The joint efforts of the parties to realize ICM conception for the sustainability: Lesson learned the interagency coordinating mechanism in Sukabumi Regency

Isdahartati¹,*, A Solihin¹², A Damar¹³, C I S Narcise⁴ and T Kurniawan⁵

¹Center for Coastal and Marine Resources Studies, IPB University (CCMRS IPB), Kampus IPB, Jl. Pajajaran No.1 Bogor 16127, Indonesia
²Departement of Fisheries Resources Utilization, Faculty of Fisheries and Marine Sciences IPB University (PSP FPIK IPB), Jl. Agatis, Kampus IPB Dramaga, Bogor 16680, Indonesia
³Department of Aquatic Recources Management-Faculty of Fisheries and Marine Science IPB University (MSP FPIK IPB), Jl. Agatis, Kampus IPB Dramaga, Bogor 16680, Indonesia
⁴PEMSEA Resource Facility, DENR Compound, Visayas Avenue, Quezon City 1100, Philippines
⁵Regional planning and development agency (BAPPEDA), Jl. Komp. Perkantoran Jajaway, Sukabumi Regency 43364, Indonesia

*Corresponding e-mail address: isdahartatie@pksplipb.or.id

Abstract. The high potential of coastal and marine resources in Sukabumi Regency has a large complexity of problems between agencies, so it needs to be managed and planned in an integrated and coordinated manner in its management efforts. Sustainability of coastal and marine resources with an Integrated Coastal Management (ICM) approach. In line with Pemsea's ICM framework. The coordination mechanism through this institution has been implemented by Sukabumi Regency since 2014 as stated in the SK PCC and PMO of the ICM Institution with the Regent's Decree No. 213 of 2003 and the revision of the Regent's Decree 660.1/Kep.579-BLIH/2014 consisting of 40 Regional Government Units (OPD), community groups and NGOs which are the main keys in determining the strategic plan for coastal areas and small islands of Sukabumi Regency and revised in 2016. The inter-agency coordination mechanism, one of the main dynamics, plays a key role in determining the strategic plan for the coastal and small islands of Sukabumi Regency as well as approving and establishing the annual work plan and financing plan for the implementation by PMO in Sukabumi Regency, such as the integrated environmental monitoring program (IEMP), geopark development, waste management in turtle control at Pangumbahan beach. Each program implemented is the result which consists of identification, program planning, program implementation, adoption, and monitoring and evaluation. The purpose of this activity is to find out how it operates and is maintained and how it has been implemented to address priority issues.

Keywords: coordination mechanism; ICM; ICMPCC/PMO; local government unit (LGU); natural resources

1. Introduction
Sukabumi Regency has a coastline of ± 117 km and has high natural resource potential. This fact is an opportunity as well as a challenge because if it can be managed sustainably, it will have a positive impact on economic development and human development in the coastal area of Sukabumi Regency. The high potential of coastal and marine resources in the Sukabumi Regency has a large complexity issue between agencies so that it needs to be managed and planned in an integrated and coordinated manner in an effort...
to manage the sustainability of coastal and marine resources with an Integrated Coastal Management approach (ICM) [1]. Through an integrated management approach, ICM reminds various stakeholders that various sectors are involved in ensuring the sustainability of coastal areas, as their collective activities affect the ecosystem as a whole. On the other hand, single sector management often fails to consider the multiple impacts of different uses of coastal resources [2].

For harmonization between implementing agencies of the ICM Program as stated by Chua Tia Eng, 2006, in the PTT training module for stakeholders, he stated that “harmonization of integrated coastal management between stakeholders is the key to success and when viewed from the There are three important things that need to be considered, namely (i) system integration; (ii) functional integration and (iii) policy integration”. System integration aims to consider the spatial and temporal dimensions of the coastal resource management system. In the context of changes in biophysical, resource use patterns, and socio-economic functional integration linking programs and management with goals and suggestions Policy integration aims to maintain policy consistency at regional and national levels carry out identification and analysis of stakeholders involved in the management of this high resource [3].

