

INTERNATIONAL CONFERENCE



The Second International Conference on
Engineering and Technology Development

2nd ICETD 2013

27, 28, 29 August 2013, Bandar Lampung, Indonesia



PROCEEDINGS



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Hosted by :

Faculty of Engineering and Faculty of Computer Science,
Bandar Lampung University (UBL), Indonesia

2nd ICETD 2013

THE SECOND INTERNATIONAL CONFERENCE
ON ENGINEERING AND TECHNOLOGY DEVELOPMENT

28 -30 January 2013
Bandar Lampung University (UBL)
Lampung, Indonesia

PROCEEDINGS

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PREFACE

The Activities of the International Conference is in line and very appropriate with the vision and mission of Bandar Lampung University (UBL) to promote training and education as well as research in these areas.

On behalf of the Second International Conference on Engineering and Technology Development (2nd ICETD 2013) organizing committee, we are very pleased with the very good response especially from the keynote speaker and from the participans. It is noteworthy to point out that about 80 technical papers were received for this conference.

The participants of the conference come from many well known universities, among others : University Kebangsaan Malaysia – Malaysia, APTIKOM – Indonesia, Institut Teknologi sepuluh November – Indonesia, Surya Institute – Indonesia, International Islamic University – Malaysia, STMIK Mitra Lampung – lampung, Bandung Institut of Technology – Bandung, Lecture of The Malahayati University, B2TP – BPPT Researcher – lampung, Starch Technology Center – Lampung, Universitas Islam Indonesia – Indonesia, Politeknik Negeri Malang – Malang, University of Kitakyushu – Japan, Gadjah Mada University – Indonesia, Universitas Malahayati – Lampung, Lampung University – lampung, Starch Technology Center – Lampung, Universitas Riau – Riau, Hasanuddin University – Indonesia, Diponegoro University – Indonesia, King Abdulaziz University – Saudi Arabia, Parahyangan Catholic University – Indonesia , National Taiwan University– Taiwan, Surakarta Christian University – Indonesia, Sugijapranata Catholic University – Indonesia, Semarang University – Indonesia, University of Brawijaya – Indonesia, PPKIA Tarakanita Rahmawati – Indonesia, Kyushu University, Fukuoka – Japan, Science and Technology Beijing – China, Institut Teknologi Sepuluh Nopember – Surabaya, Researcher of Starch Technology Center, Universitas Muhammadiyah Metro – Metro, National University of Malaysia – Malaysia.

I would like to express my deepest gratitude to the International Advisory Board members, sponsor and also to all keynote speakers and all participants. I am also gratefull to all organizing committee and all of the reviewers who contribute to the high standard of the conference. Also I would like to express my deepest gratitude to the Rector of Bandar Lampung University (UBL) who give us endless support to these activities, so that the conference can be administrated on time

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Table Of Content

Organizing Committee	i
Table Of Content.....	v
Keynote Speaker	
1. Recent Advances in Biofuel Cell and Emerging Hybrid System Abdul Aziz Ahmad and Raihan Othman	1
2. Waste Utilization Study Tailing Gold Mine in Way Linggo-Lampung, as Fine Aggregate Materials for Producing Mortar Materials based on concept of Green Technology Lilies Widodojoko & Susilawati	8
3. Infrastructure Health Monitoring System (SHM) Development, a Necessity for Maintance and Investigation Prof. Dr. Priyo Suprobo, Faimun, Arie Febry	17
4. Four Phases Quality Function Deployment (Qfd) By Considering Kano Concept, Time And Manufacturing Cost Prof. Dr. Moses L Singgih, Dyah L. Trenggonowati, Putu D. Karningsih	22

Speaker

1. Comparative Analysis for The Multi Period Degree Minimum Spanning Tree Problem
Wamiliana, Amanto, and Mustofa Usman..... 39
2. Choosing The Right Software In Supporting The Successful of Enterprise ERP Implementation
Yodhie Yuniarthe, Idris Asmuni..... 44
3. Climate Adaptive Technology In Maintaining Vernacularism Of Urban Kampong Case study: Kampung Adat (Indiginous) Mahmud, Bandung District, West Java
Marcus Gartiwa..... 50
4. The Prospect Of Diesohol In Facing Fossil Fuel Crissis
M.C. Tri Atmodjo..... 63
5. The Potential Of Agriculture And Forestry Biomass Wastes As Source Of Bioenergy
Hardoyo..... 66
6. The Importance of Education Facility as Sustainable Urban Generation Tool
Fritz Akhmad Nuzir, Haris Murwadi and Bart Julien Dewancker 71
7. The implementation of Secton Method for Solving Systems of Non Linear Equations
Nur Rokhman 80
8. Quality Control Analysis Into Decrease The Level Defects On Coffee Product
Heri Wibowo, Sulastri and Emy Khikmawati 85
9. Public Transpotion Crisis In Bandar Lampung
Ida Bagus Ilham Malik 89
10. Geospatial Analysis of Land Use Change in Way Kuripan Watershed, Bandar Lampung City
Candra Hakim Van Rafi'1., Dyah Indriana Kusumastuti2., Dwi Jokowinarno..... 99
11. Material Utilization Technology Of Agriculture And Forestry Waste
Hardoyo..... 105
12. The Supply Chain System Of Cassava On The Tapioca Industry
Hardoyo..... 108
13. Glass Technology In Natural Light Glasses On Aperture Element In The Architecture World
Muhammad Rija & MT Pedia Aldy 113

