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Pancasila as the foundation of Science Policy in Indonesia

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Abstract

Pancasila as the basic value of Science Development explains that every science and technology (iptek) developed in Indonesia must not conflict with the values contained in Pancasila. science and technology itself develops autonomously, then in the course of adaptation to the values of Pancasila. Every science and technology developed in Indonesia must include the values of Pancasila as an internal factor in the development of Science and technology itself. The method used in this study is empirical juridical the results of this study explain that a clear orientation is needed to filter and counteract the influence of global values that are not in accordance with the values of the personality of the Indonesian nation. Some of the reasons Pancasila is needed as the basic value of the development of Science and technology in the life of the Indonesian nation include environmental damage caused by science and technology, a means to control and control the progress of Science and technology, the values of local wisdom that became a symbol of life in various regions. Lmu development policy in Indonesia can be seen from historical sources, sociological sources and political sources.

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1. Background of the Research/ Introduction

Pancasila as the basic value of Science Development explains that every science and technology (iptek) developed in Indonesia must not conflict with the values contained in Pancasila.

Science and technology does not conflict with the values contained in Pancasila contains the assumption that science and technology itself develops autonomously, then in the course of adaptation to the values of Pancasila.(Latif. 2011)

Every science and technology developed in Indonesia must include the values of Pancasila as an internal factor in the development of Science and technology itself.

That every science and technology developed in Indonesia must include the values of Pancasila as an internal factor presupposes that since the beginning of the development of Science and technology must involve the values of Pancasila. However, the involvement of Pancasila values is in a position of tug-of-war, meaning that scientists can consider the extent to which they deem worthy to be involved.

That the values of Pancasila act as a normative sign for the development of Science and technology in Indonesia, meaning that it is able to control Science and technology so as not to get out of the way of thinking and acting of the Indonesian nation.

That Pancasila Values Act as normative signs for the development of Science and technology assumes that there are rules that must be agreed upon by scientists before the science is developed. However, there is no guarantee that the rules of the game will continue to be adhered to in the course of the development of Science and technology itself. Because when science and technology continue to develop, the rules of the game should continue to guard and shadow so that there is no gap between the development of Science and technology and the rules of the game.(Nuriansah. 2019)

Every development of Science and technology must be rooted in the culture and ideology of the Indonesian nation itself or better known as indegenisasi ilmu (mempribumian ilmu).

Understanding Pancasila as the basis for the development of science as stated above contains different consequences.

Placing that every development of Science and technology must be rooted in the culture and ideology of the Indonesian nation itself as a process of indegenization of science presupposes that Pancasila is not only the basic value of science development, but has become a paradigm of science that develops in Indonesia. For this reason, a more detailed explanation and discussion is needed among Indonesian intellectuals, the extent to which the values of Pancasila are always taken into consideration for scientific decisions taken.

The presence of Science and technology around us is like a double-edged knife, on the one hand science and technology makes it easy to solve various problems of life and life faced, but on the other hand it can kill, even destroy human civilization. An example of this was the atomic bombs dropped on Hiroshima and Nagasaki in the Second World War. The impact was not only felt by Japanese citizens at that time, but caused prolonged trauma to the following generations, even touching universal human values. Human values do not belong to an individual or a group of people or a nation alone, but to the common property of humanity. (Pranowo.2010)

Based on this background, the focus of this research is how Pancasila as the foundation of Science Policy in Indonesia.

2. Research Method

The method used in this study is empirical juridical , Empirical Legal Research is not limited to reviewing written positive law (legislation) as secondary data, but from real behavior as primary data obtained from field research sites (field research). The real behavior lives and develops freely in rhythm with the needs of the community, some in the form of court decisions or in the form of Customs.

3. Research Results

The importance of Pancasila as the basis for the development of science can be traced to the following things, first the plurality of values that develop in the life of the Indonesian nation today along with the advancement of Science and Technology cause changes in the way people view life. This requires deep reflection and reflection so that the Indonesian nation does not fall into the determination of value decisions that are not in accordance with the personality of the nation; second, the negative impact caused by the progress of Science and technology on the environment is at a nadir that endangers the existence of human life in the future.