In order for priority issues to become a program and reduce conflicts of interest, active coordination between relevant agencies is required. Considering the size of the role of stakeholders and the number of local government organizations (OPD) in managing these resources, the coordination mechanism becomes a critical point. It is necessary to establish institutions in the management of coastal resources in an integrated and sustainable manner. In line with the PEMSEA ICM framework, in which developing an integrated coastal resource management plan and reducing conflicts of interest, it is necessary to develop a coordination mechanism through institutions known as ICM PCC/PMO [4].

The ICM PCC/PMO is a coordinating agency consisting of government agencies, non-governmental agencies, the private sector, civil society and other stakeholders, which is a key component of the ICM program [5]. The coordination mechanism aims to harmonize any overlapping responsibilities between agencies and stakeholder interests and integrate policies and management. In addition, the availability and allocation of adequate resources for ICM will reflect the ability and performance of the ICM management team to manage, coordinate and carry out activities over time. Therefore, to implement a sustainable ICM Program, Sukabumi Regency needs to establish Programme Coordinating Committee (PCC) and Programme Management Office (PMO) institutions through the Sukabumi Regent's Decree.

Based on the above, for the success of the ICM program in Sukabumi Regency, the local government of Sukabumi Regency has established an institution called ICM PCC/PMO Number 214 of 2003, which was later revised by Decree of the Regent Number 660.1/Kep.56-BLH/2008 of 2008 and finally the Regent's Decree Number 660.1/Kep.579-BLH/2014 and the 2016 revision which is in accordance with the development and changes of Local Government Unit (LGU) and other institutions in Sukabumi Regency. The PCC as the policyholder consists of the heads of LGU related to coastal management, chaired by the Deputy Regent of Sukabumi. Meanwhile, PMO is a technical level which is the kitchen of the ICM program, consisting of structural officials and technical staff from related LGU and other stakeholders.

2. ICM implementation method

To analyze potential stakeholder conflicts in managing natural and coastal resources, it is first necessary to describe and classify the real issues that arise. The issue was obtained from the results of focus group discussions (FGDs), observations, and deep interviews with several relevant stakeholders in the Sukabumi district. In the next step, the issue is analyzed using onion analysis instruments to find out the claims (positions), interests, and needs of stakeholders [6, 7]. After obtaining the results of the analysis obtained in the form of potential conflicts between stakeholders, then look for a governance formula so that the coordination mechanism of multi-stakeholders in preparing resource management plans in the coastal and marine areas of Sukabumi Regency can accommodate the various interests of stakeholders in an institution called ICM PCC/PMO.
3. Key stages in developing and implementing an ICM program

The implementation of ICM in Sukabumi Regency starting from 2003-2020 refers to the ICM cycle, namely: (i) preparation; (ii) initiating; (iii) developing; (iv) adopting; (v) implementing; and (vi) refining and consolidating. ICM Training Manual Course 1: Understanding Integrated Coastal Management (ICM), 2018 [8-10].

The preparation stage is focused on establishing a project management mechanism with the Develop Communication Plan activity. The initiating stage focuses on preparing a work plan and arranging needed resources, namely involvement of the public in the adoption process, the developing stage focuses on developing a coastal strategy implementation plan, the stage adopts a focus on consolidating baseline information for the ICM program and financing mechanisms by the local government authority guarantees as Regent decrees: ICM PCC/PMO. The implementing phase focuses on implementing the coastal strategy and implementation plan (CS/CSIP by the local government authority and the refining and consolidating phase focuses on reviewing the institutional setup and then preparing for the new cycle (revised coastal strategy, scaling up) (figure 1).

3.1. Preparation

Stakeholder participation is the key to coastal management. The ICM coordination mechanism consists of stakeholders (government and non-government) with access to decision-making processes and activities. Therefore, at this stage, the first activity carried out is stakeholder analysis which aims to determine the potential and management policies, conflicts between stakeholders in Sukabumi Regency. The conflict potential is then analyzed using one of the conflict analysis tools, namely the onion analysis. The analysis results show a commonality of needs that becomes a conflict node in the interests of institutions in managing coastal and marine resources in the Sukabumi Regency. Likewise, to achieve
the goal of sustainable use and development of coastal and marine areas, a strong commitment from local leaders, in this case, the Regent, is required and supported by all multi-sectoral stakeholders from central and local government organizations as well as non-government and community groups.

