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The Changing Academy (AMG) to the College (STMKG) in Order to Improve BMKG Organization Performance

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***Abstract*—The purpose of this study was to determine the impact of changes from AMG (academy) to STMKG (the college) as an official school under the Agency of Meteorological Climatological and Geophysics of Indonesia (BMKG) in order to improve the performance of the BMKG organization. This study used a qualitative approach with case study methods and using snowball samples. The research population is the State Civil Apparatus (ASN) within the BMKG. Data obtained based on the results of observations, interviews, questionnaires, and then analyzed by triangulation. The results of this study indicate that the change from academy to state college has a positive impact on organizational performance, including improving service quality in providing information related to the main tasks and functions of BMKG. The speed at which tasks are completed can be appreciated. This improvement in quality is due to efforts to improve quality from various sides, namely improving curriculum, teaching staff, teaching methods, as well as from the selection process of the cadets.**

Keywords—organizational change; BMKG; management

I. INTRODUCTION

Global warning tends to make the weather or climate have greater potential to cause disasters to society [1]. The number of disasters made people aware of the importance of information about Meteorology, Climatology, Air Quality, and Geophysics (MKKUG). The community is increasingly critical in demanding to obtain MKKUG information more quickly, precisely, accurately, easily understood and can reach all corners of the country [2]. In accordance with its main tasks, functions and authorities in the dynamics of national development, BMKG should have a long-term development direction as mandated by Law No. 31 of 2009 concerning Meteorology, Climatology and Geophysics. At present the community has begun to realize, acknowledge and even give appreciation to the work and performance achievements of the BMKG. This can be seen from the efforts to accelerate the dissemination of earthquake and tsunami information, extreme weather and climate, and air quality [3]. On the other hand, technological developments, trends in natural change triggered by global warming, and the demands of society, greatly affect the service patterns of extreme weather and climate information including air quality, and earthquakes and potential tsunamis, both in spatial and sectoral perspectives, speed and accuracy , and its scope, both for development and community safety, both at national and international levels. Therefore, the actions and actions of BMKG cannot be separated from the movement of struggle in the framework of the development of the country and nation of Indonesia [4]. The implementation of meteorology, climatology and geophysics that is able to answer all expectations in Law No. 31/2009 requires and requires the establishment and establishment of 2 (two) main supporting components: (i) facilities and infrastructure that are good, reliable and meet operational feasibility requirements, and (ii) capable human resources. The development of science and technology encourages - in the future - this implementation process is no longer carried out based solely on the skills of observation, collection, processing and dissemination of data and information on meteorology, skilled based, but it utilizes science and technology (science based). It implies the need for a transformation from the implementation of a technical-operational nature to an analytical and conceptual position.

To prepare human resources who are ready to fulfill the BMKG's vision and mission, an official university was formed specifically trained to become prospective employees within the BMKG, namely the College of Meteorology, Climatology and Geophysics (STMKG). Starting from the Meteorology and Geophysics Academy (AMG) which was founded in 1955 in Bandung where it is under the Center for Meteorology and Geophysics. AMG underwent several name changes, such as becoming the Meteorology and Geophysics Training and

Education Center (BPLMG) while under the Education and Training Agency of the Ministry of Transportation, then returning to become AMG in 2000 under the Ministry of Transportation status. As of 2005, AMG is directly under the Bureau of Meteorology and Geophysics (BMG) which at that time had become a Non-Departmental Government Institution (LPND). Finally in 2014, AMG officially changed to STMKG which was under the BMKG.

We conduct this research to elaborate the impact of changes from AMG (academy) to STMKG (the college) in order to support the performance of the BMKG organization. We will describe in description form using qualitative approach.

II. METHOD

A. Research Background

This research was conducted at the Meteorology, Climatology and Geophysics Agency (BMKG) Jl. Angkasa I No. 2, Kemayoran - Jakarta Pusat. The study began on November 4, 2017 - September 30, 2018. The informants in this study were echelon I officials at BMKG because they were the policy makers and the chair of the STMKG as the location of the changes occurred.

