



EVALUATING THE EFFECTIVENESS OF INTEGRATED COASTAL MANAGEMENT INITIATIVES IN VIETNAM

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Received 15 October 2018; Accepted 29 November 2018

Abstract

Vietnam is a relatively large marine nation in Southeast Asia, with more than 3200 kilometres of coastline. Coastal cities have been the country's fastest economic development area, with coastal activities contributing to almost half of the country's annual GDP. Along with development, however, this area has been facing numerous problems including ecosystem degradation, overpopulation, and pollution as a result of over-exploitation and under-management status of coastal systems and resources. In response, the Vietnamese government has taken a number of efforts in conserving its coastal resources, highlighted by the implementation of integrated coastal management (ICM).

This paper is the first attempt to provide an overview of the current progress of integrated coastal management in Vietnam using a combined quantitative and qualitative evaluation methodology. The paper concludes that, despite strong technical and financial support from experienced countries and the government's commitment, ICM initiatives in Vietnam so far have been ideologically driven and only achieved a certain degree of success at the strategic level rather than at the operational level. The relatively poor performance overall of ICM in Vietnam is due to insufficient financial resources, ineffective co-ordination mechanism, and inadequate political support and stakeholders' involvement.

Key words: Integrated coastal management; Effectiveness; Theory-based evaluation; Coastal conservation; Coastal management.

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1. Introduction

Vietnam is a major marine nation in Southeast Asia. Its total exclusive economic zone reaches about 1 million square kilometers, or three times bigger than its land area. Located on the eastern coast of the Indochina Peninsula and surrounded by Bien Dong, Vietnam has a very long coastline of about 3260

kilometers and comprises more than 3000 islands, including 2779 near-shore islands and two offshore archipelagos [1].

Vietnam's coast is one of the most densely populated regions in Southeast Asia; consequently, the area has been heavily exploited. However, the increasing trend of coastal development poses great threats to the environment. The country

is facing many environmental problems such as overfishing, biodiversity loss, destroyed and degraded habitats and ecosystems, pollution, natural hazards, frequent oil spills, and severe climate change impacts. Together with sectoral management practices, these obstacles have created conflicts in the multiple use and management of coastal and marine areas; hence, the government is strengthening national policies for coastal and marine development and management. These areas should be managed and monitored in an integrated manner in order to balance social needs, economic growth, and conservation [2]. In response, the Vietnamese government has taken a number of efforts in conserving its coastal resources, highlighted by the implementation of integrated coastal management (ICM).

ICM was introduced to Vietnam in 1996. However, in the period of first ten years of ICM development in Vietnam, the majority of these efforts were actually initiated by international donor-assisted programs rather than as a result of proactive strategies by the central authority. These early ICM efforts in coastal management

in Vietnam were often designed to deal with certain single issues and followed a problem solving approach that focused on immediate outputs rather than long term outcomes [3]. Moreover, on a larger scale, these attempts do not appear to be related or interconnected in a way that creates synergies, transferability or adaptability [4]. In fact, many of these initiatives are still in the infancy or piloting stages, and have not shown evident outcomes.

This paper therefore attempts to analyse the status and evaluate the effectiveness of ICM initiatives and identify the opportunities and pre-requisites to improve coastal management governance. The research will also identify key factors which contribute to the sustainability of integrated coastal resources management efforts in Vietnam.

2. Methodology

2.1. Choosing study sites

The study was conducted for seven ICM projects from all geographical regions of Vietnam. Details of seven sites are given in Tab. 1. All these 7 sites have considerable results of ICM project to be evaluated.

Table 1. Summary of projects selected for evaluation

Site	Category	Implemented by	Time
Vung Tau (P1)	VNICZM	MONRE & Provincial DONRE	2000 - 2005 (5 years)
Thua Thien Hue (P2)	VNICZM/PEMSEA	MONRE & Provincial DONRE	2000 - 2005 (5 years)
Hai Phong (P3)	NOAA	IUCN	2002 - 2009 (7 years)
Da Nang (P4)	PEMSEA	Provincial DONRE	2001 - 2008 (7 years)
Quang Nam (P5)	Government/PEMSEA	Provincial DONRE	2005 - present (9 years)
Quang Tri (P6)	Government	Provincial DONRE	2007 - present (7 years)
Nghe An (P7)	Government	Provincial DONRE	2007 - present (7 years)

2.2. Choosing the indicator - based framework for theory-based evaluation

For the purpose of this study, using a theory - based approach [5], expert opinions were synthesised to validate

assumptions of cause and effect along a project's path to success. This allows the evaluation to be conducted across different projects at different stages of their history, and with different objectives. In order to do this, the lessons from projects in the

literature have been synthesised into a set of criteria and critical success factors on which the evaluation will be conducted.