Coordination is an indispensable element of an integrated coastal management (ICM) program. Setting up a Project Coordinating Committee (PCC) by a responsible authority at project inception creates sustainable coastal resources and environment for ICM implementation and is crucial to ICM success.

Based on this, the District has developed a coordination mechanism through institutions or known as ICM PCC/PMO and ICM has been implemented by Sukabumi Regency since 2014 as stated in the SK PCC and PMO ICM Institutions with The Regent's Decree No. 213/2003 and revision of Regent's Decree 660.1/Kep.579-BLH/2014 consisting of 40 Local Government Units (OPD), community groups and NGOs that are the main key in establishing the strategic plan of coastal areas and small islands of Sukabumi Regency and was revised in 2016.

The interagency coordination mechanism is effectively presented in the form of PCC and PMO ICM Institutions with Regent's Decree consisting of 40 Local Government Unit (LGU), community groups, and NGOs consisting of 4 technical working groups, namely: (i) Planning evaluation and mitigation of coastal areas; (ii) Monitoring and Control of pollution and utilization of coastal areas; (iii) Capacity building and empowerment of coastal communities; and (iv) Coastal rehabilitation and conservation.

Based on the Regent decree, the task of PMO:

- Develop a coastal strategy plan
- Arrange in detail the annual work plan and financing plan
- Enforce the policies and decisions of PCC
- Perform duties as ICM/PCC/PMO Secretariat
- Documenting activities and the ICMP process of Sukabumi in planning, implementation, and management, including the results of achievement, impact, barriers, experience, and lessons gained.
- Disseminate the experience and knowledge received ICMP Sukabumi to facilitate the implementation of ICM approach another site in Indonesia
- Participate in the local government network of member States of the PEMSEA
- Hold a PMO coordination meeting at least one month one time, using policies, devices, techniques, and practices developed to be applied to the ICMP Sukabumi
- Make periodic reports, maps, recordings, data, and other materials both published and not, which are deemed necessary in the development and implementation of the project, to be approved by the PCC and report it to the PRF PEMSEA, which copies are given to the PEMSEA National Focal Point

3.2. Initiating

At this stage, identification of potentials and problems is carried out. Coastal Strategy provides a framework within which more issue-specific as well as program plans will be developed in integrated resource management in coastal areas through FGDs and observations and deep interviews with members of the ICM PCC/PMO Sukabumi Regency, as well as to determine the commitment of each local government work unit in coastal management. And the development plan of each local government unit by compiling the ICM PPC/PMO work plan as outlined in the RPJMD and the annual work program of each government unit. The work plan is then integrated into the ICM PCC/PMO work plan for Sukabumi Regency, which is poured into the roadmap for the development of coastal and marine areas in the wider context of the coastal development strategy through economic, social, and environmental policies that are more integrated to the ICM approach. After that, the roadmap was socialized to the government and the community through a consolidation workshop which was then adopted by the Regent's Decree.
The commitment of each local government work unit in carrying out the ICM roadmap is evaluated to ensure whether the work plan is running according to the roadmap that has been prepared and whether it has been accommodated in the plans of each work unit through coordination meetings in the context of monitoring and evaluating the ICM PCC/PMO work program carried out once in two months.

3.3. Developing
This stage prepares a Coastal Strategy Implementation Plan (CSIP) that addresses risks and prioritizes action programs within the Coastal Strategy framework. A Coastal Strategy Implementation Plan is carried out through an integrated environmental monitoring program is developed to assess changes in the environmental risk levels, and results from this are used to refine the risk assessment. Data gathering is focused on interventions directed at risk management. Development and implementation of a coastal use zoning plan is also an important undertaking at this stage, while stakeholder consultations are done in a continuous process. Then Consolidating baseline information for the ICM program was carried out to all relevant stakeholders in workshop activities several times until the Sukabumi local government finally adopted it.

