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DEVELOPMENT OF SPATIAL DESIGN BASED ON ZONING ACCESS AND FUNCTION AREA CAMPUS

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Abstract - The results to be achieved in this research is the availability of spatial design a new campus State University of Medan (Unimed) based zoning campus access and function in accordance with national standards and international universities. The method used is a mixture of qualitative and quantitative methods (mixing method), evaluation studies and case studies. Data collection instruments consisted of stuffing format, quality checklist, observation sheets, interview guides and documentation. Results of the study is to forecast the future development of Unimed, required the addition of a 161.24 hectare campus land to the proportion of the campus area plan (1) a building area of 50.19%; (2) the area of infrastructure 18.99%; (3) The parking area is open 5.27%, and (4) of green open space area 25.55%. Generates spatial design theoretical Unimed campus include: (1) block plan the development of the campus; (2) the development plan based on the campus zone off-campus party access; (3) the development plan of the campus zone as a function area / building. The proportion of campus land based zoning plan is the access zone of 73.48% private, semi-public zone of 5.8%, 20.72% and public zones. The proportion of land planning based functions are: (1) administrative zone of 2.22%, (2) academic zone of 65.27%, (3) 9.49% communal zones, (4) 5.87% residence zone, (5) zones recreation 10.94, and (6) the buffer zone of 6.20%. Required commitment of the leadership and support of all parties to realize the target of future spatial order Medan State University college can be relevant and reliable for the future development of the nation.

Keyword**:** *spatial design, campus, zoning, international standard universities.*

1. INTRODUCTION

There are several reasons that become rationalization of importance made the development of the campus of the State University of Medan (Unimed), especially the development of the campus land, namely: (1) eligibility and track record (track record), (2) the demands of users graduates, (3) the changing demands of the development of the role and functions, and (4) the need for additional area campus locations corresponding data development, it is necessary to develop the campus by adding the location of the campus, so that its able to become a college that is relevant and reliable for the development of the Indonesian nation and the development of science and technology in the global arena in future.

Results of reflection campus developments show that: (1) During the 30 years of development from 1985 to the year 2015, in 1985 the condition with an area of about 5 ha campus feels so narrow and it is difficult for governance, what more for the development of the campus, so that when it is necessary the development of the campus have a larger and more easily in order. (2) In 1985 the College campus field began to gradually move to a campus locations in Willem Iskandar Road, also known by the term campus street rod. When it looks the campus with an area of 49.5 ha is so vast and so many empty areas. (3) The following 30 years ie 2015 campus all look so vast, now seem cramped with such a rapid development of the campus, so it is so difficult in the development and arrangement. Some data development were demanding the need for the development of the campus location, among others: (4) The number of faculty increased from 6 faculty in 1985 to 8 faculty / PPs in 2015. (5) The number of courses increased from 29 courses in 1985 to 58 in 2015. (6) the number of students increased from 9295 people in 1985 to 23 920 in 2015. (7) the number of faculty increased from 579 people in 1985 to 965 people in 2015.

Unimed resource has been developed in accordance with the changing demands of their roles and functions. The developments ranging from state institutions include (1) System governance, organizational structure, duties and functions; (2) The academic (education, research and community service); (3) The development of the student and student achievement; (4) Education and Learning Support Facilities; (5) The development of the curriculum and the learning process; (6) The activities of Research and Community Services; (7) Activities Cooperation; (8) Award and Recognition

Learned; (9) Improving Academic Achievement & Non-Academic; (10) Community Service; (11) Lecturers and Personnel; (12) The development of information and communication systems; (13) The conditions and the financial management of Unimed.

Unimed development plan refers to the vision, mission, goals and objectives of Unimed, namely Vision Unimed: "Being a superior university education, engineering industry and culture." Based Development Master Plan 2011-2025 Unimed, timeframe achievement of that vision was in 2025. Excellence has a meaning that is worth competitiveness or competitiveness. Unimed as a superior university is a form of existence that is more similar among universities in Indonesia in 2025. The Unimed excellence is built based on projections, predictions and estimates on the achievements of the current actual conditions. Therefore Unimed predicate to be achieved by 2025 is to be the three major universities in Indonesia LPTK field by BAN-PT, and became a great 8 colleges recognized in the administration of non-educational areas of expertise. Another common indicator is accreditation of Higher Education Institutions (AIPT) in the rank A, and 80% rated the study program accreditation and the other A rated minimum B. It is believed that the advantage of Unimed among similar universities in Indonesia in 2025, especially in the field of education, culture and quality of engineering-based industries through integration and internalization of character building. To realize this vision, Unimed mission, namely: (1) Providing educational, research, and community service. (2) Develop Unimed become a teaching and research institution that is superior. (3) Developing a culture of entrepreneurship. (4) Growing scientific culture among the citizens Unimed, and (5) Fostering academic atmosphere and a healthy organizational climate.