14. An Eksperimental Permeable Asphalt Pavement Using Local Material Domato Stone On Quality Of Porous Asphalt
Firdaus Chairuddin, Wihardi Tjaronge, Muhammad Ramli, Johannes Patanduk 117
15. Coordination Of Architectural Concepts And Construction Systems
Eddy Hermanto. 129
16. Seismic Assessment of RC Building Using Pushover Analysis
Riza Ainul Hakim. 136
17. Viscosity and Liquidity Index Relation for Elucidating Mudflow Behavior
Budijanto Widjaja and Shannon Hsien-Heng Lee. 143
18. The Use of Pozzolanic Material for Improving Quality of Strontium Liquid Waste Cementation in Saline Environment during Nuclear Waste Immobilization Process
Muhammad Yusuf, HayuTyasUtami, Tri SulistiyoHariNugroho, SusetyoHarioPutero 148
19. Geospatial Analysis Of Land Use And Land Cover Changes For Discharge At Way Kualagaruntang Watershed In Bandar Lampung
Fieni Yuniarti, Dyah Indriana K, Dwi Joko Winarno. 153
20. Wifi Network Design For High Performance
Heru Nurwarsito, KasyfulAmron, BaktiWidyaningsih 161
21. Studi on The Efficiency Using Nature Materials in The Structural Elements of Reinforced Concrete Beam
Yasser, Herman Parung, M. Wihardi Tjaronge, Rudy Djamaluddin. 167
22. The Research Of Slow Release Nitrogen Fertilizer Applied In Sugarcane (Saccharum Officinarum) For Green Energy Bioethanol
M.C. Tri Atmodjo, Agus Eko T. Nurul Rusdi, Sigit Setiadi, and Rina. 179
23. Energy Utilization Technology Of Agriculture And Forestry Waste
Hardoyo. 185
24. Implementation Of Fuzzy Inference System With Tsukamoto Method For Study Programme Selection
Fenty Ariani and Robby Yuli Endra. 189
25. The Analysis of Video Conference With ITU Standarization (International Telecommunication Union) That Joining in Inherent At Bandar Lampung University
Maria Shusanti F, Happy Reksa 201

26. The E-internal audit iso 9001:2008 based on accreditation form assessment matrix in study program for effectiveness of monitoring accreditation Marzuki, Maria Shusanti F.	207
27. The Developing Of e-Consultations For Effectiveness of Mentoring Academy Ahmad Cucus, Endang K	214
28. The Evaluation of information system performance in higher education case study with EUCS model at bandar lampung university Reni Nursyanti, Erlangga.	221
29. The Analysis Of History Collection System Based On AndroidSmartphone With Qr Code Using Qr CodeCase Study: Museum Lampung Usman Rizal, Wiwin Susanty, Sutrisno.	230
30. Application of Complaint Handling by Approach Model of ISO 10002 : 2004 to Increase Complaint Services Agus Sukoco and Yuthsi Aprilinda.	235
31. Towards Indonesian Cloud Campus Taqwan Thamrin, Iing Lukman, Dina Ika Wahyuningsih	252
32. Bridging Router to ADSL Modem for Stability Network Connection Arnes Yuli Vandika and Ruri Koesliandana.	257
33. The Effect of Use Styrofoam for Flexural Characteristics of Reinforced Concrete Beams Yasser , Herman Parung, M. Wihardi Tjaronge, Rudy Djamaluddin	261
34. The Estimation Of Bioethanol Yield From Some Cassava Variety M.C. Tri Atmodjo	273
35. Effect of Superficial Velocity of Pressure Difference on The Separation of Oil And Water by Using The T-Pipe Junctionl Kms. Ridhuan and Indarto.	277
36. The use of CRM for Customer Management at Cellular Telecommunications Industry Ayu Kartika Puspa.	293
37. Indonesian Puslit (Centre Of IT Solution) Website Analysis Using Webqual For Measuring Website Quality Maria Shusanti Febrianti and Nurhayati.	297
38. The E-internal audit iso 9001:2008 based on accreditation form assessment matrix in study program for effectiveness of monitoring accreditation Marzuki, Maria Shusanti F.	307