3.4. Adopting
At this stage, the Coastal Strategy and action plans are adopted by the local government authority. This is facilitated by disseminating information to the general public on the environmental issues and risks associated with public health, ecosystem health, and the society’s well-being. The interagency coordination mechanism is effectively presented in the form of PCC and PMO ICM Institutions adopted by Regent's Decree, which was later determined to be a technical teamwork in developing a planning program for sustainable natural and coastal resource management.

3.5. Implementing
This stage sets up an interagency and/or multi-sector coordinating mechanism. The management ICM PCC/PMO's project arrangements can be transformed into essential parts of local government institutional structures, and financial resources are utilized to operate the ICM program. Action plans that offer quick results are selected to build the confidence of the stakeholders. ICM Program has been executed from 2003–2020 (17 years) conduct ICM Cyclecycle:

- Integrated planning process across various sectors concerned in coastal and marine resource management
- Harmonizing the budget plan in various related sectors and allocated in individual sectors concerned in order to optimize the use of available local government budget resources to address strategic environmental issues
- Succeed development of Palabuhan ratu Tourism Area is the milestones for effective implementation and achieve the objectives of the integrated coastal management program
- Public awareness and education programs in order to empower and enable coastal communities to increase their quality of involvement and promote independent co-management initiatives in the management process
- Promoting equal, synergic partnerships among the government, private sector, and public in coastal and marine resource management

3.6. Refining and consolidating
Refinement of the Coastal Strategy and action plans may be necessary to respond to the stakeholder consultation process feedback. Local staff is expected to gain experience, thus resulting in the more effective implementation of the action plans. The ICM program then moves to the next cycle. Based on PCC/PMO Workplan 2003-2020.

The interagency coordination mechanism is effectively presented in the form of PCC and PMO ICM Institutions with Regent's Decree No. 213/2003: Integrated planning process across various sectors concerned in coastal and marine resource management. Sukabumi RegencySukabumiRegency has been
done ICM program according to the cycle of ICM and prepares for the new cycle of ICM, and, prepare for the new cycle (revised coastal strategy, scaling up to 9 districts). Several strategic approaches have been applied in the development and implementation of the Integrated Coastal Management Program for the Palabuhanratu Bay in Sukabumi Regency revision of Regent's Decree 2016 consisting of 40 Local Government Unit (LGU), community groups, and NGOs: (i) Capacity building and empowerment of coastal communities and (ii) Ecotourism Development at Geopark Ciletuh-Palabuhanratu. Sukabumi Regency have done prepare for the new cycle (revised coastal strategy, scaling up: Pollution Control in coastal areas through integrated Environmental Monitoring Plan program.

4. Result
To develop ICM Program and coordinating mechanism can adapt to major changes (horizontally and vertically) and support harmonization of efforts across sectors and levels of government as a platform for stakeholder discussion and coordination. Sukabumi regency has been executed from 2003 – 2020 (17 yeas) to conduct ICM Cycle. Sukabumi Regency is held in the PCC PMO working meeting which is conducted quarterly on a regular basis, has established a strategic plan for coastal areas and small islands and has established an annual work plan and a financing plan for the implementation of the ICM program. The interagency coordination mechanism is effectively presented in the form of PCC and PMO ICM Institutions with Regent's Decree No. 213/2003 and revision of Regent's Decree 660.1/Kep.579-BLH/2014 consisting of 40 Local Government Organization (OPD), community groups and NGOs, and revision 2016. Sukabumi Regency is also designated as a PEMSEA demonstration site in the Implementation of Integrated Coastal Area Management, set forth in the Memorandum of Understanding between the Ministry of Environment and Forestry and the Sukabumi Regency Government Number MCC-19/PPKL/PPKPL/PLK.1/6/2016.