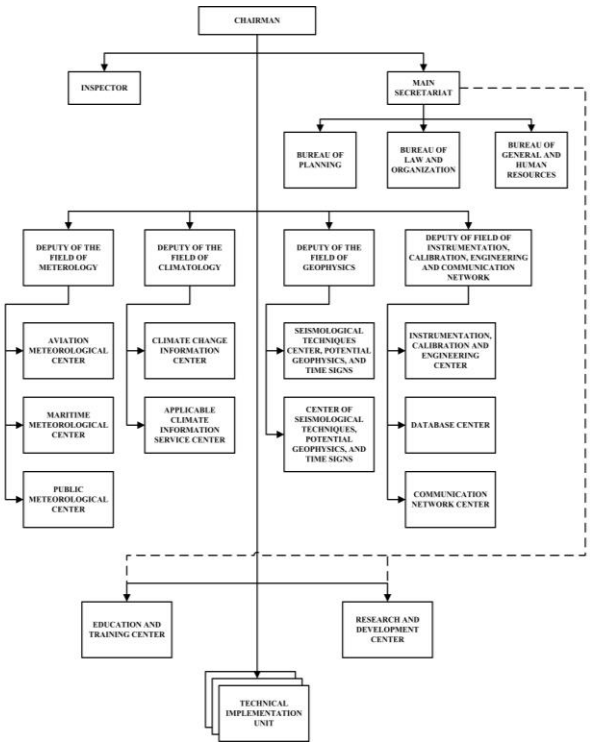

Fig. 1. Chart of the organization of BMKG.

B. Methodology

This study uses a qualitative approach methodology that has natural characteristics as a direct, descriptive data source prioritize inductive processes and analysis with meaning that is essential to the institution of the Meteorology, Climatology and Geophysics Agency. The research methods and procedures use a case study research design with the following stages: (1) Study question; (2) Proposal studies or theoretical frameworks (study proportion); (3) Identification of units of analysis (identification of the unit of analysis); (4) Logical relationship of data with propositions or theories (the logical linking); (5) Criteria for interpreting findings (the criteria for interpreting the findings).

The technique of collecting data uses in-depth interviews, observation and documentation studies. The researcher observes and is directly involved so that he can see, know, feel, and experience for himself the phenomena that exist. Determination of data sources that become key informants is done purposively, then in obtaining in-depth data other informants are also selected and captured by snowball sampling. Data collected through the three techniques are organized, interpreted and analyzed repeatedly through interactive analysis to formulate concepts and abstraction of research findings. Checking the credibility of the data is done by triangulation technique, member checking, and extension of observation time. Data that is declared credible through triangulation will give researchers confidence in the validity. the data, so as not to hesitate in making research conclusions. [5].

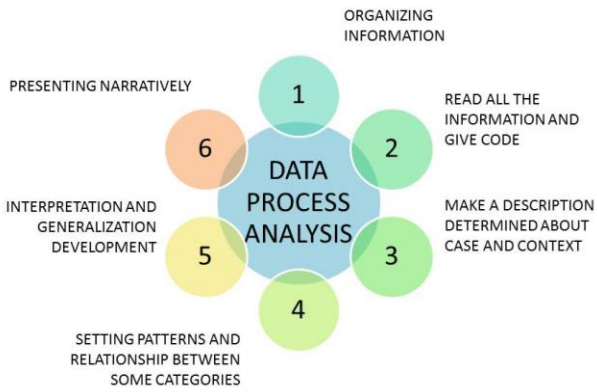

Fig. 2. Data process analysis.

Change is something that is certain and will happen. Likewise with companies or organizations that are required to be able to change and adjust to changes to continue to survive and run their business, so that the organization must have the right change strategy and its implementation continues throughout time. Karen Coffman and Katie Lutes explain that change management is a structured approach to help organizations and people to transition slowly but surely from the present state to the desired situation [6].

