

HUMAN RESOURCES MANAGEMENT IN THE GREEN CAMPUS PROJECT OF UNIVERSITAS TRISAKTI

Musholiha, N.R ¹⁾, Susetyarto, M.B ²⁾*

^{1,2)} Program Studi Magister Arsitektur, Universitas Trisakti

*Corresponding Author: bambang.s@trisakti.ac.id

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ABSTRACT

Universitas Trisakti strives to be a pioneer and role model for other institutions in managing a good green campus environment, by implementing all environmentally friendly elements in every aspect. One of the aspects referred to is human resources, which is the most important environmentally friendly element in a green campus environment management. The success or failure of a campus environment management depends on the human resources on the campus. The management starts from the design stage, physical construction implementation, and construction supervision or construction management, up to post-occupational management. If the human resources who will manage that green campus development really understand the concept of green buildings, of green campus areas, and of the green city of Jakarta or as known as the Jakarta smart planning, then the results of analysis managing a green campus will reach the target. All stake holders of development services who participate will be satisfied, the project will bring benefit, and then the users of the building will be happy. Therefore, the research results are the need for a lot of green building skilled personnel in handling the Green Campus Project of Universitas Trisakti.

Keyword : *Human, Resources, Management, Campus, Universitas Trisakti*

I INTRODUCTION

Universitas Trisakti is one of the oldest private universities in Indonesia. This tertiary institution was established by the Government of the Republic of Indonesia on November 29, 1965 through the Decree of the Minister of PTIP Number 013/dar/1965 which was signed by Dr. Sjarif Thajeb. Trisakti University has plans to implement the Green Campus Concept, which is a development of the Green Building Concept and the Green City Concept. With this development plan, this largest tertiary institution will help overcome environmental problems around the Grogol area, or around the City of West Jakarta. Efforts to manage a green environment involving the campus community and the Grogol community, as well as other stakeholders who have concern for an environmentally friendly campus, are applied to the activities of the Tridharma of Higher Education, namely: Education and Teaching, Research, Community Service consistently in a comprehensive manner. Human Resource Management includes processes in the organization and management of project teams. The project team consists of people who are assigned roles and responsibilities for completing the project. While this will simply say roles and responsibilities are being assigned, team members should be involved in a large part of project planning and in decision making. Early involvement of project team members adds expertise during the planning process and

strengthens project commitment. The type and number of project team members can change frequently depending on the progress of the project. Project team members can be known as project staff. The project management team is part of the project team and is responsible for project management activities such as planning, controlling, and closing. This group may also be called the core team, executive, or leadership team. For small projects, project management responsibilities can be shared with the entire team or managed by the Project Manager from Owner, Consultant or Contractor alone. The project sponsor works with the project management team, usually helping with things like project financing, clarifying scope questions, and influencing others to benefit the project.

II LITERATURE REVIEW

The project is a series of activities and events that are interrelated to achieve certain goals, and produce results within a certain period of time, by utilizing available resources. In other words, a project is an activity that has a certain period of time with certain resources, as said by Seutji Lestari (in Hermiati, 2007; and in Sobirin, M., 2016 : 18) that a project management system is a work procedure for collecting and managing project inputs. resources, such as: manpower, people, funds, time, technology, materials, equipment and management to produce predetermined project outputs in order to achieve project objectives, which will support certain programs within a certain period of time. Human Resources is a very influential factor in managing a job, including in this case green construction work. If green construction work is not supported by good human resources in terms of quality and productivity, it will not provide maximum and satisfactory results in a green campus development project. In fact, due to the use of human resources that are not appropriate can result in large losses in a green campus development project.

2.1 Project Management

According to Project Management Institute (2000), project management is defined as planning management activities, directing resources and controlling (people, equipment, and materials) to meet technical costs and project time constraints. Project management has stages, namely planning, scheduling, and having a goal, which is to do the job as well as possible in accordance with the time and cost that has been determined so that the completion of the project is right as planned.