The criteria are grouped into the three stages of the ICM policy cycle adopted from Ehler (2003): planning, implementation (including monitoring and evaluation) and sustainability (repeat of cycle) (Fig. 1).

Each criterion comprises many success factors accordingly. Details of

the criteria are summarized in Tab. 2. In keeping with the program theory, each stage of the cycle is a continuum of multiple objectives and factors required for the project to move along its path to anticipated success. The structure allows for consideration of: project processes, substance, outcomes and sustainability; the evaluation of multiple projects concurrently; and the capture of impact through perceptions and experiences of project participants.

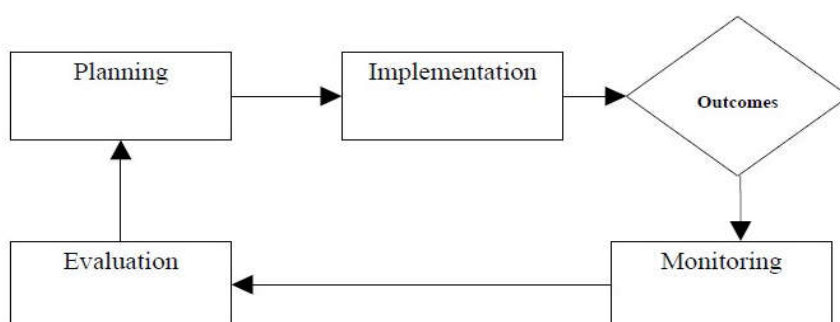


Figure 1: The ICM policy cycle [6]

Table 2. Criteria for ICM project effectiveness

Criteria of effectiveness	Success factors
Project planning phase	
Criterion 1: Planning process is adequate	1. Sufficient resources used to determine project need 2. Stakeholders participated and contributed 3. Good baseline data & understanding of local conditions 4. Planning time is adequate in comparing to total ICM cycle
Criterion 2: Project design is appropriate	5. Reflects a long - term commitment 6. Builds recurrent cost funding into design 7. Builds capacity of project implementer
Criterion 3: Objectives are appropriate	8. Measurable, clear and feasible 9. Focused and shared vision
Criterion 4: Scientific support	10. Good understanding of current condition of bio - physical conditions of project site (coastal profile) 11. Good understanding of local socio - economic status
Criterion 5: Legal support	12. Local government development plan, including coastal and marine areas 13. Coastal strategy and action plans 14. Governmental legislation support strongly the formulation of ICM project
Criterion 6: Institutional arrangements	15. Clear organisational structure in place to manage project 16. Coordinating mechanism is in place to implement project
Project implementation phase	
Criterion 7: Project's function	17. Funding size is reflected by realistic timeframes 18. Resources used efficiently and activities are likely to be completed on schedule 19. Has ability to mobilise additional financial, technical and other resources

Criterion 8: Co-ordination	20. Implementing agency & partner organisation have a productive working relationship through clear coordinating mechanism 21. Maintains a network with relevant agencies information sharing
Criterion 9: Public involvement	22. Encourages involvement of local people in an active capacity 23. Publicity of project information
Criterion 10: Education	24. Has focus on staff capacity building through training and through daily work 25. Public awareness raising activities are substantial 26. Decision - maker awareness is enhanced
Criterion 11: Local government capacity	27. Implementation organization are well organised and functioning well 28. Strong support from key senior officials 29. Local staff have knowledge and skill in ICM 30. Local government utilize local budget for ICM project
Criterion 12: Legalizing ICM	31. ICM strategy is incorporated into local development plan
Criterion 13: M&E is effective	32. Project has a clear and adequate M&E framework 33. M&E is used effectively throughout implementation
Sustainability of the action for next cycle	
Criterion 14: Benefits are sustainable	34. Stakeholders have sufficient knowledge and resources to maintain project 35. Project can continue to exist without external project finance / Project has sustainable finance - scheme 36. Implementation institution has high - level officials committed to maintain project