Changes in the status of the Academy to State College are very necessary, according to Indiantoro which states that the renewal of the higher education system is very important to do, given the tremendous variety of challenges both locally and nationally and internationally. Therefore the implementation of higher education must be totally changed following the existing developments [7]. For example, landslides caused by rain are one of the most important disasters that occur in complex terrain, especially those that routinely experience heavy rain [3]. Develop of Academy to become State College also strengthened by Law No. 12 of 2012 concerning Higher

Education Article 62 paragraph (1) which states that Universities have the autonomy to manage their own institutions as the center of Tridharma and paragraph (2) namely Higher Education autonomy as referred to in paragraph (1) is carried out in accordance with the basis and objectives and capabilities of the University. Autonomy can cover both academic and non-academic fields [8]. This proves that a university can renew its education system independently if needed. Research on organizational change in higher education institutions has been carried out by Utama who examined the Palangka Raya Ministry of Health Polytechnic from its management aspects. In this study, it was found that system changes were characterized by streamlining the organizational structure. Organizational change also resulted in changes in the construction of increasingly extensive, large and good facilities and infrastructure. Work systems no longer lead to routines, but are more dynamic and flexible [9].

III. Results and Discussion

A. Result

In this study found the basis for transforming the Academy into State College is to answer the challenges in the community in improving services and preparing reliable HR with high competence and ready to carry out and support the readiness of the automation process, digitalization both in terms of technical and quality of human resources. Research and development are concentrated on developing more operational methods to improve the accuracy and accuracy of forecasts and early warnings.

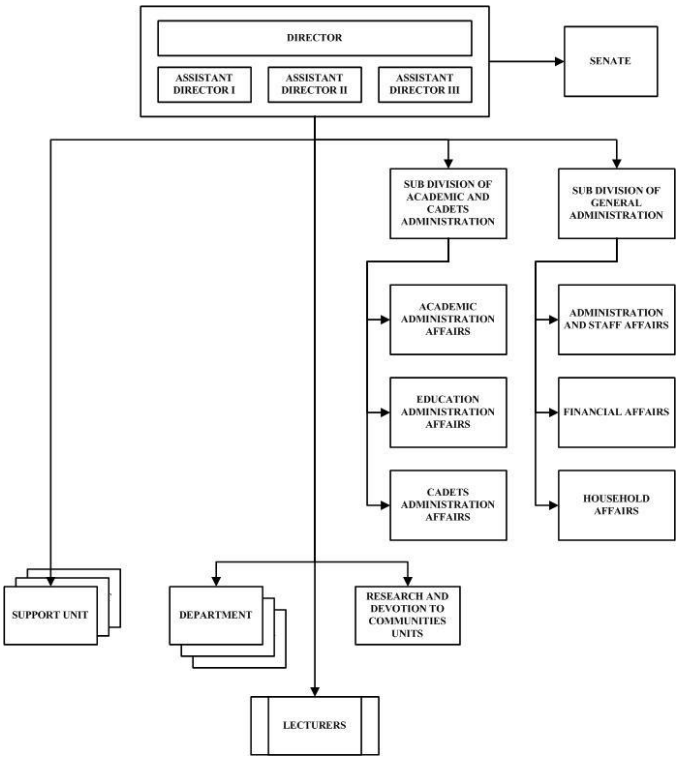

Fig. 3. Chart of the organization of the meteorology and geophysics academy.

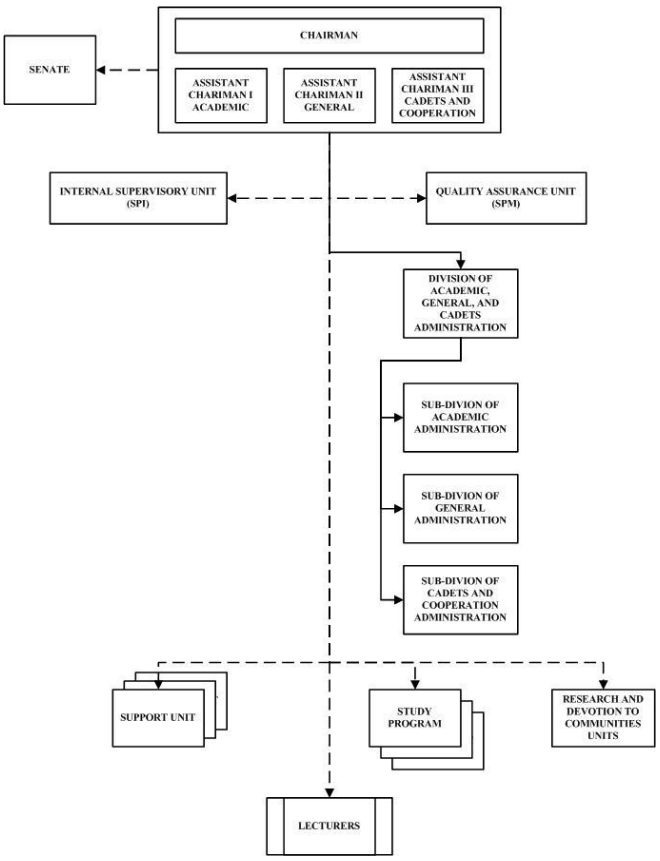

Fig. 4. Chart of the organization of STMKG.