39. Enhancing Quality Software Through CMMI-ISO 9001:2008 and ISO 9126 Agus Sukoco	320
40. Value Analysis Of Passenger Car Equivalent Motorcycle (Case Study Kartini Road Bandar Lampung) Juniardi, Aflah Efendi	337
41. Alternative Analysis Of Flood Control Downstream Of Way Sekampung River Sugito, Maulana Febramsyah.	347
42. Analysis Of Fitness Facilities And Effective Use Of Crossing Road Juniardi, Edi Haryanto.	353
43. Study On Regional Development Work Environment Panjang Port Lands In Support Bandar Lampung City As A Service And Trade Ir. A. Karim Iksan, MT, Yohn Ferry.	359
44. Analytical And Experimental Study Bamboo Beam Concrete Hery Riyanto, Sugito, Juli	370
45. Comparative Analysis Of Load Factor Method Static And Dynamic Method (Case Study Akdp Bus Route Rajabasa - Bakauheni) A. Ikhsan Karim, MT., Ahmad Zulkily.	378
46. Optimization Utilization Of Water Resources dam Batutegei Using Method Of Linear Program Aprizal, Hery Fitriyansyah	386
47. Characteristics Generation Traffic Patterns And Movement In Residential Area (Case Study Way Kandis Residential Bandar Lampung) Fery Hendi Jaya, Juniardi,	392
48. Use Study On Slight Beam Reinforced Concrete Floor Plate in Lieu Of Secondary Beam Hery Riyanto, Sugito, Lilies Widodjoko, Sjamsu Iskandar	399
49. Observation Of The Effect Of Static Magnetic Field 0.1 Mt On A-Amylase Activity In Legume Germination Rochmah Agustrina, Tundjung T. Handayani, and Sumardi.	405
50. Effectiveness Analysis Of Applications Netsupport School 10 Based Iso / Iec 9126-4 Metrics Effectiveness Ahmad Cucus, Nelcy Novelia	413
51. Comparative Performance Analysis Of Banking For Implementing Internet Banking Reza Kurniawan	418

STUDY ON REGIONAL DEVELOPMENT WORK ENVIRONMENT PANJANG PORT LANDS IN SUPPORT BANDAR LAMPUNG CITY AS A SERVICE AND TRADE

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Abstract-This study provides an overview of the development area work at the mainland port of Panjang survey from the physical to the room which is supported by the economic and socio-cultural aspects as well as driving the development of Bandar Lampung city as background underlying this study is the role of the port of Panjang in support of the Bandar Lampung city services and trade approach is the research done by using quantitative descriptive analysis and sampling, is to perform analysis based on primary and secondary data that aim to determine the condition penlitian growing region during the period of 2000 to 2009, working environment inland port Panjang area had been developed significant physical changes spasila concerns that are affected by changes in economic and social change in communities characterized by higher population growth are likely to lead to the distribution of population and territory outside research, adnaya shift in population composition eyed pecarian characterized by the use of physical changes on regional spassial transport path with a tendency to be a place of business houses. Thus the direction of physical development spasila research area with a linear pattern, the developments along the transport path. During the period 2000 - 2004, Bandar Lampung city experienced significant developments concerning three aspects to be investigated. Physical development of the city of Bandar Lampung reflected by high household changes from being a place of business and any changes - changes in population distribution are likely to lead to the city center, adnaya composition of population by increasing livelihood is Trade and services sector, based on the economic development of Bandar Lampung greatly influenced the area interlandnya because the study area is very close to other cities. Physical development of the city of Bandar Lampung is the result of socio-economic and cultural development of the city of Bandar Lampung who influence the use of space. Developments in this period was the submarine structure linear shaped urban space, as a motivating factor, especially the development of Bandar Lampung is a port city is also an increase in the role of Bandar Lampung city became important for the surrounding area, with the development of non-primary economic activity, as well as the relationship economy with surrounding areas and airports Lampung City is currently the largest city in the province of Lampung as well as the Provincial Capital and Provincial Government

INTRODUCTION

In Lampung Province, the construction area has been divided into key region including key region surrounding the Port of Panjang and are expected to support growth in the southern part, the service center. Perdekatan through the development of regions and their surrounding cities that have been made to the existing Lainnya in Lampung province that will provide several advantages including the potential introduction of the unit area, with the advantages possessed territory, taking into account the spatial arrangement, in which the city of Bandar Lampung serve the interests of trade areas in the region covered by Mainstay Lampung province and surrounding areas, and other regional growth centers in Lampung Province, and at a later stage between Indonesia Region Western Region in particular Indonesia. This makes it easy to implement

Especially continuity of sustainable development with the support of sea port which can be enhanced role as the second container port after Port of Tanjung Priok. Structuring construction of the Port Zone, both regional facilities and infrastructure, the main attention to be melayanai port loading and unloading activities that are expected to be the trigger for the role of capital flows to the region. Where is the location of the port area is the most congested area in Bandar Lampung

The port area will be followed by the growth of housing in the vicinity, including other sectors that support the activities of the Port and Stevedoring. The activity in the harbor area of the port infrastructure pendudukn. On the other hand creating jobs for natives and immigrants, the lack of job opportunities in the region will lead to labor migration and local economic development, due to the needs of newcomers.