2.3. Conducting the evaluation

At the completion of all interviews and informal meetings, the secondary and primary data were synthesised against the criteria for success compiled in Tab. 2. Each project was then scored using the project evaluation sheets, and all project scores then collated using a matrix of

projects versus the Success Factors (SFs). Scores were based on a 0, 0.5, and 1 rating system that reflects a project's application of the SF (i.e. knowledge from the literature), and its performance of that SF (desired/undesired). Where a SF was not applicable to a project, no score was given. The scoring system was as follows:

Table 3. Scoring system for evaluation of ICM efforts

Score	Score meaning
"0":	No application of the SF; poor/undesired impacts of actions overall
"0.5":	Application of the SF was average overall; desired and undesired impacts were balanced overall
"1":	Strong application of the SF; positive overall performance with impacts in the desired direction

Total project and SF scores lie on a performance continuum between zero and one, and rated from Poor to Good. The rating system is explained as follows (Fig. 2):

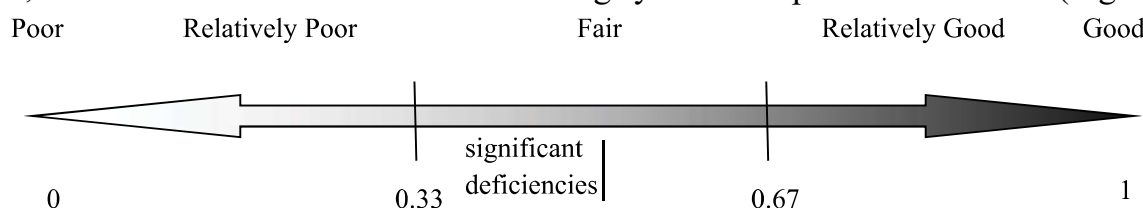


Figure 2: The rating system for ICM evaluation

2.4. Analysis of results

Basic statistical analysis of all projects was conducted, and the strength of relationships between Criteria of Effectiveness and SFs were calculated using Pearson's correlation coefficient. Correlations with project performance and sustainability and also between Criteria and SFs were also calculated. Projects and SFs were also given a performance rating. Both the quantitative data from the statistical analysis, and the qualitative information from the secondary and primary data collection stages, were then analysed and form the basis for the discussion of results.

2.5. Methodology to study success factors of ICM program

Table 4. List of success factors to be ranked

Code	Success factor
PS1	Adequate project planning and design
PS2	Clear objectives and visions
PS3	Adequate scientific support
PS4	Adequate legal support
PS5	Strong institutional arrangements to conduct ICM
PS6	Strong co-ordination mechanism
PS7	Public involvement
PS8	Education and awareness raising
PS9	Legalizing ICM into local plan
PS10	Sustainable financing
PS11	Political will
PS12	Evaluation and monitoring

An extra questionnaire was sent to 19 interviewees that were involved in the prior

semi-structured interviews regarding to their perception on the success and sustainability of ICM in Vietnam. The respondents were asked to rank factors contributing to the low performance of ICM in Vietnam according to their perception. The score ranges from 1 to 12 scale (1: least important; 12: most important) with a list of success factors from literature (Tab. 4).

3. Results of study

3.1. ICM Project performance

The results of the evaluation demonstrate that the majority of projects showed inadequate progress towards desired outcomes. Overall project effectiveness, which takes into account the design phase, implementation and sustainability of the action beyond completion, was judged to be on the lower end of "Fair" (0.44) (Tab. 5 and Fig. 3). Only P4 (ICM with PEMSEA approach in Da Nang) was rated as Relatively Good. Therefore, with the exclusion of P4, the average score of the remaining selected projects drops to 0.38, moving closer to the Relative Poor mark. All three projects with external funding (P1, P2, and P3) were rated as "Fair" for performance. Most significantly, all three ICM government initiatives (P5, P6, and P7) performed "Relatively Poor" with an average score of 0.23 (Fig. 4, 5). This is in considerable contrast to the average score of all externally funded projects of 0.61.