2.2 Project Human Resource Planning

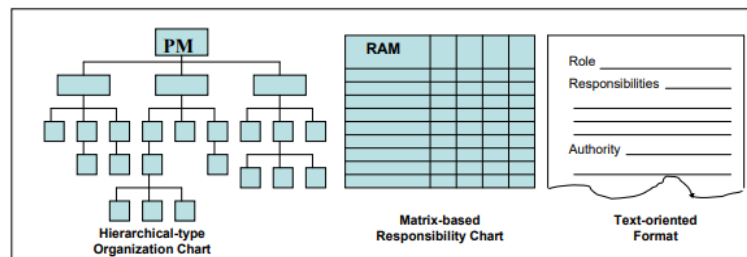
Human Resource Planning defines project rules, responsibilities, reports relationships, and creates a staff management plan. Those who play a role in green campus development projects can be appointed from individuals or groups. The person or group may come from within or outside the organization implementing the project. The project staff management plan includes when and how members of the green campus development project team will be acquired, what are the criteria for recruiting and otherwise removing them from the project, identification of training needs, planning for recognition and reward, compliance considerations, occupational safety and health issues, and impact from the staff management plan to the organization of implementing green campus development.

2.3 Project Management Plan

The green campus development project management plan includes activity resource requirements to determine the project's human resource needs, along with the competencies required by the project. Initial requirements related to workforce qualifications and skill competencies needed for project team members, which were further redefined as part of the human resource planning process for the green campus development project.

2.4 Use of Engineering and Human Resource Planning Methods Green Campus Development Project

This sub-section will explain about A Chart according to Hierarchy, Matrix - based responsibility chart, and Text-Oriented Formats. The three figures will show the relationship between job descriptions and who will take responsibility, what will be the responsibilities, both the description in qualitatively and quantitatively



<https://www.knowledgehut.com/blog/project-management/responsibility-assignment-matrix>

Figure 1 Responsibility Assignment Matrix (RAM)

The Responsibility Assignment Matrix (RAM) is used to illustrate the relationship between the work required to complete the project and the project team members. Levels can be adjusted according to project complexity and risk RACI: RAM with RACI: Responsibility (R), Accountable (A), Consult (C), Inform (I)

2.5 Green Building Organizational Theory

All information containing theories of development organizations, especially the construction of green buildings - in this case the green campus, which will then be derived with the methods/ techniques of the implementing team, and the strengths of the organization they have. Green building organization theory should be able to apply green building principles that have been used legally to shorten work time, produce resource planning outputs, and increase the possibility of more effective green building planning, design and implementation.

III DISCUSSION

The Green Building Concept for Universitas Trisakti Green Campus Projects are protects and retains existing landscaping and natural development features. Therefore, the key factors are how to selects sustainable construction materials and products by evaluating several characteristics, such as reused and recycled material content, zero or low off gassing of harmful air emissions, zero or low toxicity, sustainably harvested materials, high recyclability, durability, longevity, and local production. Beside of that

is developed strategies to provide natural lighting systems with advanced lighting controls installed. Designs for dual plumbing to use recycled water for toilet flushing or a gray water system, has ultra low-flush toilets, water free urinals, and other water conserving fixtures installed, uses state-of the art irrigation controllers and selfclosing nozzles on hoses. To carry out a green campus project, one of the resources that is the determining factor for its success is labor. The type and intensity of project activities change rapidly throughout the cycle, so the provision of the number of personnel, types of skills and expertise must keep up with the demands of changing activities that are taking place. In planning the Universitas Trisakti Green Campus development project, it is necessary to analyze the stages of work so that knowing how many the skilled personel needed during the construction implementation period. Below is an example of timeline of project implementation which is used to predict the skilled personnel needed.

