

# Management Ecology and Coastal Area Development Policy Bantul and Kulon Regencies Progo

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**Abstract:** Management area coast Bantul and Kulon Regencies Progo important done, in discourse connection with system social or activity man often without notice continuity source Power nature and power support the environment or system its ecology. In development, system ecology interpenetrate come back system policy development in form disturbances environment or phenomenon happen inconsistency on rule legislation That own and high costs for anticipate it. Over each other interpenetration between system that, is important for lower vulnerability and improve resilience area coast through non-formal, formal and political approaches. With use an ecological systems approach is important done and deep study This show that system ecology area coast penetrated by the system policy development is very strong and massive. Research result show that Dynamics each other interpenetration also occurs in the system policy development to system ecology. Variety development ongoing infrastructure massive in time short on the area coastal, has bring up interpenetration come back system ecology

**Keyword :** Ecology; Development; Policy Region Coastal

## Introduction

Threats real visible in the area coast south Island Java at least threaten around 6 million soul and potential give rise to loss (Rudiarto et al., 2018). Included in it area coast Bantul Regency and Regency Kulon Progo , Yogyakarta Special Region (Pandita et al., 2023; Triyatmo et al., 2018). Condition g eography beach south in that region including coastal areas waters open with the coastal horizon face to face direct with the Indian Ocean (Jordan & Fröhle, 2022; Kaliraj et al., 2017). In the area coast and coast of the Regency area Gunungkidul, characteristics his physique shaped bay and marsupial, formed from appointment karst. Forming material area coast Bantul and Kulon Regencies Progo in the form of

sand This make it more prone to to disturbance. Moment this, ecosystem compiler beach Bantul and Kulon Regencies Progo including forests spruce shrimp, land agriculture, mangroves, ponds shrimp, gumuk sand, and bushes.

Dynamics ecology area generally influenced activity human , or originate from system social (Berrio-Giraldo et al., 2021; Chen et al., 2024; Fitzhugh et al., 2019). Character ecosystem like Now This is form from intervention to environment enough big that is afforestation spruce shrimp from previous which is ecosystem dominant pres -caprae sandy with vegetation thicket (Pranzini et al., 2015). Afforestation spruce

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shrimp implications positive to business agriculture. Because reduce salinity air, become object tourism, reducing threat abrasion, breaking wind, contribute to increase in IKLH and ITV Yogyakarta. Afforestation is also beneficial anticipate threat disasters, including megathrust earthquakes that can occur trigger tsunamis, abrasion or shallowing (Benazir et al., 2023). However, in fact afforestation precisely impact No growing plant original coast (Braun, 2022; Su et al., 2024), inhibit Genre forming air mound sand shaper morphology coast and dunes sand. Demands social and economic the community is also encouraging happen destruction vegetation afforestation for settlements, rice fields, ponds, bonsai plants, wood burn, shade, and parts leaf its dry utilized as mulch (Valencia et al., 2023; Villalba-Eguiluz et al., 2023).

Dynamics other is mining sand in the lower reaches of the Progo and Opak Rivers which reduces Genre sand as compiler morphology coast (Thi Kim et al., 2020). Variety policy development and activities social form agriculture land sand and tourism by the community (Gomiero, 2016; Yamagishi et al., 2024), encouraging Regional Government publishes Regional Regulation No. 9 of 2018 concerning Plan Zoning of Coastal Areas and Small Islands Special Region of Yogyakarta 2018-2038. One of them his instructions is conservation coastal and mangrove ecosystems, viz as place exploration turtle and bird habitat Trisik Beach migrants (Hakim et al., 2017), Baros Beach mangroves at the mouth of the Opak River, and Pasir Beach mangroves Mendit who is Bogowonto River estuary. With coastline 113 km long, coastal beach south of Yogyakarta has developed for diverse interests and activities including agriculture, fisheries, tourism, facilities transportation air and land, and protection diversity life.

Coastal areas are also important in context effort mitigation and adaptation change climate, as is known that ecosystem coast South of Yogyakarta is a sensitive area experience change, with level vulnerability classified currently (Hastuti et al., 2022). Sensitivity its morphology the more tall with the height activity humans, that is activity public or called system social and decision political or called system policy development. Variety activity This increase vulnerability area that is physique arranged from sand, from originating threat from disaster hydrometeorology form increase tall sea level and wind tight, too disaster tsunami nature.

Management area coast Bantul and Kulon Regencies Progo important done, in discourse connection with system social or activity man. Urgency other is strong encouragement development often without notice continuity source Power nature and power support the environment or system its ecology

(Adger, 2000; García-López & Antinori, 2018). In fact, system ecology area coast become support main resilience and sustainability system social and system policy development.

