

# Effect of Implementation Planning Practices on Implementation of Poverty Alleviation Mariculture Projects in the Coast of Kenya

<sup>\*1</sup>Jacob Ochiewo Odhiambo, <sup>2</sup>Prof. Maurice M. Sakwa, <sup>3</sup>Dr. Joseph Wakibia

<sup>1</sup>Department of Development Studies, School of Communication and Development Studies, Jomo Kenyatta University of Agriculture and Technology, P.O. Box 62000-00200, Nairobi, Kenya

<sup>2</sup>Department of Botany, Faculty of Science, Jomo Kenyatta University of Agriculture and Technology,

<sup>3</sup>Kenya Marine and Fisheries Research Institute, P.O. Box 81651-80100, Mombasa, Kenya

\*Corresponding Author: [jacobochiewo@yahoo.com](mailto:jacobochiewo@yahoo.com), [jacobochiewo@gmail.com](mailto:jacobochiewo@gmail.com)

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**Abstract:** The main objective of the study was to determine the effect of implementation planning practices on implementation of mariculture projects. The specific objectives were to: examine the effect of assignment of activities on implementation of poverty alleviation mariculture projects, and establish the effect of scheduling of time and resources on implementation of poverty alleviation mariculture projects. The research was based on quantitative research approach involving the application of survey method with a cross sectional design. Respondents were chosen through probability sampling procedures and a questionnaire was administered through face-to-face interviews with members of mariculture groups. Descriptive analysis and Pearson correlation analysis were conducted. Results showed that the poverty alleviation mariculture projects in Kenya are dominated by female actors compared to male actors. On average, those involved in mariculture were aged 40 years and had attained primary level of education. Descriptive analysis revealed that mariculture projects have embraced implementation planning through assignment of activities and appropriate scheduling of time and resources to ensure that there was effective implementation of these projects. Correlation analysis revealed that there was a significant and strong positive relationship between scheduling of time and resources and project implementation and a significant but medium relationship between assignment of activities and project implementation.

**Keywords:** Effect, implementation planning, mariculture, assignment of activities, poverty alleviation, scheduling of time.

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## I. INTRODUCTION

Mariculture projects have been implemented in a number of sites to address poverty and livelihood needs among the Kenyan coastal communities with varying degrees of success and failure (Mirera, 2011; Munguti, Kim, & Ogelo, 2014). Mariculture projects provide livelihood and income opportunities to the rural poor communities thus addressing economic poverty that according to Sen (2000), robs people of the freedom to satisfy hunger and other basic needs such as clothing, shelter, nutrition and health care. According to Mirera & Ngugi (2009), most of the mariculture projects have been implemented with donor support and they have been operated by self-help groups consisting mainly of female farmers. These projects have mainly focused on the culture of milkfish, mullets, mud crabs, commercial seaweeds and prawns (Mirera, 2011, 2014; Mirera & Ngugi, 2009; Mwaluma, 2002; Wakibia, Ochiewo, & Bolton, 2011). While the implementation of some mariculture initiatives such as commercial seaweed and milkfish farming have been successful in

Kilifi and Kwale Counties of the coast (KMFRI-KCDP, 2015), the success stories are few (Mirera & Samoilys, 2008) and instead most of the projects have collapsed or stagnated at pilot stage for many years. Among the mariculture projects that collapsed, shrimp culture at Ngomeni, Kilifi County and the oyster farming at Gazi Bay and Shirazi, Kwale County were initiated on relatively large scale compared to others. The Shrimp farming was began in the mid 1980s to conduct trials for development of mariculture (Ronnback, Bryceson & Kautsky, 2012; Balarin, 1985; Mirera, 2011; Munguti, Kim, & Ogelo, 2014; UNEP, 1998) while oyster farming was up-scaled from a pilot farm where the oyster culture technology was developed. The causes of stagnation and failure of these projects have however not been studied to generate information to guide future mariculture projects.