Structuring pembangunan Port area, both areas of facilities and infrastructure, where the location of the port area is the most congested area in Bandar Lampung.

It is critical to be able to serve major activity of loading and unloading ports. So that the study was limited by identifying changes in the physical, economic and social culture of the population in the land territory of the Port of Panjang Simultaneously describe the relationship between changes in physical, economic, and social culture, the study region.

LITERATURE REVIEW

1. Physical service factor

Firman (1997: 213) says "physically peroses structuring characterized by changes in land use (land use) both in the city (core) and periphery. Urban areas having very intensife use of a residence into a business district, office, and so on. On the other hand, in the suburban area occurred over the function (Conversion) massive land from agricultural land, forests and plantations so suburb, large-scale industrial settlements.

Besides the physical condition of the area which is a form of structure or area terrain landscape factors, the availability of natural resources, patterns of movement of people, goods and information available, it is hoped will be able to accommodate various aspects such as the distribution of settlement activities, patterns of movement of people and goods and the use of urban space. Urban space utilization problems by inspiration (1990: 54-55) argues that Palin proper troubleshooting of improving urban facilities and develop new towns or nearby towns (deconcentration planologis).

Placement of certain objects in a region / city concerned in the future. One of which can be seen in the city of Bandar Lampung is the length of the harbor area. The impact is a physical change Bandar Lampung city, increasing the city infrastructure that dominates the growth of this region, it is this which will be further investigated.

2. Economic service factor

ESCAP (1979) Economic services are defined as services associated with productivity in order to gain an advantage. Berkaitam with care and public services more economically Syahrir (1986: 4) explains that every economic goods and services contain price, is determined by the balance of supply and demand. Services and services - public services can be thought of as private is determined by all consumers, especially the request (demand). Measuring the capacity of regional economic forecasts can be seen from the potential of the natural resources available, because the region is a region whose economic base tranfier based on the primary sector is highly dependent on the availability of natural resources.

3. Social service factor

Because it is a public service with the aim of improving the social welfare by Huisman (1987: 12) explains that social services generally have a sense of all the services provided by the government or directed by the government that are intended to improve the lives of residents, village improvement, education services, an increase in the degree of welfare is part of the social services. Repair fishing village and slum housing is one of the efforts to encourage a change in the physical form of land either directly or indirectly.

Huisman (1987: 22) outlines some of the factors that affect the care of pollution include: 1) providing services in a large number of users, 2) the ability to pay, 3) requirements, 4) ease of reach.

Hymn - Hammond (1985) in the language are central place theory of Christoper said that this theory is based on the same assumptions with the assumptions made by Von Thunen, which includes homogeneous conditions in terms of physical (topography, soil, climate, resources) and terstribusi population evenly and have the same needs and tastes which will benefit producers.

4. The activation system relation

The activation spatial growth centered around the port, depending on whether there is any relationship between the port and the surrounding spatial The activation. To determine the spatial relationship in the harbor and activation sekitanya, views of the harbor and the interaction of humans who use them. In the interaction, people tend to look at the physical appearance faforabel for him. Therefore, these interactions will affect the orientation of the utilization of a physical display (action on land) in question. This orientation will accumulate to form a mass orientation, orientation affect the use of space (use of space) in the vicinity. Explanation of the above proposition that produce spatial activation (use of space) would otherwise arise if the orientation of the high utilization of port services, and spatial activities (use of space) the other does not arise if the orientation of the low utilization of port services. In other words, it can be said that the higher the interaction between the harbor and the people, goods, and services, the faster growth of other spatial activity around the harbor. Conversely, the lower the interaction between the harbor and the people, goods and services, the slower growth of spatial activity in question. In conclusion, like Chapin and Kaiser (1916), the emergence of spatial activity around the harbor is a realization of the need for a decision and "search" distinctive location by actor spatial activity obtained from human interaction and the harbor.

a. Action on Land

Action on land in Donny Iskandar (2000) refers to the attitudes, perceptions, and human orientation to the physical environment. Geography has traditionally been asserted that there is a more useful and attractive than other places. The place may be more favorable for activities specific spatial. Favorable or not a place, according to Morril is caused by two factors: 1) the abstract characteristic of space (for example:

distance, accessibility, agromelasi and amenities), 2) the variable quality of the earth's surface (eg landform, water availability, climate, vegetation, natural resources, and or other things which is basically a given factor). The second factor on flow and humans do make choices to act in a spatial system they occupy.