Therefore, moral guidance is needed for scientists in the development of Science and technology in Indonesia; third, the development of Science and technology dominated by Western countries with global politics also threatens the typical values in the life of the Indonesian nation, such as spirituality, mutual assistance, solidarity, deliberation, and a sense of Justice

Therefore, a clear orientation is needed to filter and counteract the influence of global values that are not in accordance with the values of the personality of the Indonesian nation. there is no nation in the world that is free from the influence of Science and technology development, although the levels are of course different. Even if there are a handful of people in rural areas in Indonesia who still survive with a primitive way of life, Original, has not been contaminated by the progress of Science and technology, then it is very limited and just a matter of time.

Some of the reasons Pancasila is needed as the basis for the value of Science and technology development in the life of the Indonesian nation include the following, first the environmental damage caused by science and technology, both under the pretext of accelerating the development of disadvantaged areas and efforts to improve the welfare of the community need to get serious attention. Mining coal, oil, iron ore, gold, and others in Kalimantan, Sumatra, Papua, and others using advanced technology accelerates environmental damage. If this is allowed to drag on, then future generations, accept the risk of disaster-prone life because environmental damage can trigger disasters, such as landslides, floods, pollution due to waste, and so on;

second, the elaboration of Pancasila precepts as the basic value of Science and technology development can be a means to control and control the progress of Science and technology that affects the way of thinking and acting of people who tend to be pragmatic. That is, the use of technological objects in the life of Indonesian society today has replaced the role of noble values that are believed to create Indonesian human personality that has a social, humanist, and religious nature. In addition, this trait has now begun to be eroded and replaced by individualistic, dehumanistic, pragmatic, and even secular traits.

third, the values of local wisdom that became a symbol of life in various regions began to be replaced by a global lifestyle, such as: the culture of mutual assistance was replaced by individualists who did not obey to pay taxes and only became free riders in this country, unpretentiousness was replaced by a luxurious lifestyle, consumerism; social solidarity was replaced by an individualistic spirit; deliberation for consensus was replaced by voting, and so on.(Slameto. 2010)

The historical source of Pancasila as the basic value of science development in Indonesia can be traced initially in the state document, namely the Preamble of the 1945 Constitution. The fourth paragraph of the Preamble of the 1945 Constitution reads: ”then to establish an

Indonesian government that protects the entire Indonesian nation and all Indonesian bloodshed and to promote the general welfare, educate the nation's life, and participate in implementing world order based on independence, lasting peace and social justice, the Indonesian National Independence was drafted in an Indonesian constitution, which is formed in a composition of the Republic of Indonesia which is sovereign of the people based on the divinity of the Almighty,and so on".

The word" intellectual life of the nation " refers to the development of Science and technology through education. The mandate in the Preamble of the 1945 Constitution related to educating the nation's life must be based on the values of Godhead, and so on, namely Pancasila. The process of educating the nation's life apart from the values of civility, humanity, national solidarity, deliberation, and justice is an injury to the mandate of the opening of the 1945 Constitution which is a historical document of the Indonesian nation. Pancasila as the basis for the development of science has not been widely discussed at the beginning of the independence of the Indonesian nation. This is understandable, considering that the founders of the state were also among the ingenious scholars or intellectuals of the Indonesian nation at that time devoted their energy and thoughts to building the nation and state.(Suprayitno. 2020)

Intellectuals as well as national fighters are still preoccupied with efforts to reform and organize a country that has just been freed from colonialism. Colonialism not only drained the natural resources of the Indonesian state, but also put the largest part of the Indonesian people in poverty and ignorance. A handful of Indonesian people who received education in the colonial period that became a pioneer for the revival of the nation so that when the independent state of Indonesia was proclaimed, they felt the need to include aspects of welfare and education into the Preamble of the 1945 Constitution which reads "..promote the general welfare, intellectual life of the nation, and protect the entire homeland of Indonesia".