Table 1 Example of Timeline of Project Implementation

NO.	JENIS PEKERJAAN	BIAYA	BOBOT	DURASI	BOBOT	JADWAL WAKTU PELAKSANAAN (MINGGU KE.)																									
		(\$)	(%)	(Minggu)	(%)																										
1	Preliminaries	20000	16,327	5	3,265																										
2	Pek. Pembongkaran	15000	12,245	4	3,061																										
3	Pek. Galian Tanah	8000	6,531	4	1,633																										
4	Pek. Pondasi	12500	10,204	5	2,041																										
5	Pek. Balok, Sloof dan Beton Tumbuk Lantai	9000	7,347	5	1,469																										
6	Pek. Kolom	9000	7,347	4	1,837																										
7	Pek. Plumbing	14000	11,429	4	2,857																										
8	Pek. Dinding	8000	6,531	4	1,633																										
9	Pek. Elektrikal	9000	7,347	4	1,837																										
10	Pek. Atap	4000	3,265	4	0,816																										
11	Pek. Pintu dan Jendela	4000	3,265	3	1,088																										
12	Pek. Finishing	4000	3,265	3	1,088																										
13	Pek. Landscape	6000	4,898	4	1,224																										
Kemajuan Fisik Per Bulan (%)						13,06	12,45	7,96	7,76	10,69	17,06	12,45	10,41	5,71	2,45																
Kumulatif (%)		122.500	100 %	53		13,06	25,51	33,47	41,22	51,92	68,98	81,43	91,84	97,55	100,00																

Note: starts from 1 Jan 2020 with a long duration is 53 weeks

3.1 Stakeholder and Project Team

Since the beginning, the Project Manager will strive to create a good green building project management team, which must be accepted and approved by project stakeholders. In this case, the so-called stakeholders are the management of the Trisakti Foundation, the Universitas Trisakti Leadership, namely the Rector and Dean, as well as Students and Alumni Organizations. Meanwhile, the process of confirming the human resources involved in the work and solidifying the project management team requires separate time and concentration. Getting qualified experts to work is very important. Employees or staff must be skilled people, who have responsibility for the construction of the building and the surrounding environment. They understand the environmental impact and traffic impact that may arise during construction. At the same time, they still prioritize the goals of building a green campus at Universitas Trisakti. In addition, the eco-labeling organizations Green Building Council Indonesia (GBCI) and Green Product Council Indonesia (GPCI) will be involved as partners in working to realize a green campus at Universitas Trisakti from the beginning of the idea. Thus, the development management team will be more guided in designing, preparing building materials, constructing the building, supervising construction work, as well as maintaining and controlling the use of the green campus building. Therefore, the initial requirement in recruiting people and the competencies needed is that project team members must be able to collaborate and communicate with many parties. In the course of work, these human resources must identify and document all the tasks of their role in the project, their responsibilities and how they work collaboratively with other people in the Project Team

3.2 Organizational Structure

In carrying out the physical work of the Green Campus Project of Universitas Trisakti, the implementing organizational structure must first be drawn up, namely as follows on the Figure 3. The Project Manager is the top implementation leader, with three important sections under him, namely: Project Engineering Manager (PE-M), Project Production (PP-M), and Project Finance Manager (PF-M).