Table 5. Overall ICM performances

Code	Effectiveness (All 3 stages)	Performance (Stage 1 & 2)	Sustainability
P1	Fair	Fair	Fair
P2	Fair	Fair	Relatively good
P3	Fair	Fair	Relatively Poor
P4	Relatively Good	Relatively Good	Relatively good
P5	Relatively Poor	Relatively Poor	Relatively Poor
P6	Relatively Poor	Relatively Poor	Fair
P7	Relatively Poor	Relatively Poor	Relatively Poor

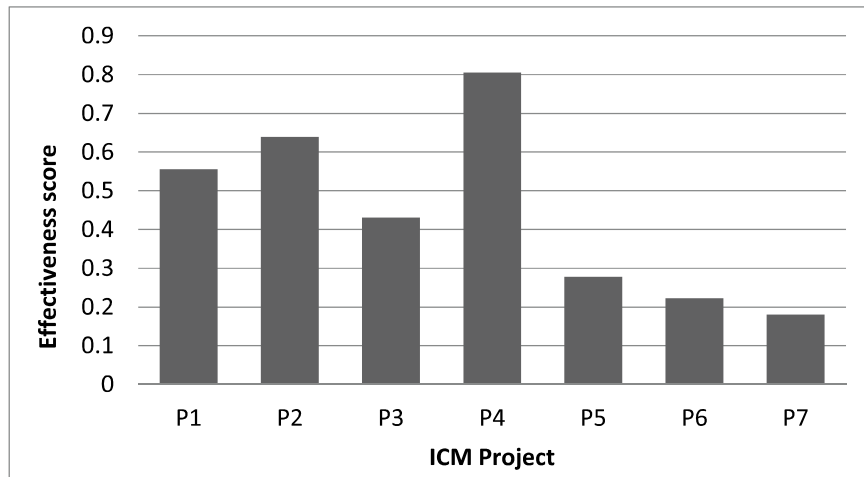


Figure 3: Overall effectiveness of each project
(Mean 0.44; St. Dev 0.23; Min 0.18; Median 0.43; Max 0.81)

Separating project performance (which accounts for design and implementation phases), from sustainability is instructive. Project performance remains as lower “Fair” but rises slightly to a 0.45, while the sustainability of projects drops to 0.38. The majority of projects have therefore not had the desired impact beyond completion. Only two projects P4 (Da Nang) and P2 (Thua Thien Hue) had “Relatively Good” sustainability. Two projects (P1 and P3) showed significant difference between performance and sustainability. Disentangling project performance and sustainability also highlights a weak link

between good project performance and sustainability, as two of the four projects that had fair/relative good performance were scored low when it came to sustainability of the project. The contrast between a good performance but followed by weak sustainability can be seen clearly in Fig. 4.

Fig. 5 shows that the performances of the planning stage of all 7 projects are higher than those of the implementation one. This is a significant implication that ICM in Vietnam have so far mainly been at the planning stage and hardly led to effective implementation.