The precepts of Pancasila stated in the Preamble of the 1945 Constitution are clearly part of the mandate of the founding fathers to raise and improve the welfare and promote the welfare of the nation in the sense of strengthening the nation's economy and the development of science that can raise the dignity of the Indonesian nation to be equal to other nations in the world.

Pancasila as a blueprint in Sukarno's statement more or less contains the same understanding as Pancasila as the basic value of Science and technology development because the precepts of Pancasila as a blueprint must enter into the entire plan of thought and action of the Indonesian nation. Other historical sources can be traced in various discussions and seminars among intellectuals in Indonesia, one of which is in higher education. Pancasila as the basic value of the development of new science began to be felt as an urgent need around the 1980s, especially in universities that print intellectuals.

The concept of Pancasila as the basic value of science development was once put forward by Prof. Notonagoro, a member of the Senate of Gadjah Mada University as quoted by Prof. Koesnadi Hardjasoemantri in the speech of the seminar, which states that Pancasila is a guide and guidelines in the business of science to be used as the principle and establishment of life, as a base point of view of the subject of Science and also the object of science or things investigated.

The use of the term "principles and foundations of Life" refers to attitudes and guidelines that become normative signs in Scientific action and decision making.

Daoed Joesoef in his scientific article entitled Pancasila, culture, and Science states that Pancasila is a vital idea that comes from Indonesian culture, meaning values that are really mixed from the value system of the Indonesian nation itself.

Therefore, Pancasila has a certain method of looking at, holding certain criteria in assessing so that it leads it to make certain judgments about certain symptoms, predictions, and recommendations regarding practical steps. The concept of Pancasila as the basis for the value of science development according to Daoed Joesoef's perspective is as a guide and value consideration in the development of Science and technology.

Koentowijoyo in his article, Pancasila as an orientation for the development of Humanities in Indonesia starts from the awareness that humans live in the middle of three environments, namely the material environment, the social environment, and the symbolic environment. The material environment is related to the man-made environment, such as houses, bridges, equipment, and so on. Social environment is social organization, stratification, socialization, lifestyle, and so on. The symbolic sphere is everything that encompasses meaning and communication, such as language, mite, singing, art, ceremony, behavior, concepts, and so forth.

Pancasila as the basic value of science development in Koentowijoyo's interpretation is placed as a normative force of humanization that opposes the power of human naturalization tendency, human mechanization, and engineering awareness. Pancasila as a normative awareness framework of humanization can be an impetus towards two important things: first, universalization, which is to release symbols from the connection with the structure, especially the use of symbols for the benefit of a social class, both from the free market camp and from the planning State. Second, transcendentalization, which is to increase the degree of human independence, spiritual freedom to resist the dehumanization and subhumanization of humans that come from technology and science.

Pancasila is a reflection of the suffering of nations in the world in real terms so that it contains religious values that are based on Godhead and universal human rights values. Furthermore, Muladi linked Pancasila and science by putting it in the position of In between, which is between operational science based on regularity occurring phenomena and non-origin science based on non-repeatable events commonly associated with the universe created by God Almighty. Thus, the development of Science and technology should be associated with the values of Pancasila as a common denominator values, the values agreed upon jointly by the Indonesian nation, as well as a common frame of reference.

Prof. Dr. M. Sastrapratedja in his article entitled, Pancasila as the orientation of nation building and the development of Science Ethics confirms there are two roles of Pancasila in the development of Science and technology, namely first, Pancasila is the foundation of science development policy, the second, Pancasila as the foundation of Science and technology ethics.

The first thing related to the position of Pancasila as the foundation of Science Development Policy includes five things, namely, respect for the religious beliefs of the community, the development of humanity, homogenize" culture, democratic principles, mastery of Science and technology.

