This brief series was developed in preparation for the Foresight Breakout Session of the Global Conference on Agricultural Research for Development (GCARD 2012) and the Global Foresight Hub. The briefs were written to communicate to a wider audience, such as policy makers, civil society organizations, researchers, and funders. The briefs were classified into three categories: Future Studies, Regional Update, and Visioning.

Building a shared vision: Scenarios for collaborative land use planning on Seram Island, Central Moluccas Regency, Indonesia

Nining Liswanti, Collaborative land-use planning project (CoLUPSIA)

Based on a Participatory Prospective Analysis (PPA) work for future land allocation and use on the island of Seram, Central Moluccas Regency, Indonesia.

“The lands in Maluku are traditionally belonging to us and are a heritage from the ancestor. What we want is clear regent regulation on our lands.” Mr. R.Y.B Lailossa S.H., Village leader

The Central Moluccas Regency on Seram Island covers 7,700 km² and has a population of approximately 175,500, who live mostly along the coast within the area's ten sub-regencies and 108 villages. The economy is mainly based on marine resources, but agriculture contributes significantly. Economic development, in particular the potential expansion of plantation and population growth (including the transmigration programmes of the Government), is putting pressure on the limited resources of Seram, in some cases resulting in conflict between users of local resources. Such conflicts are related to the diverging demands of conservation and economic development, issues of land boundaries, use and access, as well as forest resources ownership and access to markets. Like everywhere else in Indonesia, an important issue for land use planning is the lack of clear land tenure and rights for communities.

In Indonesia, all forests are under government “state forest” jurisdiction. The Ministry of Forestry uses forest zoning to identify different types of forested areas as follows: production, limited production, protection, conservation, and other uses. In 1997, Seram's Manusela National Park was designated as a conservation area. The park covers 1,890 km² or 16 percent of the regency. The purpose was to preserve Seram's natural heritage, but a new challenge immediately emerged: ensuring conservation while creating local economic development.

![Figure 1. The Central Moluccas Regency on Seram Island](image-url)
Oil palm estates have been expanding along the north coast since 2008 (9,000 hectares so far, mainly on former grasslands and some swamp forest). Crude oil extraction will intensify soon in the North East. The potential impact of the development of the large companies (oil palm, cocoa and timber) is unclear but could present a major challenge to the regency as it struggles to mitigate the impacts of economic development and population growth, while maintaining ecosystem services, including the National Park. In addition, traditional use of land for mixed gardens (cocoa, coconuts, spices, sago, etc.) is often seen as conflicting with companies and state-owned enterprises over land use. A first step in trying to improve the current situation is to facilitate the implementation of a more collaborative land use planning and allocation process that benefits all parties, seeking to take into consideration environmental and social issues.

Participatory Prospective Analysis: foresight for multi-stakeholders’ participation

The CoLUPSIA project adopted PPA to anticipate changes in land use through a scenario-based approach. The objective of the foresight work was to help land use planners build a common understanding from different perspectives and provide various options for better land use planning. The PPA result could also be used in preparing the regional policy on the land use planning process for the next 20 years.

In 2011, the project conducted a series of PPA workshops/expert meetings involving 23 participants from various backgrounds including local government, legislative authorities, universities, non-governmental organizations (NGOs), customary leaders and companies. Participants were selected based on their expertise in land use planning. The time allocated for each workshop was two days to complete PPA 1 (identification variable), three days for PPA 2 (analysis of influence variables) and PPA 3 (scenario creation).

Fifty-three variables (economic, politic, social, technology and environment) related to land use planning were identified based on consensus among participants. Analysis of the influence/dependence links between variables led to the identification of the strength of each variable. The strongest variables became the key variables selected for building scenarios.

The strongest variables are:
- Customary rights (Hakpetadat)
- Regent policies (Jakkepaladaerah)
- Community participation (Peransertamasy)
- Spatial planning policies (Jaktataruang)
- Legality of land (Legalitaslahan)
- Land conversion policies (Jakkonversilhn)
- Forest land planning policies (Jaktafukaht)
- Central government policies (Jakpempus)
- Local wisdom on natural resources management (Keariflokalsda)
- Land suitability for plantation and agriculture (Keseslhant&Bun)
- Palm-oil investment policies (Jakinvessawit)

Scenarios: “The future of land uses in 2028 in Seram, Central Maluccas Regency”

The three series of PPA workshop resulted in eight scenarios based on key variables. After further analysis, adding relevant variables and combining similar scenarios, four different scenarios were finally elaborated. The members of the Steering Committee and all participants approved these scenarios. The four scenarios display contrasted futures of land use on Seram Island.

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2 An EU funded project managed by CIRAD for the period 2010 – 2014.
Scenario 1: Matahari bersinar di pulau Seram ("The sun is shining on Seram Island")

The government involves communities in land and forest management and planning, implementation, monitoring and evaluation. The policy of spatial planning focuses on social and biophysical concerns. The customary system is acknowledged and accommodated. Customary and formal regulations are respected among stakeholders. Local development and people empowerment are based on people's needs.