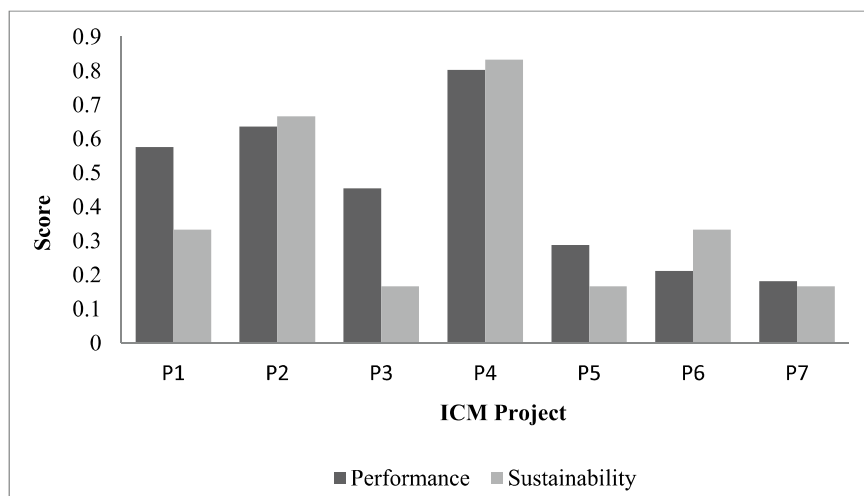


Figure 4: Project scores for performance and sustainability

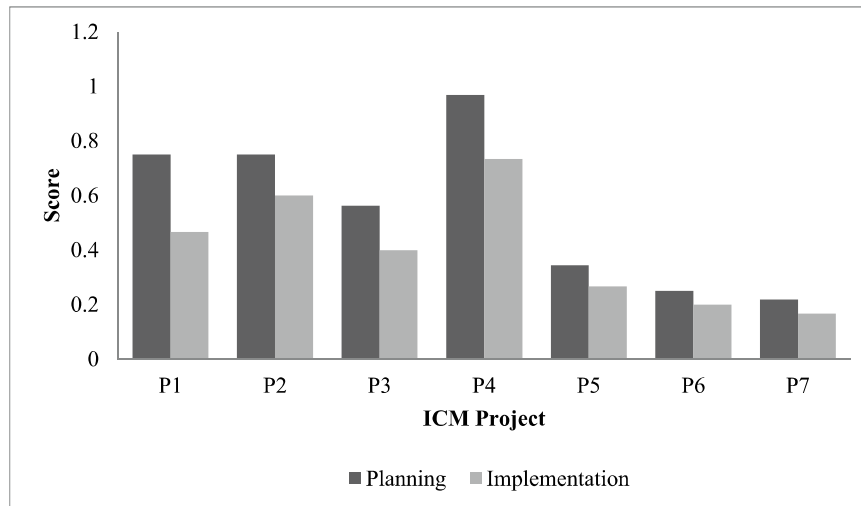


Figure 5: Project scores at planning and implementation stages

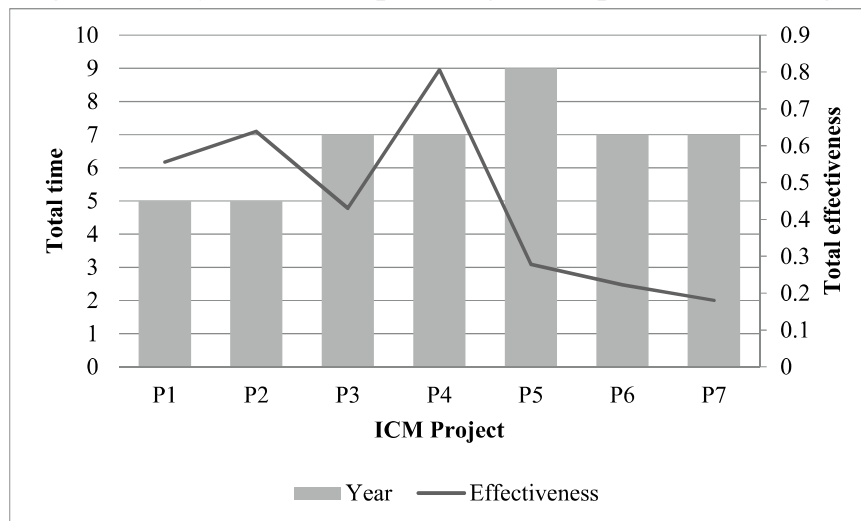


Figure 6: Effectiveness compared with total time of each project

The timescale of each project varied. Fig. 6 shows the relationship of effectiveness and the total duration of the project. The government initiatives P5, P6 and P7 show very low efficiency. The total time of these projects is among the longest but produced the lowest effectiveness score.

3.2. The performance of criteria for success

The evaluation highlights clear patterns in the strengths and weaknesses throughout the implementation of all projects (Fig. 7). Average scores of each Criterion for Effectiveness (C1 - C14) ranged from 0.14 (Relatively Poor) to

0.64 (Fair), with top five criteria from the “planning” phase of projects. The five criteria that rated the lowest across all projects were from the “implementation” phase, where effective monitoring and evaluation (M & E) (C13) is the lowest.

Fig. 8 shows a clear pattern of overall performance of projects throughout the project cycle (Design phase (C1 - C6), implementation (C7 - C13), and sustainability beyond the project (C14)). The results suggest that there was a significant variation between the performance of each project, but on average, projects performed well during the planning phase.