Therefore, Unimed quality improvement continues to be the focus of strategies, including through the implementation of total quality management (Total Quality Management) structuring the campus area. According to Hitt, Ireland, and Hoskisson (2015: 125):

> "Total Quality Mangement (TQM) is managerial process that emphasize an organization's commitment to customer and continuous improvement of all processes through problem-solving approaches based on empowerment of employees. Firm develop and use TQM sistem to (1) increasing customer satisfaction, (2) cut cost, and (3) reduce the amount of time required to introduce innovative product to the marketplace".

Organizational commitment as an important part in the effort to organize the campus area is to (1) increase customer satisfaction, and (2) cost and time efficiency in introducing innovative products to the labor market. This is consistent with the thinking of Peter Drucker presented by Pearce, Maciariello and Yamawaki (2010: 417) that there is only one valid definition of objectives pentanaan organizations: the customer, and there are only two functions, namely the campus arena arrangement for marketing and innovation. In fact, according Maciariello and Linkletter (2011: 20) "Drucker was strongly influenced by his own liberal arts education, the which led him to see Reviews These moral and spiritual dimensions of management and society". In the market development and innovation need to pay attention to the dimensions of moral and spiritual and community management in the sense of centering on customer satisfaction.

Creech (1996: 6-7) confirmed the five pillars of quality of organizational management including campus namely the organization, products, processes, leadership and overall commitment bermuasa on customer satisfaction. In the context of higher education organization Lewis and Smith (1994: 84) describes the quality improvement efforts through a "total quality homes. Implementation of quality improvement by Goetsch and Davis (2013: 281) is done through the implementation of the PDCA cycle or the Plan-Do-Check-Adjust Cycle (PDCA Cycle) on an ongoing basis or referred to Continouos Quality Improvement (CQI). This is the basic and important issues underlying the importance of the writing of this paper.

2. METHOD

The method used to achieve the purpose of the study is through a mix of qualitative and quantitative methods (mixing method), methods of evaluation or evaluative studies with a qualitative approach through case studies and exploratory. Quantitative methods are used to know the tendency of good data and predicted projection data in accordance with the type and variety of data. Development of spatial design is done through an integrated approach (integrated) between the centralized approach region growth with decentralized approach that emphasizes the dissemination and participatory.

Therefore, the data collection instruments consist of field format, quality checklist, observation sheets, interview guides and documentation.

3. RESULT AND DISCUSSION

3.1. Result

Unimed current acreage is small and minimal, namely 54.67 hectares. Total area effectively used for academic administration only about 50 hectares. The rest, or about 4.1 hectares have been used for housing or Griya Unimed. The acreage Unimed becomes very small when compared with the vast campus area (country) in Indonesia as broad Sriwijaya University (Unsri) 712 hectares, Andalas Padang 502 hectares, USU 420 hectares, Riau University (UNRI) 365 hectares, the campus 357 hectares, 320 hectares UI campus, the campus of the University of Technology Kalimantan 310 hectares, Institut Pertanian Bogor (IPB) 299.6 hectares, the campus of the State University of Manado (Unima) of 270 hectares, the campus of the University of Tadulako (UNTAD) 250 hectares, and the University of Palangkaraya (UNPAR) 230 hectares.