Scenario 2: Miskin di negeri sendiri ("Poor in their own country")

A top-down approach is used in land use planning. The government determines land use on a large scale and uses the lands for government programmes. Land rights of communities are ignored. The legality of land tenure and natural resources is unclear. The district government has authority for policymaking and does not care about the spatial arrangement of forest functions, the environment and existing land suitability.

Scenario 3: Perjuangan yang seng bijak ("Struggle without an end")

The central government acknowledges traditional wisdom, but the legality of land and customary rights is uncertain. Communal land rights are not recognized. The central and local governments are authoritarian, and priority is given to the vested interests of groups of power. Conflicts arise from overlapping land use. Land use patterns are not in accordance with sustainability principles and regional characteristics. Government policies do not pay attention to the interests and welfare of the community. Community empowerment programmes fail to address local characteristics, capacity and community participation. The communities refuse to participate in the process of land management and implementation of development programmes.

Scenario 4: Kebijakan yang seng bijak ("Irresponsible policies")

The government policies consider local capacity, characteristics and potential resources, but uses an authoritarian and centralized approach benefiting certain groups and ignoring the interests of local communities. The communities disregard the rules related to spatial planning policies and maintain traditional land management and customary rules. The forest areas are defined unilaterally, causing communities to stop taking care of them. Changes in land use policy lead to growing investment in palm oil, furthering regional development and creating employment, but communities are left behind and conflicts among stakeholders start to occur.

Challenges, opportunities and actions

In 2012, the CoLUPSIA project undertook public consultations through direct meetings and group discussions as a follow-up to the workshops held with community groups, governments, private companies, NGOs and academics. All stakeholders at both the village and regency levels preferred scenario 1 as the desirable future. All rejected scenario 4. They also considered that scenarios 2, 3 or 4 could happen. According to them, scenarios 2 and 3 describe more or less the present land use situation in Central Moluccas Regency and represent “business as usual” evolutions which are not desirable.

Scenario 1 raised skepticism about the likelihood of it actually happening if no particular actions were taken, because it is an “idealistic” scenario. Yet all stakeholders hope this scenario will happen. The challenge they face is: how can they make scenario 1 come true and minimize the likelihood of the undesirable scenarios? Using the PPA as an approach, they expect that the process of land use planning in the regency will be changed in order to achieve the desired future. The way forward is to elaborate and implement an action plan based on the key variables of scenario 1 and integrate its programme and activities into the activities of the government agencies concerned with land use planning. Implementation will also require the commitment of all other stakeholders. At regency level, this requires dialogue at the national level because national regulation on land use planning is a top-down process.
The PPA exercise brought together people of different backgrounds and status. The approach was successful in building a collaborative atmosphere, and each person felt more equal and comfortable in sharing her or his ideas. The PPA exercise helped to change the attitudes of bureaucrats about local people's capacities and potential contribution, and also helped local residents overcome barriers (of language and status) to participation. It enabled the stakeholders to develop a shared vision for the land use planning process. All involved in the PPA process agreed that PPA is an appropriate tool to help them address problems related to land use and land allocation. The local government valued this process and has expressed its intention to use it for community empowerment programmes and development in Central Maluku. In addition, it was decided during the PPA process that scenario 1 must be included in the midterm regency planning involving several government agencies.

Stakeholders recognized that the future of land use in Central Maluku will need to consider some important key variables more seriously, including community participation, land rights and local wisdom, proportional use of forestlands, and land boundaries.

In some situations (for example, national park borders), limited land access has had a negative impact on smallholder livelihoods. Implementing desirable scenarios to address these situations becomes very important. This can happen only if all stakeholders work together to arrive at a common vision and then take necessary actions. Considering that land use planning in the district lacks coordination and is still using a top-down approach, the PPA process was a first step to improve this situation. As yet, there is no formal process for evaluating impact. This will need to be addressed and could be taken up by the regency planning agency by increasing its coordination with relevant stakeholders and the customary government.

One of the most important results from the PPA work is policies and social variables as key drivers (i.e. the strongest variables). These variables should be considered for future land use planning decisions because they will help policy makers and, more generally, all stakeholders to understand that they can play a role in their own future and steer the preferred scenario toward reality. However, the action plan for, and implementation of, the desirable scenario will need external support, especially in providing timely and accurate data on existing land use practices. The CoLUPSIA project is currently developing new land status, land cover and land suitability tools and assisting provincial staff in developing new maps of land categories as input to the land zoning/land allocation process. This effort might help to develop better policies and to deal with social issues such as land boundaries, ownership, use of and access to forest resources and access to markets between land users, especially if the tools are taken up by local stakeholders.

The National Park has used the maps generated by the project to establish a zoning system, and the database is also used by the forest service to identify potential forest management as well as land used by the community. This is essential for regency planning and is a major contribution to the regional spatial planning process.

In Indonesia, land allocation is defined by the central government, and the process often ignores the input of the district government. This becomes the main constraint that regency level stakeholders face. This case study has shown that by increasing the participation and integration capacity of all stakeholders, they are able to contribute more effectively to a better foresight for the future development, use and management of their land.