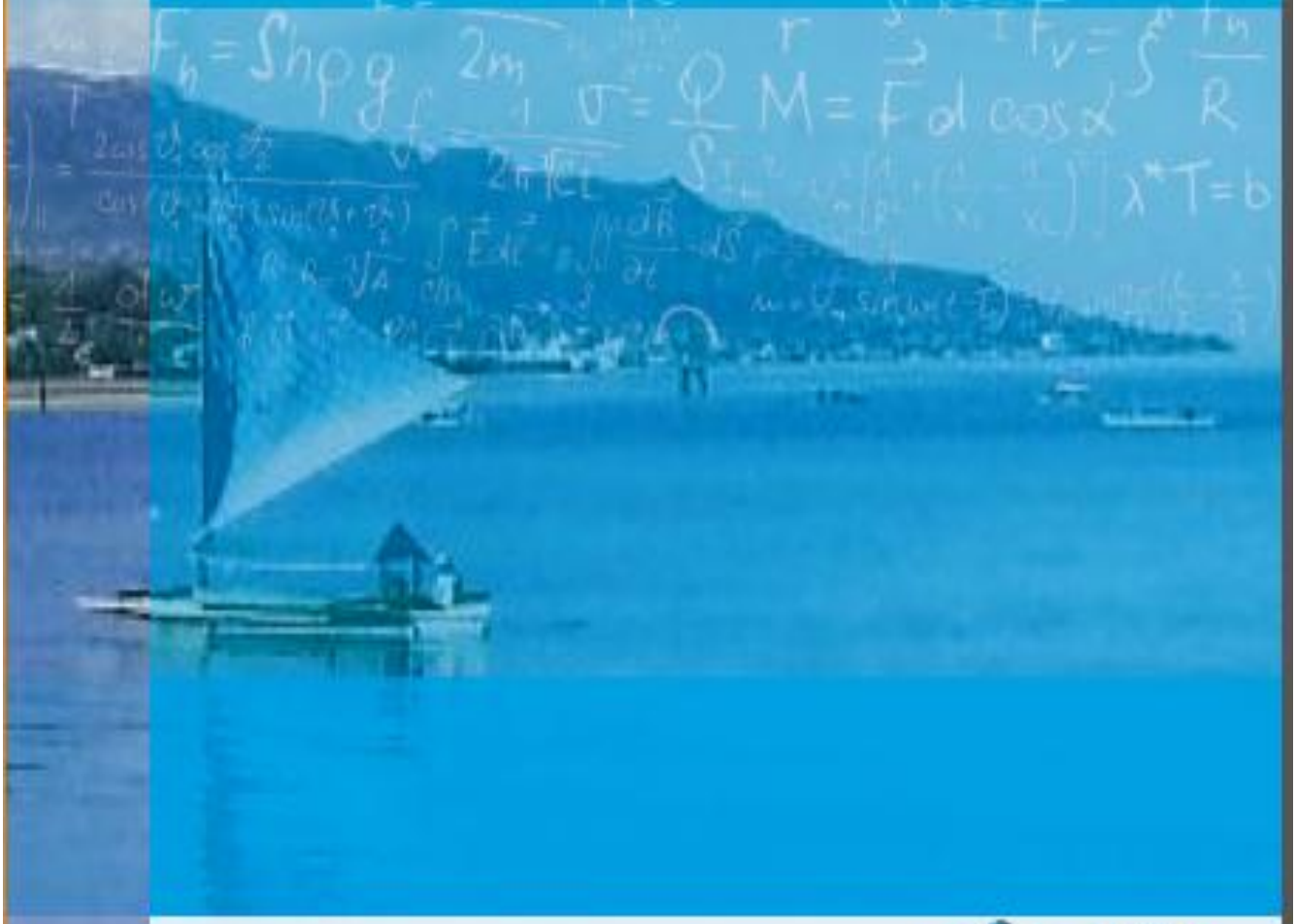
Basic Science
for Sustainable Marine Development

PROCEEDING
INTERNATIONAL SEMINAR 2015

Ambon, 3-4 June 2015



Organized by
Faculty of Mathematics and Natural Sciences
Pattimura University

PROCEEDINGS

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Welcoming Address by The Organizing Committee

The honorable, the rector of Pattimura University

The honorable, the vice rector of academic affair, Pattimura University

The honorable, the vice rector of administration and financial affair, Pattimura University

The honorable, the vice rector of planning, cooperation and information affair, Pattimura University

The honorable, all the deans in Pattimura University

The honorable, the key note speakers and other guests.

We have to thank The Almighty God for the blessings that allow this International seminar can be held today. This is the first seminar about MIPA Science in which the Faculty of MIPA Pattimura University becomes the host. The seminar under the title Basic Science for Sustainable Marine Development will be carried out on 3 June 2015 at Rectorate Building, the second floor. There are 250 participants from lecturers, research institute, students, and also there are 34 papers will be presented.