Unimed development potential also in accordance with the position Mebidangro within the framework of IMT-GT looks of their economic cooperation sub-regional scale IMT-GT is aimed at strengthening the network infrastructure is based on the IMT-GT Roadmap 2007-2011 Action Plan, one of which shaped the development of the transport network in corridor economic shape, divided into four corridors, namely: (1) corridor Songkhla (Thailand), Penang (Malaysia) and Medan (Indonesia). (2) Corridor waterway, (3) Corridor Banda Aceh, Medan, Dumai and Palembang; (4) Corridor Malacca (Malaysia) and Dumai, and (5) Corridor Ranong, Phuket (Thailand) and Aceh. Cooperation of various forms of activities development corridor area between INDONENSIA especially the island of Sumatra and Malaysia (National regional economic corridor) in preparing Mebidangro and Palembang into metropolitan cities, an important part of the role of Unimed forward in preparing human resources for excellence and competitiveness.

Based on the analysis needs of the campus land accordance with the development and future needs Unimed, the land / area ideal to accommodate all aspects of the needs and development campus is 161.24 ha. Elementary campus development are (1) the effectiveness of academic programs; (2) the potential of existing Unimed, and (3) the needs of the labor market. In the structure and use of the campus area, the proportion of area spatial plan campus in general can be divided into (1) the building area; (2) the area of infrastructure; (3) open parking area, and (4) area of green open space. The fourth area is organized and designed to produce a modern campus through an order which harmony, comfortable and fun to learn and work with a conducive academic atmosphere, especially in producing graduates and innovative publications to realize the vision and mission Unimed. Unimed thus capable of being a college relevant and reliable for the development of higher education in the future. Therefore, the arrangement is done carefully with due regard to the approach projections, predictions and estimates, thus resulting proportioned in accordance with the role and function of each area. The proportion of the campus area plan covering 161.24 ha corresponding user is (1) the building area of 50.19%; (2) the area of infrastructure 18.99%; (3) The parking area is open 5.27%, and (4) of green open space area 25.55%.

3.2. Discussion

Land arrangement Unimed campus development plan developed following the pattern of zoning. Unimed develop two forms of zoning, namely (1) zoning based on the nature of access to the building and its sensitivity to off-campus parties, and (2) based on the land use zoning / building. Zoning is based on the nature of space and the sensitivity can be divided into three zones, namely the private zone, a zone of semi-public, and public zones. While zoning by function can be divided into (1) administrative zone, (2) academic zone, (3) communal zones, (4) zone of residence, (5) recreation zone, and (6) a buffer zone. The proportion of campus land based zoning plan is the access zone of 73.48% private, semi-public zone of 5.8%, 20.72% and public zones.

The proportion of land planning based functions are: (1) administrative zone of 2.22%, (2) academic zone of 65.27%, (3) 9.49% communal zones, (4) 5.87% residence zone, (5) zones recreation 10.94, and (6) the buffer zone of 6.20%

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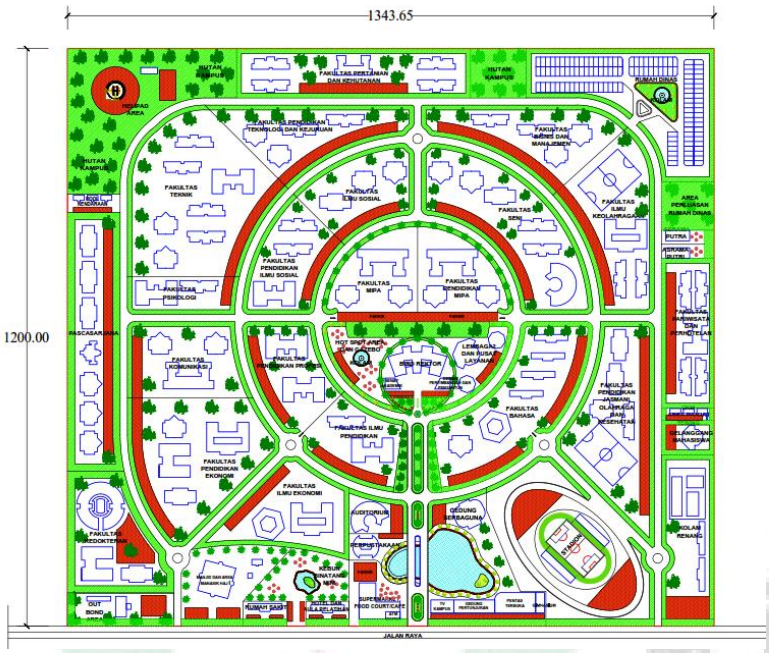