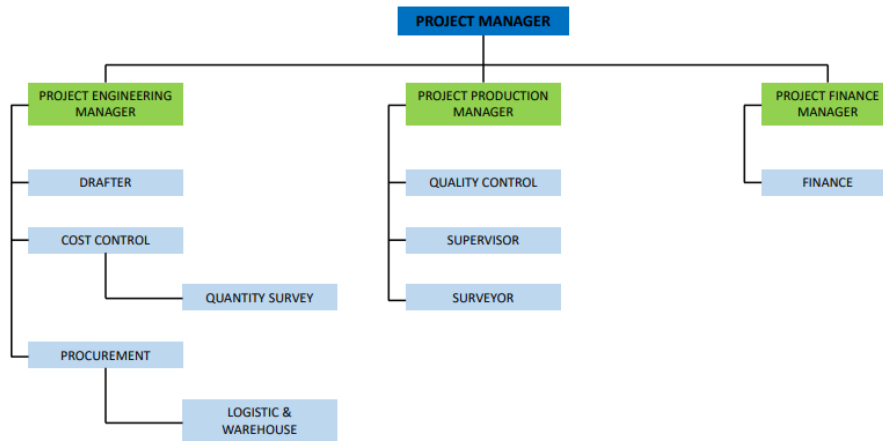


Figure 2 Organizational Structure

3.3 Scope of Work

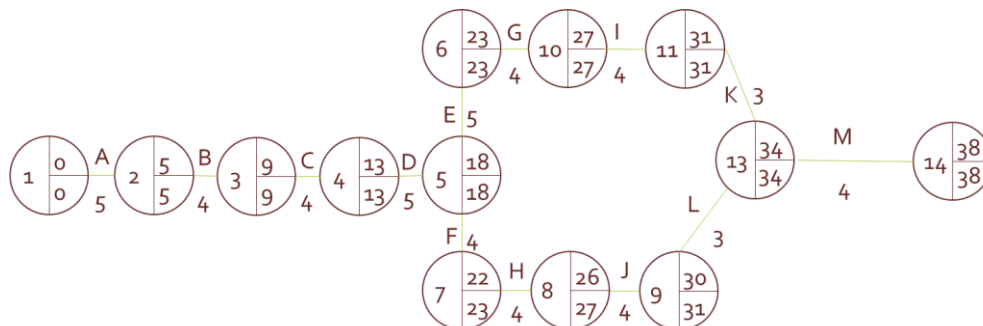
Project team members are depicted on all availability resources, both internal and external. When the management team the project can influence, assign staff directly, characteristics to customize it.

Table 2 Scope of Work

PROJECT MANAGER	PROJECT ENGINEERING MANAGER	PROJECT PRODUCTION MANAGER
a person appointed to drive the project organization and lead it in achieving project objectives.	liaison between the project manager and the various technical disciplines involved in the project.	make a strategy, planning, development, roadmap, and features of a product.
PROJECT FINANCE MANAGER	DRAFTER	QUANTITY SURVEYOR
is responsible for assisting business planning and decision making by providing financial advice	people who work drawing	check the quality / merits of work
COST CONTROL	PROCUREMENT	SUPERVISOR
Keep an eye on all items, Storekeepers and Receiving	receive or acquire, purchase or provide goods or services of other parties	Supervisors are responsible to the group manager, and are responsible for leading the implementing staff group.
SURVEYOR	LOGISTIC & WAREHOUSE	
someone who checks or supervises and observes another job	deliver or deliver finished goods as well as various kinds of materials in the right amount and time as needed	

3.4 Project Network Diagram

Network planning is a schedule of work activities shaped network diagram so that it can be known on which area the work is included in a critical trajectory and must take precedence his job. The following is an example of project network diagram using Project Evaluation Review Technique (PERT) diagram method.



<https://corporatefinanceinstitute.com/resources/management/project-evaluation-review-technique-per/>

Figure 3 Network Planning

3.5 Budget Estimated

Wage Payment System Labor wage payment system during the observation the work of the Green Campus of Universitas Trisakti Project is calculated by how much large volume of work produced. The following is an example of an estimated budget that is calculated based on the involvement of experts and support staff, the contribution of working time, and the standard price for the services of experts and support staff per month.