In this study, we postulated that the failure of the mariculture projects could be attributed to failure by the project designers to ensure the projects had effective implementation plans at the design stage. CARE (2007) evaluated the relationship between project planning and project implementation and concluded that project implementation follows an already developed implementation plan or work plan. Without an implementation plan, it is difficult to realize outputs and immediate objectives of the project. Effective planning makes it possible for the project team and key stakeholders to agree on tasks, responsibilities, timelines and mechanisms for smooth implementation of a project. A good implementation plan ensures efficiency in use of project resources and limits the time spent on resolving problems during implementation. The process of preparing an implementation plan helps participants understand implementation challenges, and strategize on how to address them to achieve the desired results. It is important to involve all in the process of preparing a project implementation plan to ensure common understanding (CARE, 2007).

#### **Objectives:**

The main objective of the study was to determine the effect of implementation planning practices on implementation of mariculture projects. The specific objectives were:-

1. To examine the effect of assignment of activities on implementation of poverty alleviation mariculture projects.
2. To establish the effect of scheduling of time and resources on implementation of poverty alleviation mariculture projects.

#### **Research questions:**

The study sought to address the following research questions:-

1. How does assignment of activities affect implementation phase of poverty alleviation mariculture projects?
2. To what extent do scheduling of time and resources influence implementation of poverty alleviation mariculture projects?

## **II. METHODOLOGY**

The study adopted a quantitative approach which involved the application of a survey method as elaborated by Mugenda & Mugenda (2003) and Nachmias & Nachmias (2004). The survey was in the form of cross section research design with questions being asked once in the entire period of the research. The target population covered the communities that are engaged in various types of mariculture projects in Kwale, Mombasa and Kilifi Counties of the coast of Kenya. These communities consisted of 12 organized community groups with a total of 331 members (KMFRI-KCDP, 2015). A sample size of 182 individuals was obtained from the sampling frame using the formula for determination of sample size for a finite population correction (Daniel, 1999; Naing, Winn, & Rusli, 2006). Random probability sampling was used to select the number of subjects that represent the target population in the survey. The questionnaire was used as the main research instrument in this study. A likert scale type of questionnaire was prepared and each question was assessed on a 5-point likert scale. Personal face-to-face interviews were used with the interviewer asking respondents questions designed to elicit responses that address the research questions. Data analysis was carried out using descriptive and correlation analysis. The Pearson correlation analysis was conducted to determine the strength and direction of the relationship between implementation planning practices and mariculture project implementation.

### III. RESEARCH FINDINGS AND DISCUSSION

Background information provided insight on the context within which the implementation of poverty alleviation mariculture projects occurs. It provided information on the respondents' demographic characteristics including gender, age, level of education and employment status. Descriptive statistics of the demographic characteristic are summarized in frequency tables and presented in table 1.

**Table 1: Descriptive statistics of demographic information about the respondents**

<b>Gender</b>	<b>Frequency</b>	<b>Percent</b>
Female	107	58.8
Male	75	41.2
<b>Total</b>	<b>182</b>	<b>100.0</b>
<b>Age of respondent</b>		
Under 18 years	1	.5
19-30 years	35	19.2
31-40 years	57	31.3
41-50 years	43	23.6
Above 50 years	46	25.3
<b>Total</b>	<b>182</b>	<b>100.0</b>
<b>Level of education</b>		
Class 8 or less	157	86.3
Incomplete secondary	7	3.8
O-Level certificate	9	4.9
A-Level certificate	2	1.1
Tertiary	7	3.8
<b>Total</b>	<b>182</b>	<b>100.0</b>
<b>Employment status</b>		
Unemployed	169	92.9
Employed	13	7.1
<b>Total</b>	<b>182</b>	<b>100.0</b>

The results in table 1 showed that 59% of the respondents were female. This implies that the poverty alleviation mariculture projects in Kenya are dominated by female actors compared to male actors. This is similar to the situation in Zanzibar where it was reported that 90 percent of people involved in seaweed mariculture were women and in Madagascar where over 50 percent of the sea cucumber farmers were women (UNEP-Nairobi Convention and WIOMSA (2015). In terms of age, the results indicate that majority (about 74%) of the respondents were aged between 19 – 50 years and on average, the respondents were 40 years old. This means that poverty alleviation mariculture projects are run by workers in their active middle age category when they could undertake the hard work in the mariculture farms.