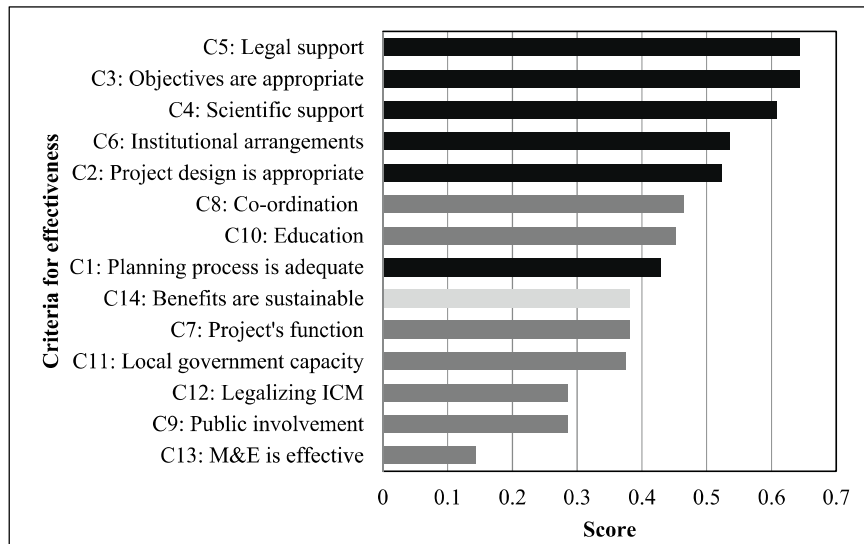


Figure 7: Average scores of Criteria for Effectiveness across all projects
(Colours are used to indicate what stage of the project cycle: black is Design, grey is Implementation, and light grey is Sustainability)

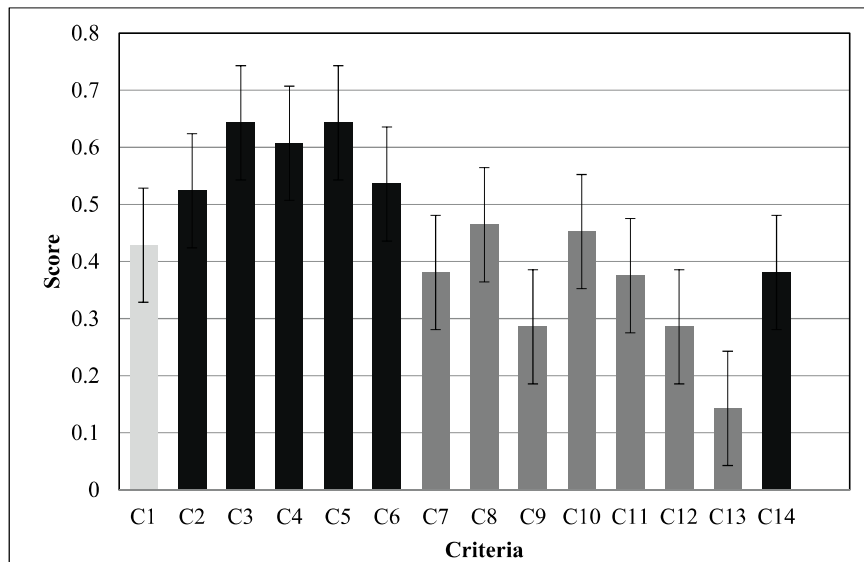


Figure 8: Average criteria for success scores across project cycle
(Colours are used to indicate what stage of the project cycle: black is Design, grey is Implementation, and light grey is Sustainability)

Table 6. Top seven criteria most strongly correlated with overall project performance

Criteria	Project stage	Pearson's coefficient	Performance Rank
Criteria 2: Project design is appropriate	Planning	0.962	5
Criteria 1: Planning process is adequate	Planning	0.952	8
Criteria 11: Local government capacity	Implementation	0.947	11
Criteria 10: Education	Implementation	0.944	7
Criteria 13: M&E is effective	Implementation	0.932	14
Criteria 5: Legal support	Planning	0.929	2
Criteria 3: Objectives are appropriate	Planning	0.928	1

Tab. 6 highlights the strongest correlations between individual Criterion for Effective and project effectiveness. It is observed that 4 out of top 7 factors are during the project planning phase that strongly correlates with good project performance and effectiveness. The other three are from the implementation stage.

The results again indicate that the success of ICM correlates well with project design and planning, local governmental capacity to conduct ICM, the capacity building of project stakeholders as well as strong legal support. M & E is also an

important factor to ICM effectiveness.

3.3. Local perception of success and sustainability of ICM

Fig. 9 summarises scores of all perceived critical success and sustainability factors by 19 respondents. The top 5 factors (scoring above 8) are:

- PS10: Sustainable financing
- PS11: Political will
- PS6: Strong co-ordination mechanism
- PS4: Adequate legal support
- PS8: Education and awareness rising