This International seminar is supported by the amazing people who always give financial as well as moral supports. My special thanks refer to the rector of Pattimura University, Prof. Dr. Thomas Pentury, M.Si, and the Dean of MIPA Faculty, Prof. Dr. Pieter Kakissina, M. Si. I also would like to express my deepest gratitude to Dr. Kotaro Ichikawa, the director of CSEAS Kyoto University, Prof. Bohari M. Yamin, University of Kebangsaan Malaysia, Prof. Dr. Budi Nurani Ruchjana (Prisident of Indonesian Mathematical Society/Indo-MS), Dr. Ir. A. Syailatua, M.Sc (Director of LIPI Ambon), and Hendry Ishak Elim, PhD as the key note speakers. We expect that this international seminar can give valuable information and contribution especially in developing basic science for sustainable marine development in the future.

Last but not least, we realize that as human we have weaknesses in holding this seminar, but personally I believe that there are pearls behind this seminar. Thank you very much.

Chairman

Dr. Netty Siahaya, M.Si.

Opening Remarks
By Dean of Mathematic and Natural Science Faculty

I express my deepest gratitude to The Almighty God for every single blessing He provides us especially in the process of holding the seminar until publishing the proceeding of International Seminar in celebrating the 17th anniversary of MIPA Faculty, Pattimura University. The theme of the anniversary is under the title Basic Science for Sustainable Marine Development. The reason of choosing this theme is that Maluku is one of five areas in Techno Park Marine in Indonesia. Furthermore, it is expected that this development can be means where the process of innovation, it is the conversion of science and technology into economic value can be worthwhile for public welfare especially coastal communities.

Having the second big variety of biological resources in the world, Indonesia is rich of its marine flora and fauna. These potential resources can be treated as high value products that demand by international market. Basic science of MIPA plays important role in developing the management of sustainable marine biological resources.

The scientific articles in this proceeding are the results of research and they are analyzed scientifically. It is expected that this proceeding can be valuable information in terms of developing science and technology for public welfare, especially people in Maluku.

My special thanks refer to all researchers and reviewers for your brilliant ideas in completing and publishing this proceeding. I also would like to express my gratefulness to the dies committee-anniversary of MIPA Faculty for your creativity and hard working in finishing this proceeding, God Bless you all.

Dean of Mathematic and Natural Science Faculty

Prof. Dr. Pieter Kakisina, M.Si.

Contents

Development of Integrated Poso Lake Tourism through Community Based

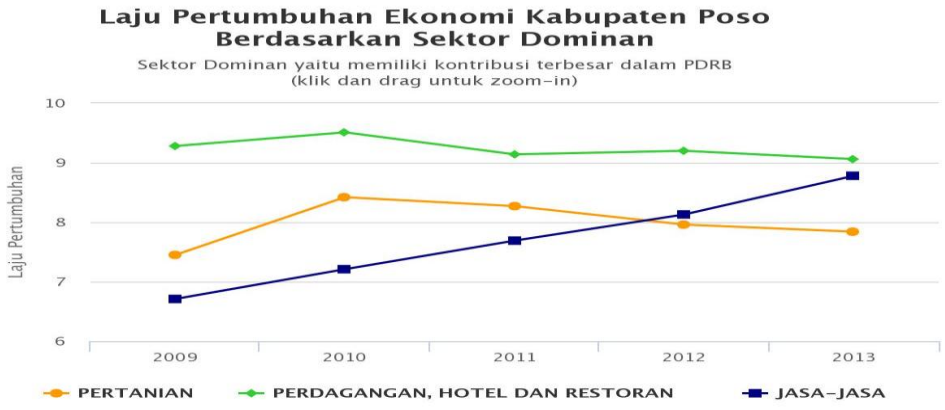
Tabita R. Matana, Gitit IP Wacana

ABSTRACT

The purpose of this research is development concept of community based Poso Lake tourism, integrated and sustainable. Data collection, both primary and secondary data performed by conducting FGD with some community leaders on coastal lake. Poso Lake is unique as the tectonic lake extensive stretch of ± 36.677 ha, altitude of ± 600 m above sea level, golden yellow sand and clear water. This uniqueness become a tourist attraction. The utilization of Poso Lake waters as the iconic of tourism development in Central Sulawesi is not handled holistically. Poso Lake becomes an important part of social, economic and cultural activities Lake Shore Pamona community.Social economic activities have an impact on the slowly sedimentation/siltation. Based on the survey result and analysis Landsat Map 7 ETM Band 542 on 2005 shows that the area of Poso Lake area has experienced siltation as a result of land degradation where almost all parts of the shores of Poso Lake has experienced serious silting, it is not recognized by the coastal community of the lake. Based on the result of the study, it is required serious effort on the various elements of society and government in managing integrated and sustainable Poso Lake tourism.