Table 3 Example of Budget Estimation

NO	JOB PROJECT	MAN POWER	TIME	PRICE	TOTAL COST
personnel costs					
1	Project Manager	1	9,5 Month	\$ 750,00	\$ 7.125,00
2	Project Engineering Manager	1	9,5 Month	\$ 650,00	\$ 6.175,00
3	Project Production Manager	1	9,5 Month	\$ 650,00	\$ 6.175,00
4	Project Finance Manager	1	9,5 Month	\$ 700,00	\$ 6.650,00
5	Drafter	2	9,5 Month	\$ 400,00	\$ 7.600,00
6	Quantity Survey	1	9,5 Month	\$ 400,00	\$ 3.800,00
7	Cost Control	1	9,5 Month	\$ 450,00	\$ 4.275,00
8	Procurement	1	9,5 Month	\$ 400,00	\$ 3.800,00
9	Finance	1	9,5 Month	\$ 300,00	\$ 2.850,00
10	Quality Control	1	9,5 Month	\$ 400,00	\$ 3.800,00
11	Supervisor	2	9,5 Month	\$ 400,00	\$ 7.600,00
12	Surveyor	2	9,5 Month	\$ 300,00	\$ 5.700,00
13	Logistic & Warehouse	1	9,5 Month	\$ 250,00	\$ 2.375,00
TOTAL PROJECT COST					\$ 67.925,00
PROJECT PRICE					\$ 122.500,00

3.6 Payment Stage

The payment stage (Heléne Lundberg et.al, 2014) is the time period (and the following method) of payment agreed by the parties to the work contract. The payment stage is generally set based on the weight of the work performance achieved by the executor of the work.

Table 4 Example of Payment Stage

TIME	COST
MONTH - 1	\$ 7.150,00
MONTH - 2	\$ 7.150,00
MONTH - 3	\$ 7.150,00
MONTH - 4	\$ 7.150,00
MONTH - 5	\$ 7.150,00
MONTH - 6	\$ 7.150,00
MONTH - 7	\$ 7.150,00
MONTH - 8	\$ 7.150,00
MONTH - 9	\$ 7.150,00
MONTH - 10	\$ 3.575,00
TOTAL	\$ 67.925,00

3.7 Matrix Diagram

A matrix diagram is developed by using the RAM – RACI matrix and defined as a new management planning tool for analyzing and displaying the relationship between data sets. The matrix diagram shows the relationship between two, three, or four groups of information. It also can give information about the relationship, such as its strength, of the roles played by various individuals or measurements.

Table 5 Matrix Diagram

Activity	PM	PE-M	PP-M	PF-M	D	QS	CC	P	SPV	SRV	L&W
Team Building	R	A	C	I	I	I	I	I	I	I	I
Initiation	A	R	C	I	I	I	I	I	I	I	I
Analyze Needs	R	R	R	R	I	C	C	A	I	I	C
Execution	R	R	A	I	A	A	A	A	A	C	A
Evaluation	R	R	R	R	A	A	A	A	A	A	A
Publication and documentation	R	R	R	R	R	R	R	A	I	I	A

Description: R = Responsible
A = Accountable
C = Consult
I = Inform

PE-M = Project Engineer Manager
PP-M = Project Production Manager
PF-M = Project Finance Manager

3.8 Developing the Project Team

This developing the project team (Paul Newton, 2015: 22-25) is explaining a Competency Improvement Process, team interaction and the environment as a whole team to improve project performance. The Project Team being developed is the most important process in Project HR management. This is an execution process that focuses on building team spirit in order to improve performance. To do project team development, one of them is motivation. There are 2 motivations in management, namely:

1. Intrinsic Motivation
2. Extrinsic Motivation.

Intrinsic motivation causes people to participate in an activity for their own pleasure. Meanwhile, extrinsic motivation causes people to do something for reward or to avoid punishment.