The results (table 1) further showed that most of the respondents (about 86%) had attained different levels of primary of education and only 14 percent had attained secondary education and above. This implies that the poverty alleviation mariculture projects are run by workers who have low levels of education. Despite most of the work in mariculture being manual and does not require high academic and professional qualifications, some decisions that require higher levels of education are made at different levels hence the low levels of education may adversely affect decision making and implementation of the poverty alleviation mariculture projects. The respondents were also asked about their employment status and about 93 percent stated that they were unemployed in reference to formal employment in the public service or private sector. They were therefore available to work in the mariculture projects.

**Descriptive Results of Project Implementation:**

Project implementation has been defined by USAID (2007) and UNDP (2011) as the concrete implementation of the activities planned in the approved project document. It is based on the implementation plan which is normally prepared at the project formulation stage. In this study, project implementation was assessed by one measure namely level of implementation. Level of implementation has three key elements namely project activation, pilot and full implementation. Among these three, full implementation is the most critical element. Full implementation is in the form of employment opportunities. In this study therefore level of implementation was explored through analysis of employment opportunities created by the project. Three opinion statements about employment opportunities offered by poverty alleviation mariculture projects were used and the results are presented in a scale of 1 to 5 (where 1 = strongly disagree and 5 = strongly agree (table2).

**Table 2: Descriptive statistics for project implementation**

Opinion statement	N	Min	Max	Mean	Std. Dev.
The mariculture allows beneficiaries to have employment	180	1	5	3.71	1.18
The mariculture enables beneficiaries to gain self employment	179	1	5	3.72	1.185
The mariculture greatly assists beneficiaries to have employment opportunities	179	1	5	3.58	1.276
Valid N (listwise)	179				

**Key:** N = sample size, scale 1 = strongly disagree and scale 5 = strongly agree, min. = minimum, max. = maximum, std. dev = standard deviation.

The findings indicate that the poverty alleviation mariculture projects provide employment opportunities to the coastal communities as shown by the mean score that range between 3.58 and 3.72 (table 1). This confirms the findings by Wakibia, Ochiewo & Bolton (2011) that seaweed mariculture in the south coast of Kenya has employed 100-400 farmers. Mirera and Ngugi (2009) also observed that the introduction of mariculture in the coast of Kenya has provided economic opportunities to poor rural coastal communities to access an additional or alternative source of livelihood.

**Descriptive Results of Implementation Planning Practices:**

Implementation planning practices were assessed by two measures namely assignment of activities and scheduling of time and resources. These two measures were explored through 11 opinion statements. Results are presented in a scale of 1 to 5 (where 1 = strongly disagree and 5 = strongly agree) in table 3.

**Table 3: Descriptive Statistics for implementation planning practices**

	N	Min.	Max.	Mean	Std. Dev.
Defining clear activities for income generation	182	1	5	<b>4.01</b>	.931
Promoting implementation of defined activities	182	1	5	3.87	1.021
Effective planning of work	181	1	5	<b>4.09</b>	.825
Appropriate assigning of activities to people	182	2	5	<b>4.15</b>	.799
Assignment of tasks to members	182	1	5	3.87	1.041
Promoted setting of timeframes	182	1	5	3.74	1.079
Adherence to target dates	182	1	5	<b>4.16</b>	.809
Realistic scheduling of time	182	1	5	<b>3.96</b>	.888
Appropriate budgeting	182	1	5	3.44	1.246
Promoting budgeting	181	1	5	3.23	1.257
Realistic scheduling of resources	181	1	5	3.60	1.124
Valid N (listwise)	179				

**Key:** N = sample size, scale 1 = strongly disagree and scale 5 = strongly agree, min. = minimum, max. = maximum, std. dev = standard deviation.

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The respondents agreed that the mariculture projects had clearly defined activities which are implemented during project implementation as shown by a mean score of 4.01. It was also observed that the mariculture projects have embraced planning of actual work to ensure that the work effort is directed towards realization of the objectives of the projects as indicated by a mean score of 4.09. This confirms the argument by CARE (2007) that a well prepared annual work plan provides a clear plan of action that links resources, activities and responsibilities to results, and builds a foundation for decision-making.