On a smaller scale highlight aspects of individual behavior in the setting of a particular space, Rapoport thesis which reveals that the choice of the action on land that is adaptive, it is not entirely wrong. However, Rapoport can not explain the role of distance, accessibility, agromelasi, and amenities on the one hand, and the form of land, availability of water, climate, vegetation, natural resources on the other side of the option or the underlying behavior of individual actions. Therefore, however, should not be forgotten that the behavioral choices and actions in the behavior of larger spatial scales are sticking to the principle of optimization of the intended use of the space as intended Morrill.

b. Use of Space

Donny Iskandar further in showing how human beings as actors in a spatially organized system needs and the options will be the utilization of space in a way that "most excellent". Thus, it is the result of action on land that is manifested in the use of space based on preference and intended use of the optimization of man-made space in a particular environment. The form is the pattern and spatial orientation activity. The result is a form of spatial behavior, but the process does not stop here, but part of a series of spatial behavior cycle. Through a process called relationship relationship system activity, such as an explanation Chapin and Kaiser (1916), the pattern and spatial orientation activity will re-oriented or even affect the spatial characteristics and quality of the environment (in various ways, including technology intervention),

RESEARCH METHODOLOGY

1. Research Areas

The research will be conducted to coincide in Bandar Lampung Lampung Province, which is the distance from the Municipal Capital Lampung Province is \pm 5 KM. Region covers an area about the work environment and the mainland port of Bandar Lampung to the limit that is not too firm, but as a whole within a radius of 25 783. m² with the center point located at the port area length can be seen there is a map of the location of the study.

2. Research procedures

Research procedures in accordance with the purpose of research is how to study literature, field surveys and interviews Stakeholder.

a. Library studies

b. Interview

Interview with questions semi structured and structured closed and open questionnaire.

3. Indicator variable

This watch and measured on the types, use, and increase the number aktibitas and land use services that are in the vicinity of the mainland Port of Panjang working environment that will be studied include:

a. The location of the study area is limited to about the area of work lingkungan the mainland Port of Panjang.

b. Carrying capacity of the infrastructure is very supportive, because of infrastructure problems is one of the supporting factors are vital, such as business perdagangan Hotel / Lodging, shops, restaurants.

c. Economic improvement, production, market opportunities, need to be analyzed further in order to increase economic implikasinya overall around the port that you are investigating.

d. Carrying capacity of the human resources, the availability of adequate manpower and meet the nerves in supporting the activities of the port.

4. parameter Research

Parameters of this study deals with the problem of physical appearance and orientation with variable variables which are focussed on the port area, the spatial orientation of service (action in land).

Spatial activity and the impact on the growth of spatial activities (use of land).

RESULTS AND DISCUSSION

1. physical and Utilization of Panjang Harbour

The basic principle of the physical display port is technically influenced by the need to accommodate user actors, namely: port operator, operator / stevedore passenger / passengers, and transportation agencies. For the benefit of the Port of Panjang have loaded the following aspects:

- Availability of space for port management activities;
- Availability of facilities for the activities of operators / workers and passengers;
- Availability of space for transportation activities, and
- Availability of public facilities for other activities.

Technically, Long Harbour facility is designed with the details:

1. A dock

Length of 182 M, 15.25 M Width, Capacity 3 Ton/M2, Depth 8.3 LWS,

2. pier B

Length of 210 F, Width 15 M, 1.5 Ton/M2 capacity, depth 6.5 LWS

3. pier C

long

4. Dock D1 and D2

Length of 486 F, Width 39 M, 3 Ton/M2 capacity, depth 12 LWS

5. E dock

Length of 401 F, Width 30 M, Capacity 3 Ton/M2, Depth 12 LWS

2. Special dock owned by third parties

- a. Jetty (Jetty) Pertamina 1 (One) unit, for the loading and unloading of fuel, a depth of 12 LWS
- b. Jetty (Jetty) PT. PTPN VII for unloading CPO, also used by PT. Rabana Aspalindo for unloading bulk bitumen PT. Indo Lampung Destilery to fit Ethanol, PT.

