)	Max. (n)
Kilifi	1056	17	300	335	0	100	709	3	200
CS	972	17	300	296	0	100	664	3	200
NRM	84	22	33	39	0	25	45	4	33
TaitaTaveta	775	20	164	320	0	89	455	5	75
CS	359	20	41	131	0	23	228	6	41
NRM	416	20	164	189	7	89	227	5	75
Kwale	2454	20	1057	1149	0	499	1305	7	558
CS	1736	20	1057	757	0	499	979	7	558
NRM	718	20	300	392	0	126	326	7	180
Lamu	375	20	60	144	0	36	241	7	40
CS	335	20	60	129	0	36	216	7	40
NRM	40	20	20	15	3	12	25	8	17
Mombasa	630	20	58	347	4	42	283	4	31
CS	341	20	45	155	4	16	186	4	31
NRM	289	20	58	192	9	42	97	4	26
Tana River	581	19	142	325	0	100	256	7	42
CS	551	19	142	316	0	100	235	7	42
NRM	30	30	30	9	9	9	21	21	21
All Groups	5871	17	1057	2620	0	499	3249	3	558

Source: HMP Secretariat data)

About 87.88% (≈ USD 1.80 million) was awarded to the CBOs, whereas they contributed 12.22% (≈ USD 218,000) to ensure project completion (Table 4). Water supply projects (USD 353,430) that were initiated under CS received the highest amount in all counties from HMP (USD 313,870) and from CBOs (USD 3,410), while the least sponsored project was in the waste management category (USD 5,540) under NRM project. Just below water supply, other CS projects that recorded the highest grant awards included conservation (USD 174,060), capacity building (USD 140,210) and waste management (USD 92,770).

Table-4. Amount (USD'000) requested based on proposals submitted, HMP awarded to CBOs and CBOs contributions per project initiative in all the six coastal counties in Kenya. In this case, 100 KShs = 1 USD.

Project type	Amount requested			HMP award			CBO contribution		
	Sum	Min.	Max.	Sum	Min.	Max.	Sum	Min.	Max.
Waste management	92.77	5.54	19.26	83.41	5.00	17.34	9.35	0.54	1.93
CS	87.23	8.83	19.26	78.41	7.94	17.34	8.81	0.89	1.93
NRM	5.54	5.54	5.54	5.00	5.00	5.00	0.54	0.54	0.54
Conservation	174.60	5.00	20.28	150.91	4.48	17.67	23.70	0.50	2.62
CS	31.63	11.35	20.28	27.66	10.00	17.67	3.97	1.36	2.62
NRM	142.97	5.00	17.36	123.25	4.48	15.00	19.73	0.50	2.58
Public toilet	62.15	11.24	19.99	55.05	10.11	17.99	7.10	1.12	2.01
CS	62.15	11.24	19.99	55.05	10.11	17.99	7.10	1.12	2.01
Public health	75.19	15.00	20.32	67.38	13.50	18.00	7.81	1.50	2.32
CS	75.19	15.00	20.32	67.38	13.50	18.00	7.81	1.50	2.32
Capacity building	140.21	11.20	23.79	117.24	9.00	18.00	22.97	1.28	7.05
CS	140.21	11.20	23.79	117.24	9.00	18.00	22.97	1.28	7.05
Water tank	77.30	9.23	21.91	64.72	8.27	16.80	12.58	0.95	6.91
CS	55.39	9.23	18.68	49.72	8.27	16.80	5.67	0.95	1.88
NRM	21.91	21.91	21.91	15.00	15.00	15.00	6.91	6.91	6.91
Tour operation	19.47	19.47	19.47	17.52	17.52	17.52	1.96	1.96	1.96
CS	19.47	19.47	19.47	17.52	17.52	17.52	1.96	1.96	1.96
Water pan	104.68	10.00	20.99	94.13	9.00	18.82	10.55	1.00	2.18
CS	94.68	13.70	20.99	85.13	12.33	18.82	9.55	1.37	2.18
NRM	10.00	10.00	10.00	9.00	9.00	9.00	1.00	1.00	1.00
Agro-forestry	56.99	10.44	17.05	49.91	9.35	14.15	7.08	1.09	2.90
CS	29.50	14.38	15.12	26.41	12.91	13.50	3.09	1.47	1.62
NRM	27.49	10.44	17.05	23.49	9.35	14.15	4.00	1.09	2.90
Disability support	55.79	14.47	20.67	48.99	12.99	18.00	6.80	1.47	2.68
CS	55.79	14.47	20.67	48.99	12.99	18.00	6.80	1.47	2.68
Jiko project	9.87	9.87	9.87	8.87	8.87	8.87	0.99	0.99	0.99
CS	9.87	9.87	9.87	8.87	8.87	8.87	0.99	0.99	0.99
Potable water	20.82	9.59	11.23	18.73	8.63	10.10	2.09	0.96	1.13
CS	20.82	9.59	11.23	18.73	8.63	10.10	2.09	0.96	1.13
Cleaning	24.58	10.67	13.91	21.47	9.00	12.47	3.12	1.45	1.67
CS	24.58	10.67	13.91	21.47	9.00	12.47	3.12	1.45	1.67
Charcoal	9.91	9.91	9.91	8.91	8.91	8.91	1.00	1.00	1.00
NRM	9.91	9.91	9.91	8.91	8.91	8.91	1.00	1.00	1.00
Rehabilitation	71.45	4.72	20.04	61.75	4.22	17.99	9.70	0.50	2.11
CS	29.21	9.18	20.04	26.12	8.13	17.99	3.10	1.05	2.05
NRM	42.24	4.72	9.94	35.63	4.22	8.95	6.60	0.50	2.11
Water supply	353.43	5.49	21.41	313.87	4.94	18.00	39.56	0.55	3.41
CS	353.43	5.49	21.41	313.87	4.94	18.00	39.56	0.55	3.41
Ecotourism	87.74	15.00	19.98	78.73	13.50	17.98	9.02	1.51	2.00
CS	56.19	16.98	19.98	50.52	15.23	17.98	5.67	1.75	2.00
NRM	31.55	15.00	16.55	28.21	13.50	14.71	3.34	1.51	1.84
Garbage collection	15.41	15.41	15.41	13.50	13.50	13.50	1.91	1.91	1.91
CS	15.41	15.41	15.41	13.50	13.50	13.50	1.91	1.91	1.91
Boat project	10.00	10.00	10.00	9.00	9.00	9.00	1.00	1.00	1.00
CS	10.00	10.00	10.00	9.00	9.00	9.00	1.00	1.00	1.00