One of the disciplines that is often in the spotlight because it voiced the interests of the market is the field of Economics. The question that often comes to the surface is

what is the foundation of the value of the development of Economic Science in Indonesia? This issue seems to have intrigued one of the famous economists in Indonesia, namely Prof. Emil Salim. In 1965, Emil Salim introduced for the first time the term Pancasila economy and published two essays on Pancasila economy, the first in the form of a monograph published by LEKNAS (National Economic and social institution); the second is in a special chapter of the book published by LEKNAS for Lemhanas (National Defense institution) participants. The term Pancasila economy from Emil Salim, then developed in seminars on Pancasila economy held around 1981.

The figure or economist who is serious about developing Pancasila economy is Prof. Mubyarto. The difference between the two figures is that Emil Salim tries to give a foundation for the economic path that will be taken by The New Order government, but Emil Salim never rejects the presence of neo-classical economics, because he views that economics is universal. Even if there is a discrepancy between economic theory and practice, then the error lies in practice.

Mubyarto explained that there are five economic characteristics of Pancasila, namely that the wheels of the economy are driven by economic, social, and moral stimuli. the strong will of the whole society towards social equality (egalitarianism). the priority of economic policy is the creation of a resilient national economy which means nationalism animates every economic policy. cooperatives are the saka guru of the economy and are the most concrete form of joint business. there is a clear and firm balance between planning at the national level and decentralization in the implementation of economic activities to ensure social justice.

The value of Pancasila as the development of economics is a way to provide a moral foundation for the economic system applied in the life of the state as seen in Item (1), in addition, social justice in items (2) and (5) is the essence of Pancasila economy supported by the spirit of nationalism, as stated in Item (3), then the choice to move the nation's economy through cooperatives item (4) is the right choice for Indonesian state officials.

The sociological source of Pancasila as the basis of the value of Science and technology development can be found in the attitude of the people who pay great attention to the divine and humanitarian dimensions so that when science and technology are not in line with the divine and humanitarian values, rejection usually occurs. The community is especially sensitive to the humanitarian issues behind the development and development of Science and technology due to the negative impact of Science and technology development, such as industrial waste that damages the environment, directly disturbing the comfort of people's lives.(Saifuddin Azwar. 2010)

The political source of Pancasila as the basis for the value of science development in Indonesia can be traced to various policies carried out by state officials. Documents during the Old Order that put Pancasila as the basis of the value of development or orientation of science, thus, Pancasila as the basis of the value of the development of Science in the Old Order has not been explicitly stated, but by Sukarno is associated directly with the humanitarian dimension and the relationship between science and charity.

In the New Order era, President Suharto touched upon the issue of Pancasila as the basis of the value of science development when giving a speech at the IV National Knowledge Congress, September 18, 1986 in Jakarta. In the Reform era, President Susilo Bambang Yudhoyono in his speech at the gathering with the

Indonesian Academy of Sciences (AIPI) and the scientific community, January 20, 2010 in Serpong. SBY emphasized that each country has a national innovation system with a different and distinctive style, which suits their respective needs and conditions. The strategy we take to become a developed country, is to combine the approach of Natural Resources, Science and technology, and culture or knowledge based, Resource based and culture based development".

Pancasila as the development of science has not been explicitly discussed by state officials since the Old Order until the reform era. State officials in general only touched on the issue of the importance of the relationship between the development of Science and the humanitarian dimension (humanism).

There are several forms of challenges to Pancasila as the basis for the development of Science and technology in Indonesia, namely First, capitalism as controlling the world economy, including Indonesia. As a result, space for the application of Pancasila values as the basis for the development of science is limited. Efforts for the development of Pancasila economic system ever pioneered by Prof. Mubyarto in the 1980s had not yet found a concrete form that could be relied upon to counteract and rival the economic system oriented towards the owners of large capital; second, globalization causes the weak competitiveness of the Indonesian nation in the development of Science and technology so that Indonesia is more positioned as a consumer rather than a producer compared to other countries; third, consumerism, causing the Indonesian state to become a market for technology products of other countries that are more advanced science and technology. Pancasila as the development of new science at the level of discourse that has not been at the level of application of state policy; fourth, pragmatism is oriented on three characteristics, namely: workability (success), satisfaction (satisfaction), and result (results) coloring the life behavior of most Indonesian people.