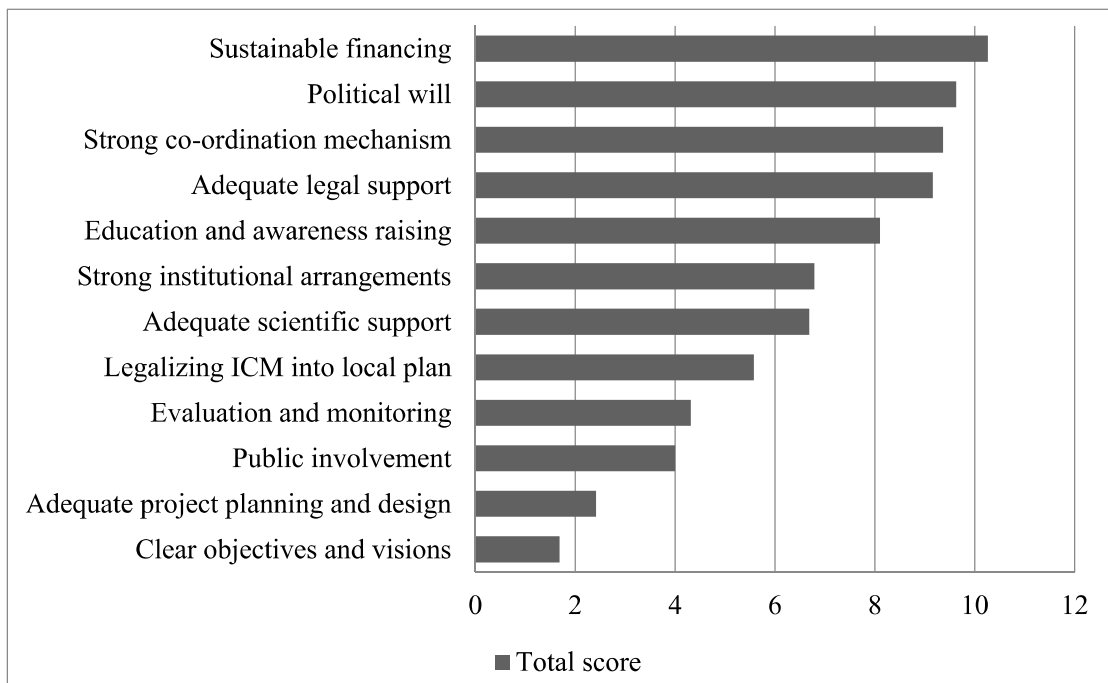


Figure 9: Ranking success factors according to all respondents

Fig. 10 presents the ranking of success factors perceived by local project officers, national officers and local scientists accordingly. According to national officers, local project staff and scientists the top factors are the same as total score result which include PS10, PS11, PS4, PS6 and PS8. While the local staff perceived that PS9 (Legalizing ICM into the local plan) is important, national officers and scientists gave a lower rank. This may be due to the belief that if ICM is legalized

into the local plan, local officers will be able to conduct their work with greater authority. Local staff also emphasize on the institutional arrangements to conduct ICM as they are the direct implementer. A strong institutional arrangement with clearly defined responsibilities will enable them to work more effectively. Similarly, scientists rank PS3 (Adequate scientific support) significantly higher compared to the other two stakeholders, which is reasonably given their work nature.