Eternal Andahanesa Soda Liquid for unloading. Depth of 7 meters LWS

c. Dock PT. Coal mine EVAL Length 200 M to 12 M depth Coal Loading LWS

d. Dock PT. Andatu, length 190 M depth of 8 LWS

e Pier PT. Tanjung Enim Lestari, Length 16 M 200 M Width, depth 15 LWS

f. Dock PT. Doozan 100 M Width Length 50 M depth of 10 LWS

g. Dock PT. ISAB Length 300 M, 25 M Width, depth 15 LWS

3. Warehouse and container yard

a. Warehouse Line I of 7 (seven) wide units 12 522 22 674 Ton capacity M2

Warehouse Line II b 1 (one) unit area of 800 m2 Capacity 1,800 tons

c. Line I Tennis 4 (four) locations, broad M2 24 793 44 736 Ton capacity

d. Container Yard M2 45,000 4,953 TEUs capacity

e. PT ISAB 12,112 m2 warehouse 87,000 Ton Capacity

4. Ship and boat facilities

. Tugs of 7 (seven) units with power 1,160 HP, 1,170 HP, and 630 HP

5. Facility loading and unloading equipment

a. Top Side Loader 2 Unit

b RTGC 2 Unit

c. Mobile Crane 15 Ton 2 Unit

d. Forklif 2 Ton 1 Unit

e. Forklif 3 ton 3 Unit

A. Influence on growth of the Port of transportation agencies around the work area Panjang port

The influence of the agent port transport agents around the working area of the port is quite good, as a result there was an explanation in the form of a race the first part shows the port utilization preferences quite well. This gives a positive impact on the activities of agents transport agents that are outside the terminal.

As is known, the agents pocket

transport activity to the presence of the ships, the port length. The improved utilization by the Consignor to the activity developed transport agents. As a result a lot of activities towards the harbor.

Observation results showed, transportation agencies around the harbor as many as 10 pieces or 20% chose to do the stevedoring activity Goods (Forwardes) and expedition activities. There are three groups of reasons for companies to enable transportation agencies transportation around ports, namely proximity to the port; greater mobility, and a great transaction turnover problems. Among the three groups of answers shows that the main problem is the huge turnover. Table V.2 shows the percentage of respondents' answers to this problem in the first rank, ie by 40%, while the proximity to the harbor and many consumers as much as 35%. The term is a large turnover of a depressing broader sense to refer to the high revenues due to 2 things, when transportation agencies around the working area of the port of registration and Load Unload Goods beyond. This is forcing the transportation agency to make policy aimed more delight customers with open transportation agencies around the harbor. In addition to accommodating passengers arriving around the entrance of the harbor, as well as to seize potential market there. Strategy to seize this market, in turn provoke competition diantara transport company to compete closer to consumers. Therefore, the struggle for land use in sekiitar port becomes more dominated by the transportation agency. So throughout 2000 to 2005, the growth in the transportation agencies around the working area of the port length to be very rapid.

Research results to establish transport agents around the harbor. Competition began with 25 marked transport agent in 2000 increased to 30 agents in 2005 to 30 in 2006 and to 32 in 2007, and 32 in 2008 and 40 in 2010. Pertumbuahn is likely to continue to

occur, increasing through 2015 this, there have been 32 pieces of transportation agencies.

This fact shows that there has been economic actions in organizing the space, which is directed kapada mempertingi profit efforts and progress need. Choice of space around the port area for service activities perjalanan an option "best" to run the activity between consumers and transportation agencies as closely as possible.

B. Influence on the development of port facilities services

Along with the development of port facilities Long from 2000-2005, the development of services facility services the mainland Port of Panjang working area more and more number of activities that appear as trvel, school, restaurant / shop, department store, bank and Pub / Karaoke / massage parlors, 50 respondents with a decision taken at random and mlihat physical appearance and changes around sampling sites that stand out from the surrounding conditions. Further sampling results for the development of service facilities visible progress in the year 2000 to 2005, which houses into businesses amendment 40% visible phenomena that are increasing very rapidly is forwardes ie up to 100% previously merupakan houses and shophouses, while the hotel did not have increased because of the tendency occupies a large area, while the area is already crowded with buildings. Transportation services to support the development of the port is the port forwardes represent the effect is very prominent in influencing the activity around the work area so that the port can be said to follow other service activities.

C. Analysis of the growth pattern of activity in the services sector working area Panjang ports

Observations over the working area of the Port of Panjang depth showed that the growth of service activities since the 2000-2005 linear.

As explained at the beginning, this efficiency pertimbangan influence on human action in space utilization. The distance between the port with the Port of Panjang Lainnya located far from each other, so it takes time to reach a service activity. As a result, the use of the harbor spread out from the port environment.

In general, nearly all the ports, there are services that are economic activities that triggered the mutual need of the perpetrator and the service activities of the port users. Interdependency relationship like this is referred to as the complementarity properties.

Because of the nature of this complementarity, then on one side of the perpetrators of the customer service activities require user ports to obtain pandapatan or profit. On the other hand, takes the user port performance services while in port area, during the journey and even a transaction occurs between the transit trade from and to other areas.