In developing the project team also requires power. Power is the potential ability to influence behavior to get people to do things they might not want to do. The types of power include:

1. Reward Power (Power by giving gifts)
2. Expert Power
3. Legitimate (Legitimacy)
4. Referent (Reference)
5. Punishment (Punishment)

In the application of power, of course you must have a good leadership basis. The basis for establishing leadership includes:

- a. Expertise (Expert Power)
People who have the ability to create or be creative and have high initiative, they can cultivate and develop their abilities so that they can create a business that they lead properly.
- b. Coercion / Punishment (Forced Power)
Through the appointment or power of a person, it means that someone can become a leader because they are appointed by another person who has a higher position in the institution concerned.
- c. Reward (Reward Power)
Appoint someone to be a leader based on the contribution that has been given
- d. Legitimate (Legitimate Power)
Through crowd selection. Usually this happens in political organizations, trade unions, arts organizations, sports, and so on. Typically the leaders elected by the crowd served a limited period of time: two years, three years, and so on.
- e. Referent (Reference Power)
Through recommendations from people who have higher authority and power

3.9 Managing a Project Team

In managing the project team (Paul Newton, 2015: 5-8) the project manager must lead their team in the implementation of project activities. With the implementation of project activities, the project manager can assess team performance and related information to decide on considerations:

1. If changes must be made to the project
2. If corrective or preventive action is to be recommended
3. If an update is required the project management plan or the assets of the organization's processes

The Methods in Managing HR related to conflict, namely:

1. Withdrawing / Avoiding: Attempts to withdraw from or avoid actual or potential conflict situations.
2. Smoothing / Accommodating: More emphasis on agreed regional agreements rather than regional differences.
3. Compromising: Finding a solution that brings multiple levels of satisfaction to all parties.

4. Forcing: encouraging one's views at the expense of others; only offer a win-lose solution.
5. Confronting: treating the conflict as a problem that the alternative examiner should solve.
6. Collaboration: combining multiple perspectives and insights from different perspectives, leading to consensus and commitment.

Of course, from managing the project team, there must be people who leave their work because:

1. They feel they are not making a good difference.
2. They don't get the recognition they deserve.
3. They are not learning anything new or growing as a person.
4. They don't like their co-workers.
5. They want to earn more money.

So to avoid this in managing the project team, of course a good project manager will hold training. Training can help oneself and each other and understand how to do better in a team as well as activities in conducting training such as:

1. Team Building
2. Challenges - Physical Challenges
3. Indicators of psychological preferences

Apart from conducting training it would be nice for project managers to implement a reward and recognition system in managing project teams. Team based reward and recognition systems can promote teamwork.

In addition, it focuses on rewarding the team for achieving certain goals. Reward and recognition systems can provide time for team members to train and help each other to achieve project goals and develop human resources.

The general suggestions for the Project team include:

1. Be patient with your team.
2. Solves problems, not blaming people.
3. Hold effective regular meetings
4. Allows the team through the basic team building steps.
5. Limiting the number of members in a work team to 3-7 people.
6. Plan some social activities to help project team members and other stakeholders get to know each other better.
7. Emphasizes team identity.
8. Nurturing team members and encouraging them to help each other.
9. Take additional actions to work with virtual team members.

So in managing project resources, namely by involving software and many other things. Usually project managers should treat people with consideration and respect.

Apart from that understand what motivates people and carefully communicate with people, and also the Project Manager must focus on organizational goals that make the project team members to give their best work.

III CONCLUSION

From the description and discussion above regarding Human Resources Management in the Green Campus Project of Universitas Trisakti three important points can be concluded, namely as follows (1) Human resource management for the

construction of the Universitas Trisakti green campus building includes all processes in the organization and management of the project team. The project team consists of people who are competent in their fields, environmentally friendly, who are given full roles and responsibilities to complete the Universitas Trisakti green campus building project. (2) The purpose of human resource planning for the development of a green campus is to establish project rules, responsibilities, report relationships, create a staff management plan. Who plays a role in the project can be appointed from individuals or groups. People or groups can come from within or outside the organization implementing the project. (3) The green campus project management team is part of the project team and is responsible for project management activities such as Planning and Design, Procurement and Construction, Supervision and Construction Management, Building Maintenance, and Post-Occupancy Evaluation. If someone is sponsoring the project, then the sponsor must work with the project management team, assisting with matters such as project financing, explaining scope of work, answer the questions, and influencing others to benefit the project.

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