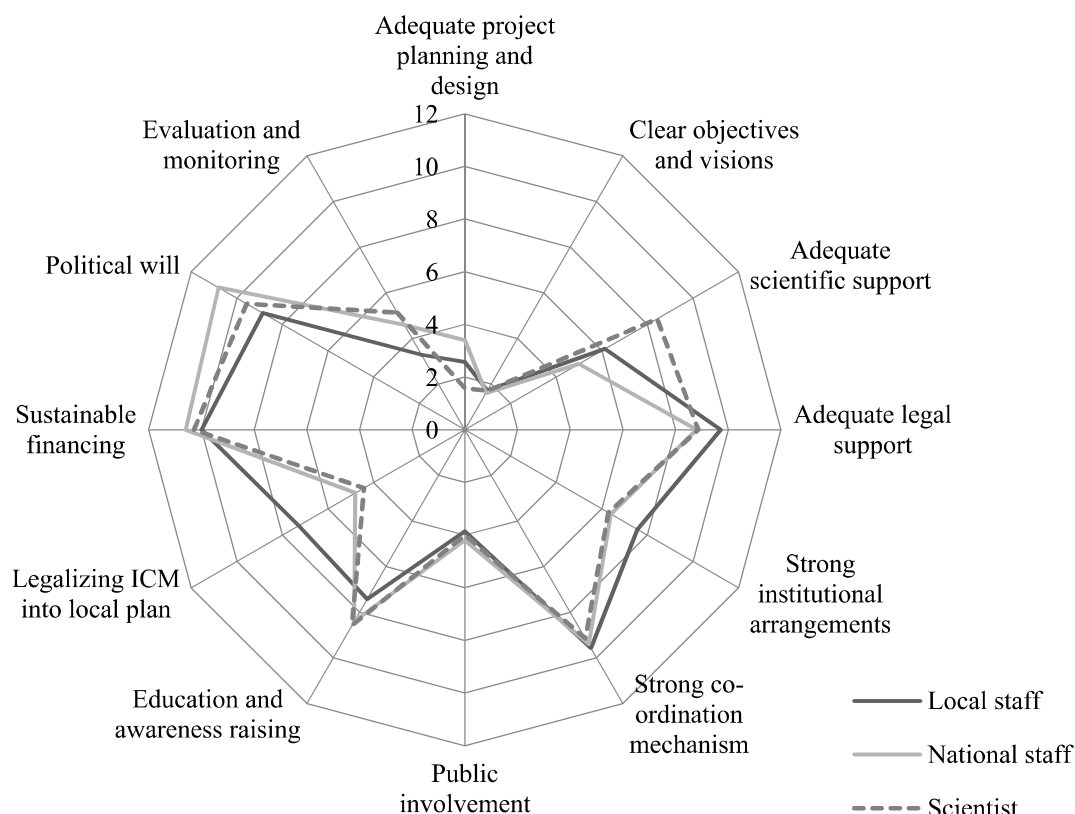


Figure 10: Ranking success factors according to local project officers

4. Discussion and conclusions

The results showed that the overall performance of ICM in Vietnam is typically in the fair to relatively poor range. Only ICM Da Nang performed well. The government initiatives performed most poorly although they have the longest time scale. All of the ICM projects performed better during the planning stage and degraded during the implementation stage.

ICM projects in Vietnam seem to have adequately legal support from the government and were carefully designed with a clear and shared vision. Institutional arrangements and co-ordination mechanisms were in place for implementing ICM. However, an effective monitoring and evaluation program did not feature in many ICM projects. The lack of financial support and local community involvement affected the performance of ICM. The fact that ICM has not been legalized into the local development plan also hindered the effectiveness of the ICM effort.

The evaluation of ICM also revealed factors that strongly correlate with ICM success. The results of the study of local perceptions on factors affecting the success of ICM are also similar to the evaluation results. Factors contributing to the success of ICM projects include legal support, capacity building, local government capacity (co-ordination mechanism, political will), and sustainable financing mechanism. The design of projects with clear objectives, a shared vision and public involvement also contributed to the performance of ICM. These factors are, however, not reflected in the local perception study. This shows the gap between reality and perception that needs to be further analysed.

The results of the perception study reflect well on the results obtained from the ICM evaluation. The key factors that affect the success of ICM in Vietnam are legal support, political will, capacity building and sustainable financing and a co-ordination mechanism. Low investment in these parameters results in

poor performance of ICM. However, the results of the evaluation clearly show that planning and designing of the project play a significant role in the success of ICM. This is not reflected in the perception of the local stakeholders. The planning and design are ranked as the least important according to results of perception ranking.

Although Vietnam has expended much effort to implement and scale-up ICM, the degree of achievement has been lower than expected. In the context of this study and based on empirical findings, some recommendations are as followed:

1. More effort should be made to institutionalise ICM at the local levels. The implementation of ICM should be conducted by the People's Committees who have the relevant power and authority to enable or hinder the implementation in their jurisdictions.

2. Awareness raising activities for decision-makers and local community should be the key components of all coastal management efforts. The level of awareness corresponds to the level of political support and public participation.

3. A sustainable financing mechanism must be researched and invested. These include but are not limited to the utilization of local budgets by gaining local political support, the collaboration with research institutes to make use of their research on monitoring, and the benefit sharing and fee schemes for beneficiaries.

4. The sustainable development of the sea and coastal areas should be closely linked with poverty reduction in coastal communities and livelihood improvements for the relevant stakeholders whose income depends on coastal and marine resources.

5. The mechanism to collect, store and communicate data across coastal management programs is essential to achieve effective coastal governance. Data accessibility and dissemination can have a positive impact in raising

awareness and enhancing stakeholder involvement. Therefore, the government should promote data sharing amongst all coastal management stakeholders

6. Relationship both vertically and horizontally must be strengthened for all the relevant stakeholders to have opportunities to participate in every stage of development and implementation of ICM.

7. Vietnam coastal management expert network should be established. VASI and DOFI can jointly organize annual network meetings to discuss and find out solutions for emerging coastal issues timely.

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