Some changes took place at STMKG namely, the organizational structure at the Academy level (AMG) which can be seen in Figure 3 was initially headed by a director with the help of 2 head of subdivisions and 6 heads of affairs and assisted by 3 Assistant Directors. Whereas in the organizational structure of the college (Figure 4), STMKG is led by a chairperson, 1 person in the regency and 3 head of the sub-division. Management of the UP2KM, Quality Assurance Unit (SPM) and Internal Supervisory Unit (SPI) in addition to the Assistant Chair and Chair of the Study Program.

In organizational changes also accompanied by an increase in facilities and infrastructure, this appears to be the addition of laboratories as lab materials.

TABLE I. Additional Facilities

Meteorology and Geophysics Academy		College of Meteorology, Climatology and Geophysics		
1st Floor	Polyclinic	1st Floor	Polyclinic	Addition on Labs
	Meteorological Lab		Meteorological Lab	Climatology Lab
	Computing Lab		Computing Lab	Basic Physics Lab
	Geophysics Lab		Geophysics Lab	Instrumentation Lab
	Class A 101		Class A 101	Air Quality Lab
	Class B 101		Class B 101	Cisco Lab
	Class B 102		Class B 102	System Planning Lab

Table 1.Cont.

	Class B 103		Class B 103	Electro Lab
	Class B 105		Class B 105	
2nd Floor	Class A 201	2nd Floor	Class A 201	
	Class A 202		Class A 202	
	Class A 203		Class A 203	
	Class A 204		Class A 204	
	Class A 205		Class A 205	
	Class A 206		Class A 206	
	Class A 207		Class A 207	
	Class A 208		Class A 208	
	Class A 209		Class A 209	
	Class B 201		Class B 201	
	Class B 202		Class B 202	
	Class B 203		Class B 203	
	Class B 204		Class B 204	
	Class B 205		Class B 205	
3rd Floor	Class A 301	3rd Floor	Class A 301	
	Class A 302		Class A 302	
	Class A 303		Class A 303	
	Language Lab		Language Lab	

TABLE II. NUMBER OF CERTIFIED LECTURERS

	Meteorology Program	**Climatology Program**	**Geophysics Program**	**Instrumentation Program**	**Total**
AMG	6	2	4	4	16
STMKG	8	3	5	6	22

In terms of lecturer competency, there was an increase in the number of certified lecturers between AMG and STMKG, as we can see in the Figure 6, which is during the AMG period there were as many as 16 certified lecturers, and then increased to 22 people during the STMKG period. This shows that the competence of lecturers possessed by STMKG has been better than before.

B. Discussion

With the addition of facilities such as laboratories, cadets participated in various events such as the Indonesian Rocket and Rocket Load Competition (KOMURINDO) and the Atmospheric Balloon Load Competition (KOMBAT) held by LAPAN. From the competition, both cadets and assistant lecturers gained knowledge. Also visible changes in lecturer certification or commonly known as Serdos is one of the government's efforts in advancing education in Indonesia. This method is carried out by increasing the competence of the teaching staff as stated in PP No. 37 of 2009 Article 2 concerning Lecturers and Law No. 14 of 2005 concerning Teachers and Lecturers [10].

IV. CONCLUSION

The conclusion of this study is that the change from academy to the college has a positive impact on organizational performance, including improving the quality of services in providing information related to the main tasks and functions of BMKG. It appears in the original organizational structure of top echelon III leaders to be echelon II so that cooperation between institutions does not require long coordination. The addition of facilities and infrastructure in the STMKG environment supports the improvement of graduates' competency results which are then employed at BMKG.

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