5. Lesson learned
The complexity of the problem of integrated coastal management of the Sukabumi Regency demands the integrative contribution from each LGU and stakeholders. The existing main task of coordination of all LGUs is done by Bappeda’s. To facilitate the planning and monitoring of the implementation of development programs in coastal and marine regions, the established PCC and PMO involve stakeholders, LGU, and association organizations and community groups. The existence of PCC and PMO has been proved to assist the Bappeda’s in focusing on implementing ICM conception involving those stakeholders. This makes it easier for the Bappeda’s to propose and replicate the programs compiled annually. Implemented of Integrated Coastal Management Program” is a continuous and interactive process; it cannot be easily implemented by one night. The success of ICM program development and implementation is determined by the level of awareness, commitment, consistency, capacity, and confidence of authority/local government and other stakeholders, as well as the presence of a common vision and clear objectives that various stakeholders can share. There are several fundamental principles, milestones and factors for the successful implementation of Sukabumi ICM program that are important to share: (i) Chance for success in achieving ultimate objectives of sustainable use and management of coastal and marine resources at local level, in all cases, primarily determined by how strong of political will and commitment of the highest level of local government, together and supported by local parliament and concerned local government agencies/units and (ii) Regarding to local administrative, political and social set up, there are a number of strategic element to develop and implement in transforming the principles, concepts and objectives of integrated coastal management into reality: (a) Maintain PMO as a strong and stable institutional over changing political situations; (b) Operational, effective coordinating mechanisms by various sectors in planning and implementing ICM program activities; (c) Adequate scientific inputs due consideration in the planning and decision-making process; (d) Sufficient public education, awareness and initiatives/involvement in management processes; and (e) Synergic partnerships among government and private sectors/investors to ensure a sustainable financing scheme for long-term coastal and marine resource use and management. (iii) While moving towards achieving medium, long-term goals of
integrated coastal management implementation cycles, emphasis also needs to be put on the delivery of strategic actions. This may result in some short-term outcomes and milestones having positive demonstrative effects and may strengthen the confidence and widen, active participation of the public and government authorities.

Acknowledgments
Authors wishing to acknowledge assistance or encouragement from colleagues, special work by technical staff or financial support from organizations should do so in an unnumbered Acknowledgments section immediately following the last numbered section of the paper. MOEF (National focal point), PEMSEA, Sukabumi Regency and PKSPL IPB University.

References
[1] Fang Q, Ma D, Zhang L and Zhu S 2021 Marine functional zoning: A practical approach for integrated coastal management (ICM) in Xiamen Ocean and Coastal Management 207 104433.
[2] Christie P, Lowry K, White A T, Oracion E G, Sievanen L, Pomero R S, Pollnac R B, Patlis J M and Eisma R L V 2005 Key findings from a multidisciplinary examination of integrated coastal management process sustainability Ocean and Coastal Management 48 468-483.
[3] Wever L, Glaser M, Gorris P and Ferrol-Schulte D 2012 Decentralization and participation in integrated coastal management: Policy lessons from Brazil and Indonesia Ocean and Coastal Management 66 63-72.
[4] Thia-Eng C, Yu H and Gupqiang C 1997 From sectoral to integrated coastal management: a case in Xiamen, China Ocean and Coastal Management 37 233-251
[5] Ernoul L and Wardell-Johnson 2013 Governance in integrated coastal zone management: a social networks analysis of cross-scale collaboration Environmental Conservation 40 231-240.
[6] Rockloff S F and Stewart L 2004 Participatory tools for coastal zone management: Use of stakeholder analysis and social mapping in Australia Journal of Coastal Conservation 10 81-92.
[7] Portman M E, Esteves L S, Le X Q and Khan A Z 2012 Improving integration for integrated coastal zone management: An eight country study Science of The Total Environment 439 194-201.
[8] Thia-Eng C 2013 Coastal and ocean governance in the seas of East Asia: PEMSEA’s experience Coastal Management 41 99-119.
[9] Loke-Ming c, Thia-Eng C and Bonga D 2021 “Integrated coastal management” enhances coastal resilience to climate change-The East Asia experience Climate Change Science 59-79.
[10] Thia-Eng C, Bonga D and Bermas-Atrigenio N 2006 Dynamics of integrated coastal management: PEMSEA’s experience Coastal Management 34 303-322.