Length,

Normatively, locations outside the harbor to make a more open market segment because it is accessible to people who do not take advantage of port services. However, respondents' answers of the results showed that the activity of this follow-up services are also more widely enjoyed by the owner of goods that come and go. Approximately 60% of respondents gave this answer a lot dimanfaatkan service activities by others needs and as much as 30% (others outside of the local people, the passenger / passengers, and transport companies), the remaining 10% did not know.

In conclusion, service activities around the working area of the port is more predominantly used by other community groups outside the port users or activities such as service / trade. This is understandable because of the condition of the region is also the center of town as well as a business center is very close to where transportation agencies with all aspects of the activity are made in it.

4. Growth Pattern Analysis Services Activity Around the Work Area

From observations growing focus of each activity as above, then the result can be overlaid into a growth map service activities around the Port of Panjang Results overlay, showing the development of growth that moves close to the harbor within a radius of 0-100 Km to the North and the South. Direction leading to the development of the North and the South, theoretically linear form, related to the movement that follows the highway as the octopus arm leading to the city center as one of the centers of gravity of growth. Logically, a number of prospective users use the service activities that grew in the area around the Port of Panjang's work comes from the city center and out of town, so a lot more activity from this direction. In addition, the intersection of the road that serves as the meeting point of the direction of arrival and departure are located in the North and South in the harbor.

Deeper observations indicate that the development of the service activity growth since 2000-2005 are in the working area of the port land

The length of the port form a linear pattern following the path of the primary arterial roads continues to grow The identification of the dominant growth in service activities during the 2000-2005 period, shows an evolutionary process of development or growth radius (range) of a number of service activities and the compaction process spatial structure within each each radius growth is based on a time interval. First, during the period 2000-2002, growing from 25 to 31 services a dominant activity and further increases from 2003 to 2004 35 and in 2005 had reached 50 service activity.

Table I. Flow of Goods by Type Shipping

No	Uraian	Sat	2003	2004	2005	2006	2007
I	Luar Negeri						
	a. Import	Ton	516.059	678.622	725.476	941.162	1.108.418
	b. Eksport	Ton	3.088.562	4.048.853	3.917.397	4.581.640	4.528.574
	Jumlah 1	Ton	3.604.621	4.727.475	4.642.873	5.522.802	5.636.992
II	Dalam Negeri						
	a. Bongkar (AP)	Ton	2.296.520	2.214.995	2.198.928	2.446.738	2.409.721
	b. Muat (AP)	Ton	2.647.501	5.646.331	5.952.685	5.158.747	5.071.573
	Jumlah 2	Ton	7.944.021	7.861.326	8.142.613	7.605.485	7.481.294
	Jumlah (1 + 2)		11.548.642	12.588.801	12.785.486	13.128.287	13.118.286

Table 2. Based on current recapitulation Goods Finishing Year 2003-2007

No	Uraian	Sat	2003	2004	2005	2006	2007
1	General Cargo	Ton	590.741	455.172	625.836	752.120	553.743
2	Bag Cargo	Ton	1.295.258	1.908.141	1.567.092	1.689.125	1.588.938
3	Curah Cair	Ton	1.784.990	1.677.911	1.713.213	1.87.357	1.834.447
4	Curah Kering	Ton	7.004.502	7.519.733	7.751.597	7.757.771	8.124.836
5	Petikemas	Ton	873.151	1.027.844	1.127.748	1.0151.91	1.016.322
	- Isi 20'	Ton	34.848	41.687	44.224	4	37.670
	- Isi 40'	Ton	3.902	4.802	6.152	39.560	7.817
	- Kosong 20'	Ton	22.078	26.835	28.600	7.253	18.213
	- Kosong 40'	Ton	3.259	3.502	4.018	20.067	4.125
6	Lainnya	Ton	0	0	0	3.706	0
						0	
	Jumlah 1	Ton	11.586.64	12.588.80	12.785.48	13.128.28	13.118.28
			2	1	6	7	6
		Box	64.087	76.826	82.994	70.586	67.825
		TEU'S	0	0	0	0	0

CONCLUSION

Conclusion This study describes the phenomenon of spatial growth that occurs around the port length in some ways

1. Port users are positive. It is characterized by the behavior of owners of goods that do not directly enter the port because it is caused by the design of the terminal is not aksisebel human movement. So the length of the port does not function as a point of concentration of growth activity.

2. It affects the transport agent agents that are outside the harbor, to mendekatakan yourself with the owner of goods or service users who do not directly enter into the harbor. Subsequent developments indicate a shift in the focal point of the growth of gene-kea port transport agents that are outside the harbor.

3. The movement of the focal point lead character in the land users around the harbor contributed to, such as the activity of followup services that are common around the harbor, and growth-oriented transport agents intended as a focal point. Illustration of the movement of the focal point. As a result, the region formed visual function as a port with a road corridor that also serves as the frontage area is around 100-300 m from the port.

