

Environmental Policy in the Wake of Indonesia's Fourth Industrial Revolution

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Through the momentum of its 73rd Independence Day, the Republic of Indonesia is expected to enable all Indonesian people to return to the ideals of independence recorded in the 1945 Constitution of Republic of Indonesia. "National development" – a series of activities covering the whole life of the people of the nation and the State – is expected to carry out the mandates of the 1945 Constitution; that is, "to protect the whole nation and the whole blood of Indonesia to promote the general welfare, the intellectual life of the nation, based on independence, eternal peace and social justice of the State". From the Old Order (*Orde Lama/Orla*) and the New Order (*Orde Baru/Orba*), this Reformation continues to promote better welfare and progress. In this case, national development must originate with, and be conducted by and for, the people. It must be implemented across various aspects of the life of the nation, including environmental, political, economic, social, cultural, defence and security aspects.

Policy and Legislative Background

Since proclaiming its independence, the Republic of Indonesia has had seven Presidents, and nine Ministers of Environment, between 1978 and 2014, when ministerial assignments changed and the Ministry became known as the Ministry of Environment and Forestry. The nine Ministers of Environment were Emil Salim (1978–1993), who served for three consecutive cabinet periods; Sarwono Kusumaatmadja (1993–1998); Juwono Soedarsono (1998), who served for two months and five days; Panangian Siregar (1998–1999); Sonny Keraf (1999–2001); Nabel Makarim (2001–2004); Rachmat Witoelar (2004–2009); Gusti Muhammad Hatta (2009–2011); and Balthasar Kambuaya (2011–2014).

Around the globe, in the area of environmental policy, countries' particular achievements have been noted, which have provided perspective on the environment in Indonesia. These include environmental impact assessment (known in Indonesia by the acronym "AMDAL"); environmental impact analysis (ANDAL); environmental risk analysis; environmental audits; and the designation of hazardous and toxic substances (known as "B3 substances"); as well as the adoption of environmental quality standards; legislative actions addressing environmental impacts; and environmental carrying capacity.

Environmental issues span a range of legal and policy concerns including democracy; decentralisation; identification of ecoregions and protection of ecosystems;

the right to control the State; environmental law; environmental penalties (civil, criminal and administrative); civil service law; criminal law; economic instruments; environmental permits, business licences, business activities; local wisdom and customary law; regional autonomy; authority regarding the preservation of environmental functions; and the role of the central and local governments. Other key areas addressed by environmental policy include environmental damage; environmental disputes; environmental awareness; strategic environmental assessment (known as "KLHS"); conservation of natural resources; the "green" constitution; environmental damage; environmental organisations; sustainable development; pollution and dumping; the role of various levels of environmental legislation; and management of the environment (known as "RKL") and the processes of environmental management planning and monitoring (respectively known as "RPPLH" and "RPL"/"UKL-UPL").

After being in effect for 15 years, Indonesia's first national environmental law (UULH No. 4 of 1982 on Basic Provisions of Environmental Management) was replaced by UUPH-1997 (Law No. 23 of 1997 on Environmental Management), which has been in force since 19 September 1997. This revision focused on the environmental awareness of the community, which was increasing rapidly; while on the other hand the damage and pollution were also increasing, due to ambiguities regarding governmental authority (supervision), the absence of administrative sanctions, multiple interpretations of relevant provisions and challenges for environmental dispute settlement. Another important factor was uncertainties regarding formal offences (environmental crime and corporate crime) and criminal sanctions.

Less than 12 years later, UUPH-1997 too needed to be refined. It was replaced by Law No. 32 of 2009 on Environmental Protection and Management (UUPH-2009). These changes addressed a number of juridical weaknesses of UUPH-1997, including the following:

- Weak coordination between democratic principles and decentralisation;
- Weak regulation on the authority of the environmental institutions;
- Weaknesses regarding the AMDAL process;
- Weak administrative sanctions;
- Lack of clarity regarding subsidiaries (especially regarding the justification of exemption);
- Weak provisions regarding the authority of officers of the Environmental Civil Service;

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- Lack of clear provisions regarding environmental crimes;
- Unfairness of the manner in which UUPH-1997 interacted with Law No. 26 of 2007 on Spatial Planning;
- Incompatibility of UUPH-1997 with Law No. 32 of 2004 on Regional Government; and
- Failure to include or address international principles on environmental management.

UUPH-2009 also addressed six basic policy considerations:

1. Affirmation and elaboration of the principles of human rights to a good and healthy environment;
2. Affirmation and elaboration of the principle of sustainable development in every economic activity;
3. Strengthening decentralisation and regional autonomy of environmental management;
4. Affirmation of the basis of protection and environmental management in a serious and consistent manner by all stakeholders;
5. Response to and anticipation of the development of the global environment; and
6. Assurance of legal certainty and protection of the right of everyone to obtain a good and healthy living environment as part of the protection of the whole ecosystem.

Indonesia has a large gold-mining industry (PT Freeport) producing gold of the highest quality. It also has the largest natural gas reserves in the world, in the East Natuna gas fields off Natuna Island, and the largest tropical forest in the world (an area of 39,549,447 hectares). It is surrounded by two oceans, the Pacific and the Indian, which have millions of fish species. Its population is the fourth largest in the world with 262 million people. The country has very fertile soil, due to its many active volcanoes and the sunshine and rain accompanying its equatorial location. Cultural diversity is another of its blessings, as is the fact that it is Southeast Asia's largest economy. Its many diverse cultural groups each offer something interesting, which is why millions of foreign tourists visit Indonesia every year, making tourism an important foreign exchange earner.