Sanitation	67.19	6.42	19.85	59.91	5.63	17.85	7.29	0.79	1.99
CS	67.19	6.42	19.85	59.91	5.63	17.85	7.29	0.79	1.99
Heritage	15.00	15.00	15.00	13.50	13.50	13.50	1.50	1.50	1.50
NRM	15.00	15.00	15.00	13.50	13.50	13.50	1.50	1.50	1.50
Storage facility	20.16	20.16	20.16	18.09	18.09	18.09	2.07	2.07	2.07
CS	20.16	20.16	20.16	18.09	18.09	18.09	2.07	2.07	2.07
Service delivery	20.42	20.42	20.42	18.00	18.00	18.00	2.42	2.42	2.42
CS	20.42	20.42	20.42	18.00	18.00	18.00	2.42	2.42	2.42
Resource mgt	40.15	5.00	20.01	35.86	4.45	17.96	4.30	0.55	2.05
CS	20.01	20.01	20.01	17.96	17.96	17.96	2.05	2.05	2.05
NRM	20.15	5.00	15.15	17.90	4.45	13.45	2.25	0.55	1.70
Livestock	38.77	18.71	20.06	34.83	16.84	17.99	3.94	1.87	2.07
CS	38.77	18.71	20.06	34.83	16.84	17.99	3.94	1.87	2.07
Street pavement	18.24	18.24	18.24	16.11	16.11	16.11	2.13	2.13	2.13
CS	18.24	18.24	18.24	16.11	16.11	16.11	2.13	2.13	2.13
Poultry	20.56	20.56	20.56	18.00	18.00	18.00	2.56	2.56	2.56
CS	20.56	20.56	20.56	18.00	18.00	18.00	2.56	2.56	2.56
Borehole	48.52	8.61	19.84	42.44	7.74	16.97	6.08	0.86	2.87
CS	48.52	8.61	19.84	42.44	7.74	16.97	6.08	0.86	2.87
Briquettes	5.58	5.58	5.58	5.02	5.02	5.02	0.56	0.56	0.56
NRM	5.58	5.58	5.58	5.02	5.02	5.02	0.56	0.56	0.56
Clean water	10.13	10.13	10.13	9.00	9.00	9.00	1.13	1.13	1.13
CS	10.13	10.13	10.13	9.00	9.00	9.00	1.13	1.13	1.13
Social hall	21.00	21.00	21.00	18.00	18.00	18.00	3.00	3.00	3.00
CS	21.00	21.00	21.00	18.00	18.00	18.00	3.00	3.00	3.00
Agriculture	11.73	11.73	11.73	9.00	9.00	9.00	2.73	2.73	2.73
CS	11.73	11.73	11.73	9.00	9.00	9.00	2.73	2.73	2.73
All Groups	1799.81	4.72	23.79	1581.83	4.22	18.82	217.98	0.50	7.05