Figure 1. Block plan campus development plan (Scale 1: 600)

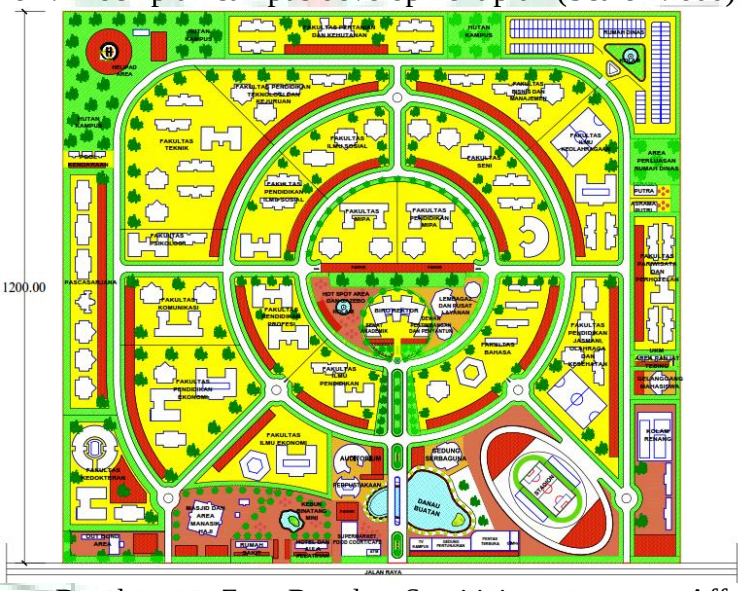

Figure 2. Plan for Campus Development Zone Based on Sensitivity party access Affairs (Scale 1: 600)

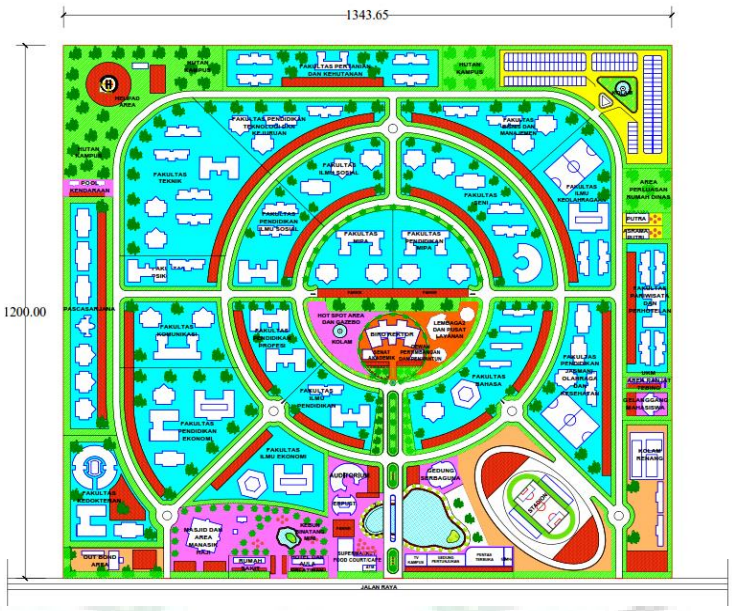

Figure 3. Zone Development Plan Campus Area Based Function / Building (Scale 1: 600)

4. CONCLUSSION

Results of the study is to forecast the future development of Unimed, required the addition of a 161.24 hectare campus land to the proportion of the campus area plan (1) a building area of 50.19%; (2) the area of infrastructure 18.99%; (3) The parking area is open 5.27%, and (4) of green open space area 25.55%. Generates spatial design theoretical Unimed campus include: (1) block plan the development of the campus; (2) the development plan based on the campus zone off-campus party access; (3) the development plan of the campus zone as a function area / building. The proportion of campus land based zoning plan is the access zone of 73.48% private, semi-public zone of 5.8%, 20.72% and public zones. The proportion of land planning based functions are: (1) administrative zone of 2.22%, (2) academic zone of 65.27%, (3) 9.49% communal zones, (4) 5.87% residence zone, (5) zones recreation 10.94, and (6) the buffer zone of 6.20%. Required commitment of the leadership and support of all parties to realize the target of future spatial order Medan State University college can be relevant and reliable for the future development of the nation.

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