## Method

Research sites is area coast beach Bantul and Kulon Regencies Progo. Object sample location is ecosystem that is experience significant influential to morphology beach, in fact experience is area important for diversity living, literally economic and social important for society, and so on political set as area important in development regional and national. Fulfillment objective main study This is build management strategies area coast Bantul Regency and Regency Kulon Progo. Objective This will face to face with reality system social and system policy constant development interpenetrate system ecology, in fact over and over, over and over again continuous, and creating symptoms that are reciprocal, no as symptom cause and effect (causality). Understanding about system in force in the region coast This important as approach in comprehensive management. Paradigms in research this is what tends to happen qualitative descriptive (Walker et al., 2022).

## Result and Discussion

### System Management Ecology

Classification use land referring to the Indonesian National Standard (SNI) No. SNI 7645:2010. Use land classified into 4 types that is Open Land, Land Agriculture, Coastal Forests and Water Bodies. Identified coastal areas in study This is covering an area of 2.023.78 hectares, consisting of from land open covering an area of 638.56 ha, land agriculture covering an area of 538.44 hectares, forest beach covering an area of 474.49 hectares, and water bodies covering an area of 372.28 hectares. Full results presented in Table 1.

**Table 1** Use Coastal Area Land Bantul Regency and Regency Kulon Progo Year 2022

Type Use Land	Regency(ha)	Regency Kulon Progo (ha)	Total
Open field	23.45	52.20	638.56
Land Agriculture	627.61	849.02	538.44
Coastal Forest	79.86	170.93	474.49
Water body	78.31	76.18	372.28
Total	809.23	1.148.33	2.023.78

Based on table above, land open is the most dominant type in the area coast second regency. Land open intended form YIA Airport infrastructure, region

lips beaches, roads and land used a pond left by the owner Because salinity tall so that not enough Good For agriculture. Land area open apart from YIA Airport in the Regency Kulon Progo, the rest spread equally throughout area coast second regency. Viewed more far, percentage land open only by 31.60%, in fact show productivity land area the coast is very high For various needs and interests society and government. When observed more far, far away tend down from previously 39.30% in 2018 and 43.30 % in 2013. The amount the numbers can Keep going decrease when land used pond Shrimp and its surroundings are contaminated with salt water or brackish has return to normal and use back, as well he woke up more infrastructure Good.

Next is type use land agriculture and forests beach. Existence second type use land this each other intertwined tightly with productivity land, that is forest beach reduce salinity reaching air land agriculture so that in a way direct increase productivity agriculture (Abdel, 2023; Dewi et al., 2022). In a forest area the beach Not yet Wake up, farmer will strive closing natural or artificial other for guard salinity air low. In its development then, existence forest beach increase Power pull object tour (Akram et al., 2023; Bellato et al., 2022). By significant, areas with forest beach, all at once become area tour. Power pull the tour various, including games on the beach, camping, fishing, or game artificial other. With so, forest beach has 2 functions all at once, that is deduction salinity air and improve Power pull object tour. More details based on administrative area, usage land in Bantul Regency in 2022, presented in Table 2.

**Table 2.** Usage Land Bantul Regency in 2022

Type Use Land	Area (Ha)	Percentage
Open field	23.45	2.90
Land Agriculture	627.61	77.56
Coastal Forest	79.86	9.87
Water body	78.31	9.68
Total	809.23	

*Interpretation Ecology with Development Policy*

Reduction and meaning it is very visible in afforestation, which is the beginning initiated by the Government, along with academics, with designation rehabilitation area coast. Footing base on meaning rehabilitation That Alone of course it's just very different with afforestation, deep implementation in the area coast through stages different and bringing implications and risks that are not described previously. As can see moment This is a simplification meaning on area coast Bantul Regency and Regency Kulon Progo, some big implications has remove ecosystem the original Because stand from different meaning on system ecology area coast. With So, you can said that footing base development forest coast simply started from long term

this known in policy development, that is rehabilitation. Use term rehabilitation, instead afforestation that brings consequences knowledge different, together package the activities carried out Government become proof that system policy development become instruments used and evidence meaning on system ecology.

Meaning this is the next one become action intervention in the area coast. Meaning This in a way as it happens in accordance with need system social that is increase productivity agriculture (Dimitrijević, 2023); (Pawlak & Kołodziejczak, 2020; Peng et al., 2022). Then in development, creation consequences it opened opportunities business economy tourist along with efforts supporter others, increasingly favored by the system social. On context this, object from system policy development as well as system social is the same, that is system ecology area coast (Charles et al., 2020; Gonçalves et al., 2020; Mensah, 2019). As the consequences moment this, intervention from second system to system ecology area coast has almost fully change span naturally. Interpenetration system policy development to system ecology return occurs during implementation Among Farmers paradigm Trade Screen in 2011, which is the goal increase potency production agriculture and improvement exploitation source Power marine sea south.