4. In spatial organization, the growth of the service activity shows no signs of getting away from the port, in recent years, there has been a tendency linear patterned and compaction on the spatial structure near the port area. In other words, the growth patterns tend to occur further away from the smallest distance from the port, so that the interaction can be done optimally running.

5. Changes in land use around the Port of Panjang dipengaruhi by increased activity of followup care and population .. Laying of the facility

6. city services at a location will cause, the appeal to the rise of new businesses that provide services angkutan the impact of primary care and encourage economic activity in serving the needs of residents of the city, so it would make the point that the goal of the activity. In this

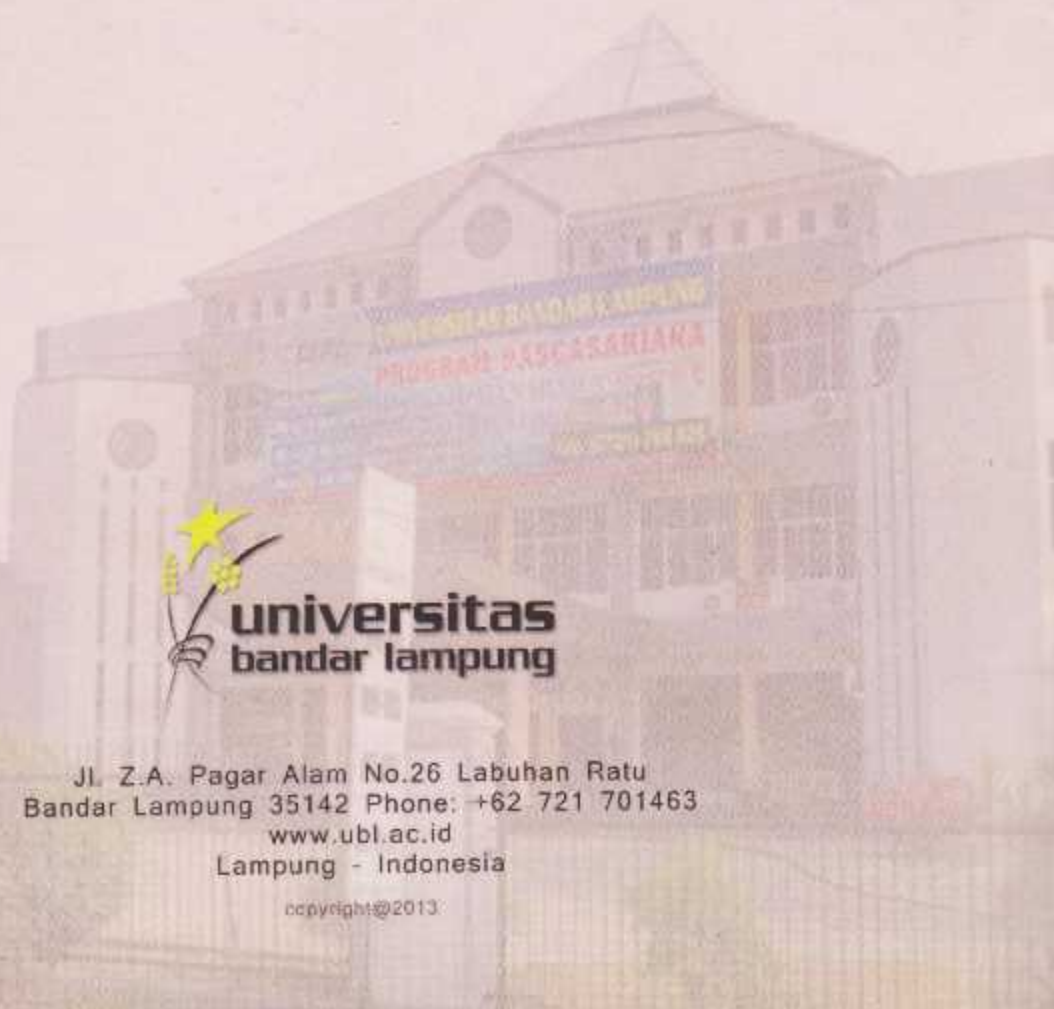
case due to the activities of loading and unloading at the Port of Panjang, encouraging a more productive land around the harbor area.

7. Socio-economic changes in society that occurred as a result of the growing number of quality and quantity as well as the increasing demands of the population encourages physical development needs of the city, which led to changes in the use of high intensity srtuktur city hall, so that the working area of the mainland Port of Panjang after the renovation in 2000 as an initial benchmark study circumstances have changed the structure of the city with a linear pattern to the state in 2000.

8. The growth of the above activities have a positive effect and negative effect. Both of these is the impact of system activities that have taken place.

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