It was observed that the mariculture projects followed proper assignment of activities to people so that every member of a poverty alleviation mariculture group had a clear role to play during implementation of the mariculture projects as indicated by a mean of 4.15. This is consistent with the position of CARE (2007) that a good work plan should identify who does what, why, when, how, where and with what resources. It was noted that realistic scheduling of time and adherence to set dates were important for implementation of mariculture projects since with the exception of seaweed farming, fish and other marine organisms that are farmed have to be regularly fed. The dates that are set for fish feeds to be collected from the suppliers cannot be missed because failure may lead to death of fish or stunted growth that would result into loss of income to the community based mariculture groups as indicated by mean scores of 3.96 and 4.16 respectively. In addition, once fish reach table size, it should be disposed of at the right time to avoid losing money in unnecessary feeding.

From these results, it is evident that most respondents agreed that defining clear activities, effective planning of work effort, assignment of activities, realistic scheduling of time and resources and adherence to the set dates have an impact on implementation of mariculture projects. These findings support the observation by Caldwell (2002) that implementation plan, which is an output of implementation planning, demonstrates project feasibility in terms of responsibilities, scheduling of time and resources and is the basis for monitoring project operations.

**Correlation results of implementation planning practices and project implementation:**

Correlation analysis was conducted to establish the strength and direction of the relationship between implementation planning practices (as measured by scheduling of time and resources and assignment of activities) and mariculture project implementation. Assumptions of normality, linearity and homoscedasticity were observed before correlation analysis was conducted. The correlation analysis results are presented in table 4.

**Table 4: Correlation results of Implementation Planning Practices and Project Implementation**

Variable		Project implementation	Scheduling of time and resources	Assignment of activities
Project implementation	Pearson Correlation	1.000	.660	.383
	Sig. (2-tailed)	.	.000	.000
	N	174	172	172
Scheduling of time and resources	Pearson Correlation	.660	1.000	.417
	Sig. (2-tailed)	.000	.	.000
	N	172	180	180
Assignment of activities	Pearson Correlation	.383	.417	1.000
	Sig. (2-tailed)	.000	.000	.
	N	172	180	180

The results revealed that there was a significant and strong positive relationship between scheduling of time and resources and project implementation,  $r = 0.660$ ,  $n = 172$ ,  $p = 0.000$ , (where  $r$  = correlation coefficient,  $n$  = sample size,  $p$  = significance level) and a significant but medium relationship between assignment of activities and project implementation,  $r = 0.383$ ,  $n = 172$ ,  $p = 0.000$ . This implies that effective scheduling of time and resources and assignment of activities is associated with effective implementation of mariculture projects and improved livelihoods.

#### IV. CONCLUSIONS

The main objective of the study was to determine the effect of implementation planning on implementation of mariculture projects. Implementation planning was measured through preparation of operation plan, assignment of activities, scheduling of time and resources for implementation of the mariculture projects. From the descriptive results, there was general agreement that defining clear activities, effective planning of work effort, assignment of activities, realistic scheduling of time and resources and adherence to the set dates have an impact on implementation of mariculture projects. It is therefore important for any project team to ensure that project activities are clearly defined, implementation schedule prepared and tasks assigned to people appropriately for effective implementation to take place.

From correlation analysis, there was a significant and strong positive relationship between scheduling of time and resources and project implementation, and a significant but medium relationship between assignment of activities and project implementation. This means that increased scheduling of time and resources and assignment of activities is associated with increased levels of project implementation. Therefore, optimal scheduling of time and resources and assignment of activities would result in optimal implementation of mariculture projects and would therefore address the problem of poverty in the coast of Kenya. Those responsible for implementation of mariculture projects should pay particular attention to proper assignment of activities and proper scheduling of time and resources for implementation of poverty alleviation mariculture projects to be successful. Assignment of activities should involve clear definition of activities, effective planning work effort, assigning activities to people, realistic scheduling of time and resources, and adherence to set dates.

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