The essence of Pancasila as the basic value of Science and technology development was stated by Prof. Wahyudi Sediawan in the symposium and workshop Pancasila as a paradigm of Science and nation building, as follows:

The first precept, God Almighty gives awareness that humans live in the world as if they are undergoing a test and the test results will determine their eternal life in the hereafter. One of the tests is that man is commanded to do good deeds, not to make mischief on Earth. Guidance on the attitude of the scientific and engineering code of ethics, such as: upholding the safety, health, and welfare of the community; behaving honorably, responsibly, ethically and obey the rules to improve honor, reputation and professional benefits, etc., is a manifestation of actions for the good. Scientists who practice their technical competence well in accordance with the guidance of this attitude means to enjoy God's Grace.

The second principle is that fair and civilized humanity provides guidance, both universal and unique to scientists and technical experts in Indonesia. The principle of humanity or humanism requires that the treatment of humans must be in accordance with their nature as humans, namely having desires, such as material adequacy, socializing, their existence is valued, issuing opinions, playing a real role in their environment, working according to their highest abilities.

The nature of human nature that is mono-pluralist, as stated by Notonagoro, which consists of soul and body (the composition of nature), individual and social creatures (nature), and God's creatures and

autonomous (the position of nature) requires a balance in order to perfect the quality of humanity.

The third precept, the unity of Indonesia provides an essential foundation for the continuity of the unity of the Republic of Indonesia (NKRI). Therefore, Indonesian scientists and technical experts need to uphold the principle of Indonesian unity in their professional duties. Synergistic cooperation between individuals with advantages and disadvantages of each will result in higher productivity than the sum of individual productivity (Wahyudi, 2006: 66). A job or task that is done together with a high spirit of nationalism can produce more optimal productivity.

The fourth precept, populism led by wisdom in deliberation/representation provides direction asa populism, which means that the establishment of the Republic of Indonesia is by and for all the people of Indonesia. Every citizen has the same rights and obligations to the state. Similarly, scientists and technical experts are obliged to contribute as much as possible to the progress of the country. This fourth precept also provides direction in Decision Management, both at the national, regional and narrower levels. Decision management based on the spirit of deliberation will bring better results because it can involve all parties willingly.

The fifth precept, social justice for all the people of Indonesia provides direction to always strive to avoid the Gap (gap) welfare among the Indonesian people. Scientists and engineers who manage industries need to constantly develop systems that move companies forward, while ensuring the well-being of employees. So far, the management of the industry is more oriented to economic growth, in the sense of corporate profits so that it tends to ignore the welfare of employees and environmental sustainability. This lame situation is caused by a pattern of work that is only concerned with the progress of the company. In the end, the pattern can be a trigger for protests that actually harm the company itself.

The importance of Pancasila as the basic value of science development, includes the following:

a. The development of Science and technology in Indonesia today is not rooted in the cultural values of the Indonesian nation itself so that the science developed in Indonesia is fully oriented to the West (western oriented).

b. The development of Science in Indonesia is more oriented to market needs so that the study programs that “sell well " in Indonesian universities are study programs that are absorbed by the market (industrial world).

c. The development of Science and technology in Indonesia has not involved the wider community so that only the welfare of the elite group that develops science (scientist oriented).

4. Conclusion

Pancasila as the basis of science development can be traced in terms of plurality, the negative impact of Science and technology development dominated by Western countries with global politics also threatens the distinctive values in the life of the Indonesian nation, therefore, a clear orientation is needed to filter and counteract the influence of global values that are not in accordance with the values of the Indonesian nation's personality. Some of the reasons Pancasila is needed as the basic value of the development of Science and technology in the life of the Indonesian nation include environmental damage caused by science and technology, a means to control and control the progress of Science and technology, the values of local wisdom that became a symbol of life in various regions. Lmu development policy in Indonesia can be seen from historical sources, sociological sources and political sources. challenges to

Pancasila as the basis for the development of Science and technology in Indonesia, namely capitalism, globalization, consumerism, pragmatism.

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