INTRODUCTION

In a decade, as the former conflict area, Poso begin to clean themselves in a variety of development activities. One issue that become the target of government reform during a two-year period 2005- 2015 is the tourism sector, but has not appeared the result significantly. If you look at economic growth Poso recent years has fluctuated with an increasing trend. Recently, it can seen that the Poso economic growth has fluctuated with an increasing trend. The rate of economic growth in the hospitality trade sector services appear to fluctuate. It can be seen in chart 1.



Sumber : BPS. Poso tahun 2015

The tourism sector is less developed in Poso district. This is expressed through the income data from the original local tourism sector that is still lacking. Danau Poso as a tourism icon in Poso district, Central Sulawesi is not even handled properly. Lake Poso is a tectonic lake located in the district of Poso, Central Sulawesi province that has an area with a ± 36 677 ha, altitude of ± 600 m above sea level, with climate classification according Shemid and Ferguson in climate type A with an average rainfall of 3284.16 mm / year with the value of q = 19 ° - 32 ° C. It is located in five districts namely North Pamona sub-district, East Pamona, South East Pamona, Pamona West and South Pamona sub Das Panjowuko including in the north and Sub Das Takilowimbi south. (Limnology. Lipi. go.id).

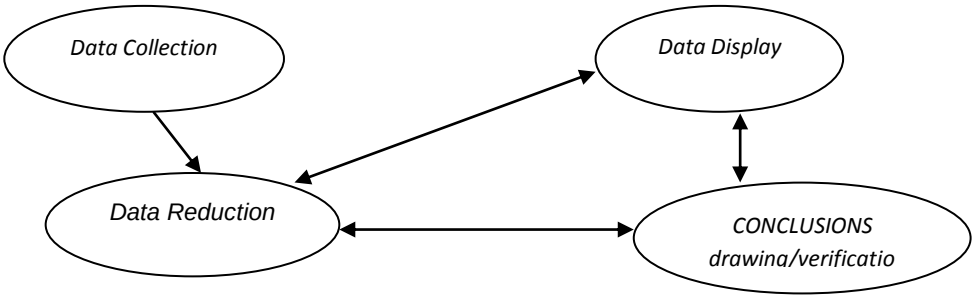
The main objective of this research is to explore the tourism potential, identify, and thus produce a concept of community-based tourism development and tourism object that becomes the main attraction. Poso Lake Profile becomes one of the attractions that draw into a source of income for the community. Poso River is the only river that drains water from the lake to the Poso Gulf – Tomini Gulf. Poso lake and river waters is crucial for economic growth Poso district, even the island of Sulawesi in general. (Dewanto, et al., 2012).

METHODS

In studying the problems of this research, the method used is qualitative with purposive sampling and snowball technique. The technique of collecting data is triangulation, namely:

1. Interviews: semi-structured interviews: by using a list of interview structured and open to explore in depth information.
2. Documentation: documentation originally from the subject, informations, as well as documents of village office and department of tourism, environtmental agencies, and various related agencies
3. Observation: tourism object observations and community activities.

Data analysis used in this research is qualitative data analysis based on data analysis concept of Miles and Huberman. Data analysis activities are reduction, data display and CONCLUSIONS drawing/verification (Sugiyono, 2007). The component of data analysis can be described as follows:



RESULTS AND DISCUSSION

General Conditions of Poso Lake Waters

In public administration, Poso lake is at 5 districts consists of 32 villages. Based on data from Limnology. Lipi. (2015) Watershed (DAS) that goes into Lake Poso is mostly located in the District of South Pamona and rainfall is quite high. In common, the watershed of Lake Poso can be divided into three parts: upstream, midstream and downstream.

Catchment area of Lake Poso is largely located in four sub-districts South Pamona, Pamona West, North Pamona, and East Pamona. Poso Lake has adequate water resources potential because it is supported the catchment area (DTA) at 5 times the surface area (Dewanto, et al., 2012).