Source: HMP Secretariat data)

Meanwhile, there was a significant amount of variation ($p < 0.05$) between CS and NRM in the funding requested, CBOs contribution and amount awarded by HMP (Figure 4a, b and c). Generally, CS projects had higher amount than NRM projects in all the categories. The amount requested by CBOs, awarded to counties by HMP, and contributed by CBOs exhibited significant variations ($p < 0.05$) at county level (Figure 4d, e and f).

A strong and significant ($R^2 = 0.97$, $p = 0.02$) relationship between amount awarded by HMP to CBOs and the amount requested was recorded (Figure 5). The amount requested in relation to CBOs contribution ($R^2 = 0.48$, $p = 0.04$) had an average but significant relationship. However, funding by HMP in relation to CBOs contribution recorded weak and insignificant relationships ($R^2 < 0.50$, $p > 0.05$).

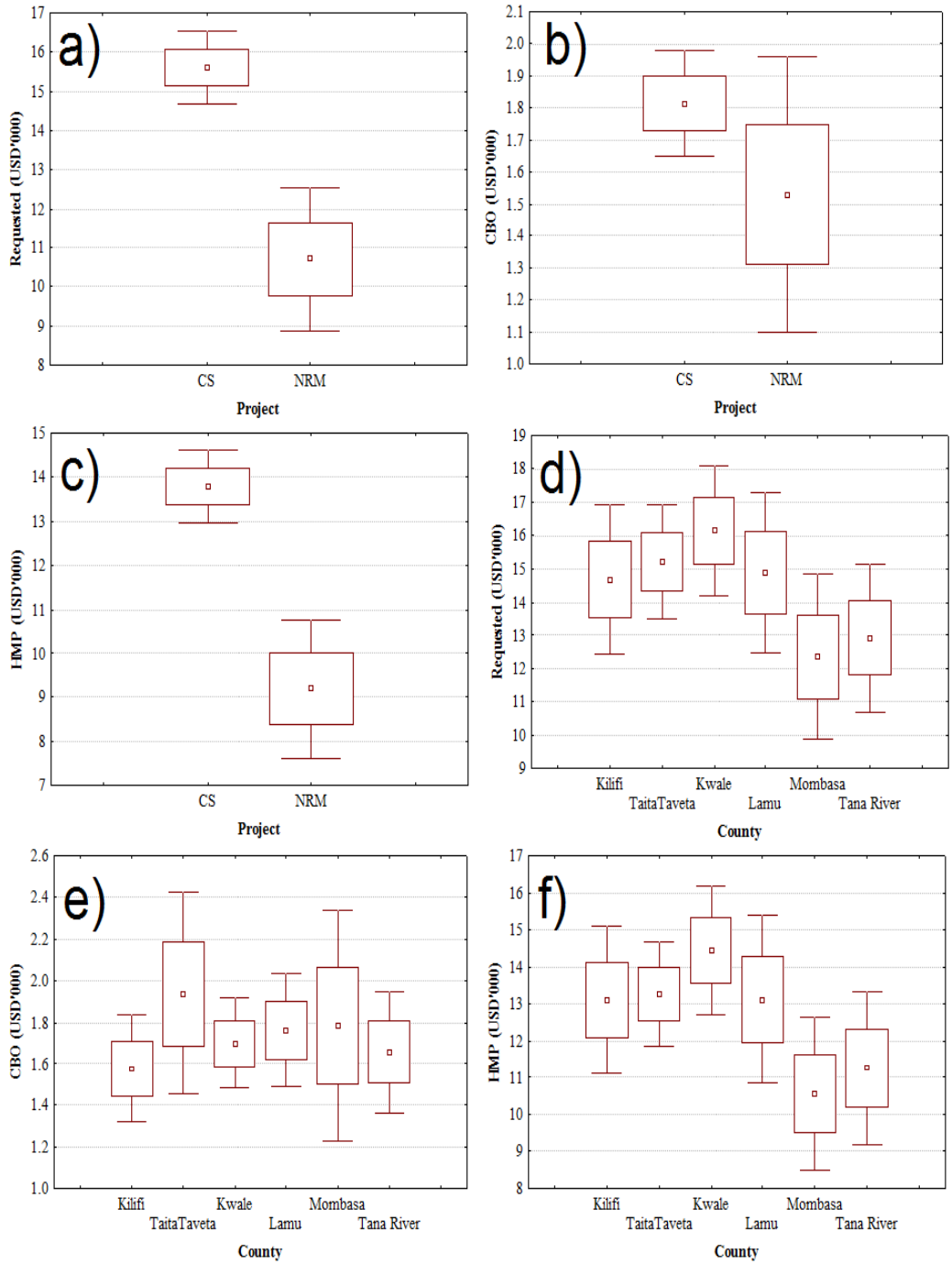


Figure-4. Box and whisker plots in USD (x10^3) for a) amount requested in the project proposal vs. project type, b) amount contributed by CBOs vs. project type, c) amount awarded to CBOs by HMP vs. project type, d) amount requested in the proposal at county level, e) amount contributed by CBOs at county level, and f) amount awarded to CBOs by HMP at county level. In this case, 100 KShs = 1 USD.
Source: HMP Secretariat data).

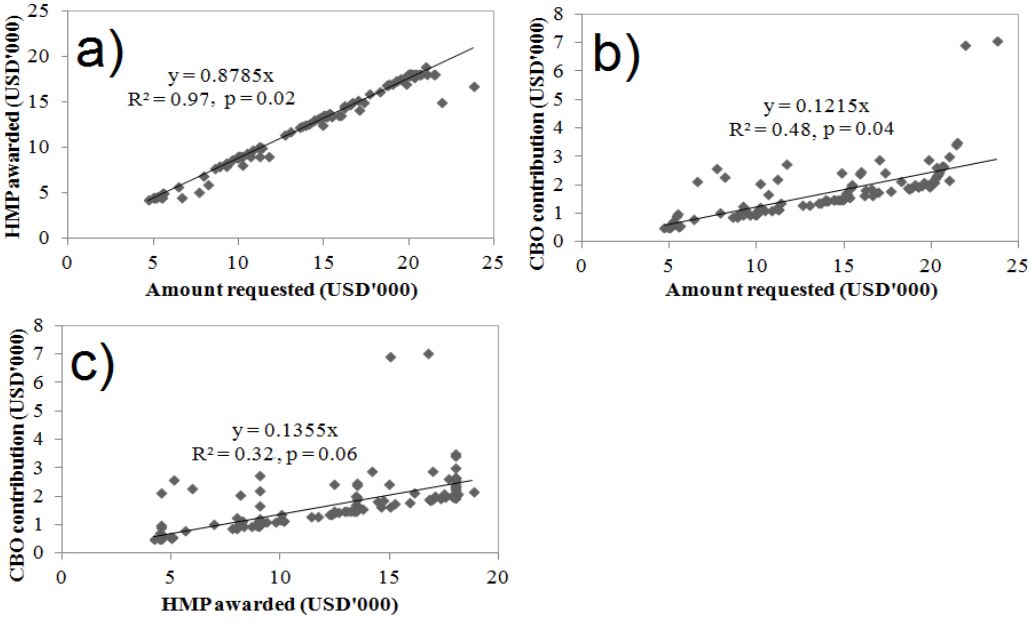


Figure-5. Plots for relationships on amount requested, awarded and contributed by CBOs among the six coastal counties during the HMP project management and implementation. Significant differences were at a p value of 0.05. In this case, 100 KShs = 1 USD.
Source: HMP Secretariat data)

4. DISCUSSION

Current practices on coastal and marine resource management in Kenya and the entire Western Indian Ocean (WIO) region have integrated multiple but interrelated economic and social aspects that impinge on the state of the environment (Cinner and David, 2011). This is a reflection of the changing perceptions on human-environment interactions, and deeper appreciation of the significance and complexities of the human dimension in biodiversity conservation (Rocliffe *et al.*, 2014). Conceptually, some conservation (NRM) and CS initiatives have woven together the realities of societal processes, particularly demographic dynamics, people's livelihoods and cultural value systems, with the estimations of the economic status of environmental resources together with their habitats (Sultan, 2012). This understanding is used to influence policy and practice in the management of resources necessitating the public-private partnership concept. Thus, the HMP management approach was woven in a similar scenario to accommodate the lifestyle and resource aspects of the people in the Kenya coast.

The demographic, economic, cultural, geographic location and environmental changes in coastal Kenya have increased the demand for natural resources and intensified their uses, which has serious implications for food, water, sanitation, conservation and energy security in the sub-region (UNEP, 2015). However, differences in HMP project performance in some coastal counties could be attributed to geographic location, socio-infrastructure, culture and stability. In this project, the least number of beneficiaries in the HMP projects were from Tana River and Lamu counties.