The Among Tani paradigm is based on agriculture that has implemented with afforestation throughout coast coast and proven capable increase productivity agriculture. Whereas exploitation area sea south as implementation paradigm Trade Screen, realized with construction of Tanjung Harbor Adikarto at the mouth of the Serang River Regency Kulon Progo as a hub for trading results business marine. However, output paradigm This No in accordance with objective beginning Because channel Then cross boat always experiences shallowing form sedimentation sand. Shallowing in a way direct stop operationalization harbor. Policy replacement next is move development harbor at Sanden Beach, Regency Mountain South. Interpenetration system policy development next is giving permission mining sand iron to PT Jogja Magasa Iron initially give concession wide around ±150 hectares. Decision giving initial permission no listed in the Regency RTRW Kulon Progo or DI Yogyakarta, forced for available with future spatial planning revisions accommodate business thethis process show exists intervention policy from government as holder authority power political in development something area. The impact that appears next as a result of a forced process the is appearance protest from circles public affected who are supported by activists, institutions self-subsistent society, and some academics about legitimacy permission the in process (Hodel et al., 2024; Koo et al.,

2020; Scarborough et al., 2022), several mass media preach has ongoing taking sample sand iron and termination activity agriculture in the incoming area PT JMI concession, collectively direct has change span land or system ecology area coast (Aswani, 2019; Elegbede et al., 2023; Kristiansen et al., 2023). Conflict legitimacy This even has harm life and property objects, the cohesiveness of which is torn between pro and con groups in society coast, the people of DI Yogyakarta, and even become issue dim national. Interpenetration system policy development to system most intensive ecology occurred in the district area Kulon Progo, namely in Kapanewonan Temon that includes District Anchorage and District Stand on the span land area  $\geq$  600 hectares. Interpenetration to system ecology area the at first done by the system social that is switch function area coast become land farming is starting intensive happened at the start 2000, and cultivation shrimp intensive vaname took place in 2013. By almost simultaneously, interpenetration from system policy development happen for support business agriculture that is afforestation area coast.

The process is not can excluded consequence interpenetration system policy development, as applies to the system social, is interpenetration come back system ecology (Bombaerts, 2023; Longo et al., 2016). Dynamics interpenetration bi-directional between system ecology and systems policy development illustrated in the following image.

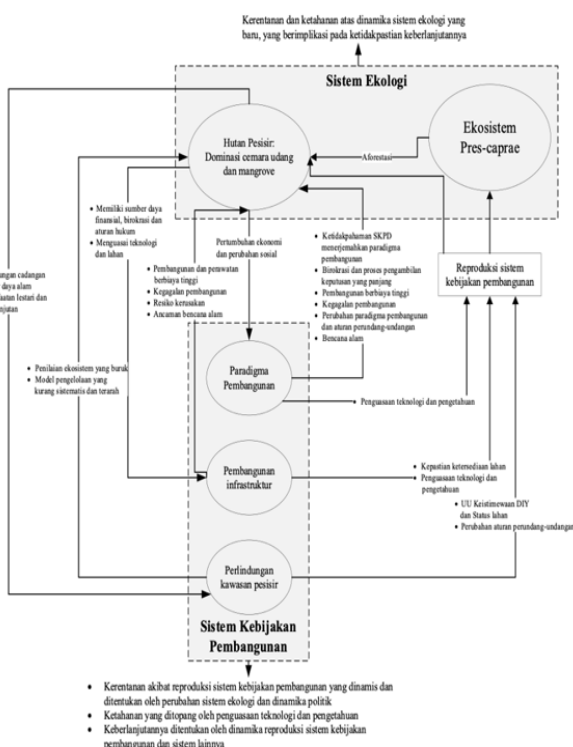


Figure 1. Interpretation Ecology with Development Policy

## Conclusion

Dynamics each other interpenetration also occurs in the system policy development to system ecology. Variety development ongoing infrastructure massive in time short on the area coastal , has bring up interpenetration come back system ecology with cessation operational harbor Cape Adikarto from stack sand on the path Then cross ship , presence disturbance birds in flight and very expensive Can construction facility supporters of NYIA Airport, disturbed activity laying eggs turtle as protected animals rule legislation and status conservation high , and disruption of the formation process hump sand as area strategic environment life. Specifically, area hump sand, its existence can lower vulnerability from tsunami threat.

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## Author Contributions

Conceptualization; M. W.; methodology.; E. P.; validation; M. T. T. H.; formal analysis; D.; investigation.; M. W; resources; E. P.; data curation: M. T. T. H; writing—original draft preparation. D.; writing—review and editing: M. W.; visualization: E. P. All authors have read and agreed to the published version of the manuscript.

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## Conflicts of Interest

The authors declare no conflict of interest.

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