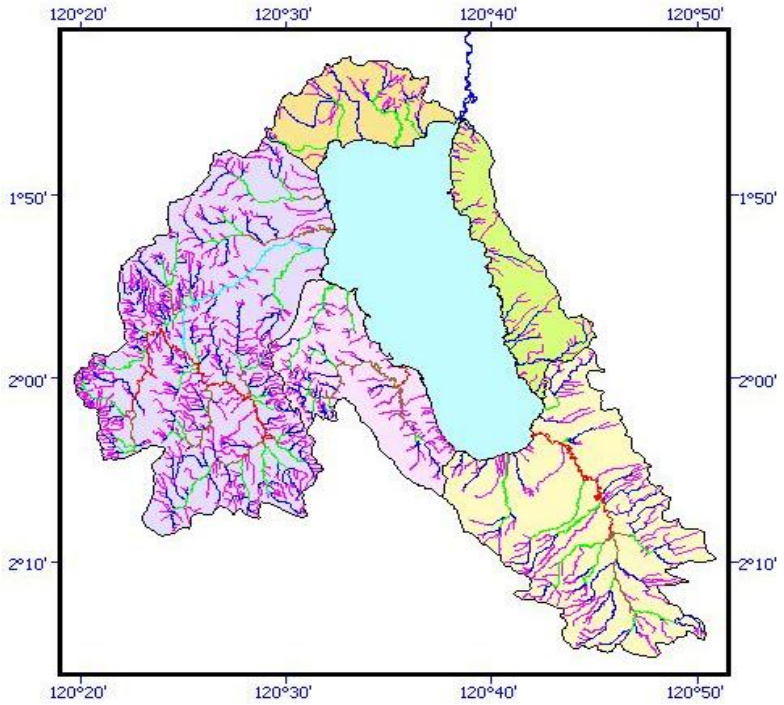


Figure 1. Pembagian sub DAS serta struktur jaringan sungai dalam DAS Danau Poso (Dewanto, dkk 2012)

Conditions of land use in the area of Poso lake is dominated by dry land, either as a moor, yards, forests and others. Unplanned land use in both impact damage at several locations as water catchment areas. Based on the data from Lipi Limnology (2015) Poso lake conditions with Catchment Water Damage (DTA) a. l:

a) The rate of Erotion and sedimentation
b) Land degradation level
c) Damage border
d) Water Pollution

Socio-Economic Conditions

Since conflict and post-Poso conflict, demographically coastal region around the lake has increased the number of displaced people. Similarly, in the transfer of assets and economic activities that have impact on forest encroachment. Community activities in the use

of land for plantations cacao, clove, etc. have passed the peg which has been determined by the forest service, especially in the area of West Pamona, Pamona Puselemba. Water catchment areas become less, when rain flows directly into the lake with a river channel widening. This condition is poorly understood and recognized by the local community. Based on data from Lipi Limnology (2015) Poso Lake function as:

a) The ongoing lifecycle flora/fauna
b) Sources of clean water that is used directly by the people around the lake and the Poso watershead as capital.
c) Means of transport
d) The potential attraction
e) The potential for the development of freshwater fisheries
f) Potential of agriculture
g) Sources of Water Power (hydropower), which are in the process of development by PT. Poso Energy ± 600 MW that is capable of supplying the electricity needs in the three provinces of the region including Central Sulawesi, South Sulawesi and Southeast Sulawesi Province.

Socio-Cultural Conditions

Pamona sub-ethnic that is inhabiting the Poso Lake coastal are To Lamusa (inhibiting in the south sub-district), To Onda'e (inhibiting in the east sub-district), To Binowoi (inhibiting in the west sub-district), To Wingke mPoso (inhibiting around Poso Lake), To Lage (inhibiting in the Poso river shore), To Pebato (inhibiting in the north sub-district). Those sub-tribes have their own customs. They are united by customs, such as: "mesale" and "mosintuwu". Mesale means a custom to help each other in a state of joy and sorrow. Mosintuwu means togetherness in unity. For that reason, Pamona tribe can live together with other tirbes in Poso district. All children of this tribe retain a firm customs inherited from their ancestors.

Potential Attractions of Poso Lake Tourism

Poso lake which is located about 57 Km from the capital of the district, has reached a depth of 510 meters. Danau Poso as the tectonic lake, is the third largest in Indonesia has a unique year-round clear water, sandy golden yellow, wavy shades such as sea water. The best time to enjoy nautical tourism Poso lake between April to October. In August, the Provincial Tourism Office hold a Poso Lake Festival, which is lately getting weak in promotion.

Around the shore of the lake Poso following the Trans-Sulawesi road and village walks a distance of 163 Km. Along the way, there are beautiful natural scenery, the hills green fence in the lake with a sandy beach sloping golden yellow. It can be found Buyumpondoli paddy field in the village, waterfalls Saluopa, and Kandela, conservation areas and nature reserves Pamona forest Bancea (Taman Anggrek Bancea) with very poor conditions.

The potential of cultural tourism around the Poso Lake is an ancient burial site for Pamona tribe including Pamona cave, Tangkaboba cave, Latea cave, historical sites, dances with singing of unrequited rhyme.

CONCLUSIONS AND RECOMMENDATIONS

1. Lack of public awareness of the importance of maintaining the forest around the lake.
2. Utilization of Lake Poso as attractions is not maximized.

3. Require counseling on forest conservation and forest functions for the sustainability of Poso Lake.
4. Plan and develop attractions to the theme of eco-tourism of local community-based.
5. Immediately make rehabilitation on the orchid garden location.

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