Tana River County presents an interesting case of the nexus between conflict and food security. The major ethnic groups are the Pokomo, many of whom are farmers, and the Orma and Wardey, who are predominantly nomadic pastoralists. The county is generally dry and prone to drought. Rainfall is erratic, with rainy seasons in March-May and October-December. Conflicts have occurred in the past between farmers and pastoralists over access to water and pasture. Flooding is also a regular problem, caused by heavy rainfall in upstream areas of the River Tana (Government of Kenya Report, 2012).

Both Tana River and Lamu counties comprise several areas of forest, woodland and grassland which are minor centers of endemism. The forests are designated National Reserve status if they have >4 plant endemics and >7 vertebrate endemics (IUCN, 2012). Despite the apparent adequate natural resources, both regions remain marginalized from the rest of Kenya. Bordering Somali, Lamu County experienced traces of instability due to fewer instances of *Al-Shabaab* attacks during the project period which might have influenced minimal participation in the HMP projects. Unlike northern coast, south coast counties consisting of Mombasa, Kilifi and Kwale performed better in the HMP projects mainly due to stability, proximity to better infrastructure, higher level of literacy and social fabrics.

Gender parity in the HMP participation in the entire six counties occurred, attracting more women (55.33%, n = 3249) than men (44.67%, n = 2620), probably an indication that women occupy a central place in the coastal community that is overlooked and neglected. Despite the fact that children are the sole responsibility of women, and given their dual role in domestic chores and reproduction, more women actively participated in HMP projects than men especially in provision of essential services and family income. Additionally, in Sub-Saharan Africa, men have always owned productive assets such as land, animals, trees, farm inputs and fishing gear while women may have access and rights to, but not control over, family resources (FAO, 2006). Furthermore, women have limited access to capital, which is essential for engaging in different socio-economic activities. Ownership of land is significant as a means of increasing the income and food production in households and provides some security (Harper *et al*., 2013). But based on the strategic planning and model approach of HMP project, CBOs were subjected to capacity building on better utilization of the funds, with emphasis on vulnerable groups such as women in order to narrow gender disparities in terms of income, poverty, CS and NRM (HMPOM, 2015). Generally, CS projects had higher amount of grant than NRM projects in all the categories (Fig. 4a, b and c). This could be due to the socio-economic wellbeing and consumptive nature attached to the CS projects as compared to NRM projects in management. This could also be because of the non-consumptive nature especially of the NRM projects on the short-term basis. The difference between CS and NRM could yield the willingness-to-pay attitude towards environmental resources among the coastal communities in this study. This principle equates a relationship between a user and the quality of a resource with the assumption that, if the resource is of good quality, then it is worth paying for (its services) or allocating time for it. Efforts to

establish people's willingness-to-pay for certain services, such as for their aesthetic value (e.g. heritage), also provide a reflection of people's willingness-to-pay for conservation and management of coastal resources or species, and these values could demonstrate the significance of biodiversity among the coastal communities (Bullock *et al.*, 2008). For example, coastal people preferred water supply>capacity building>waste management that were under CS. Priority projects with much success were mainly for the societal benefits in terms of clean and access to water, income, knowledge exchange, and construction of socio-economic structures such as classrooms. Whereas, less preference was for projects that mainly targeted conservation aspects such as those that deal with waste management in terms of public cleanliness for environmental protection. Furthermore, the amount awarded by HMP project to CBOs seemed to be mainly driven by the funding requested by CBOs (Figure 5). This could be due to the nature of the project and the capital required. Such that the smaller the project, the smaller the amount requested and thus awarded to the CBOs. Additionally, strict guidelines were followed to ensure that projects were awarded the amounts they deserve. The amount requested in some projects was dependent upon CBOs contributions.

5. CONCLUSIONS

Community Based Organizations from counties with enhanced security, and improved socio-economic status participated much more in the project management. Community service delivery (CS) projects performed better than NRM projects due to their immediate contribution to socio-economic wellbeing of communities and the consumptive nature attached to the CS projects as compared to NRM projects that were mainly non-consumptive in the short term. Gender parity in the HMP participation in the entire six counties occurred, attracting more women than men, probably an indication that women occupy a central place in coastal community especially in provision of essential services and family income. Based on proper and careful design of the public-private partnership concept for project management model, this paper has noted that community based projects are better placed to address priority and most immediate needs of coastal communities. Crucial to this, is the systematic interweaving of resource mobilization and capacity building of users in providing for sustainable social and ecosystem services for enhanced societal benefits.

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