In 2018, the Indonesian nation is at a crossroads. Although it needs to catch up in the field of physical infrastructure development, it must also immediately overcome the decline in the development of value infrastructure that causes cracks in the national architecture.

More than economic interests, national integration and progress require both expansion and equity in their development. More extensive and intensive physical connectivity will facilitate social interaction that is expected to become a catalyst for national integration. Government commitment to building physical homes will be more constructive for the sustainability of the nation if accompanied by the same concern in "building" or nurturing the souls or characters of its inhabitants. No

matter how good the quality of the physical home, if the souls of its inhabitants are sick, the home will not be properly maintained and will easily collapse with the wind of change. Development of the people's souls through the development of value infrastructure is clearly a very urgent need.

Indonesia is hurrying to overcome a perceived degeneration in its national identity, facing the onslaught of international markets and transnational ideologies. Under such conditions, the ease of interaction and market access generated by the improvement of physical infrastructure alone will not bring public benefit and prosperity. Without value guidance, physical development movements can go astray and deviate from national goals. When the current life of the country is mired in a fog of apathy and pessimism, the development of *Pancasila*-based¹ "citizen intelligence" is key to the integration and progress of the nation. Precisely that point, however, is the site of the weakest knot of the education and development process.

As the world now watches the transition to self-driving, alternate-fuelled cars and controlled information technology (internet) through smartphones, the 20th century mechanics are giving way to the IT experts on whom development appears to depend. Everything is present in an efficient and effective digital performance at a cheaper price. The world is witnessing the collapse of a large corporate company of brand owners who, ten to thirty years ago, were dazzling and thriving. Disruption becomes severe as many people, including entrepreneurs and regulators, do not know what's going on. Their business model makes it possible to appear invisible, unlike the traditions built in the manufacturing economy, the economy has its own economy. As time goes by, almost all ministries suddenly appear as entrepreneurial builders. However, when the government intervened, young people actually started to switch. They are no longer creating SMEs and start-ups. Start-ups are no longer small businesses. They need the second and third waves of the internet. Start-ups have the ambition to be big, as big as the oceans, to become a global player. The financing is not through banking, but venture capital.

Pancasila development is needed urgently. All components of the nation must be aware of it, and must recognise the importance of social responsibility and the regeneration of civic virtue in the midst of a pragmatism that emphasises other rights and needs. The goals are important: to respect our diversity and improve the habits of the heart; to care and give in spirit of kinship, togetherness and cooperation as the glue of our political life; and to embrace the ideals of happiness, both now and for the future.

Problem Statement

Indonesia has always been a country of great agrarian wealth (which inspired the Dutch and Portuguese to colonise it). Since independence, however, farming conditions have declined. Agricultural land is diminishing, resulting in fewer farmers. Young people today are no

longer interested in becoming farmers, and few farmers expect their sons to continue this noble profession. They hope that their sons and daughters will get better paying jobs. Those who do study agriculture often choose to work in a bank or a foreign company rather than put their knowledge into practice.

Rather than domestic efforts, import channels are often relied upon to address food shortages. Of course, this is not in sync with the government's goals of food sovereignty.

During the Industrial Revolution, the worry was about the dehumanising effects of work. By contrast, today's greater fear may be the elimination of work itself as the source of dehumanisation, income insecurity, declining social agency and increase in crime.

- While digital start-ups are becoming more prolific across the world, Indonesia still lacks an entrepreneurial workforce that can truly take advantage of new technologies and ways of doing business.
- In Indonesia, education relating to the fourth industrial revolution is still evolving and is rarely seen in schools.
- In the past two decades, the gap between the richest people and the rest in Indonesia has grown faster than in any other country in Southeast Asia. Among all countries in the world, it now ranks sixth in wealth inequality. The four richest men in Indonesia have more wealth than the combined total of the poorest 100 million people.
- The population is increasing, although most are born to grow up in poverty and single-parent or reconstituted families.

Research Questions

This research considered the following questions:

- How do environmental issues relate to the development of a multi-ethnic population and society in Indonesia?
- What environmental problems have arisen due to the development of technology in Indonesia?
- How have good governance principles applied to environmental policies in Indonesia?

Purpose of the Study

The purposes of this study were to provide an overview of the conditions that are being faced by Indonesia due to development and the Fourth Industrial Revolution, to anticipate the implementation of State assistance, and to consider how, through good governance and awareness of environmental policies, the Fourth Industrial Revolution can better promote sustainable development that meets the needs of the present without compromising its ability to meet the needs of future generations.

Indonesia embraces the development of a people-based economy, based on its "four pillars of Pancasila". It seeks to bring back the mindset that Indonesia is an agricultural country and to promote sustainable development, by which it will reduce poverty and start to build the next generation. This is in line with the 1945 Constitution and the principles of unity in diversity,

togetherness, mutual cooperation and kinship. It also promotes the restoration of the culture of manners and the so-called "mental revolution",² which also reminds its people and the world that Indonesia's system is not based on capitalist, individualist and liberalist approaches. As such it provides an indication of:

- how much law lags behind in today's development;
- just how blunt the law is in Indonesia;
- the critical importance of Indonesia's human resources; and
- possible solutions to reduce inappropriate use of land.

Research Methods

According to Soerjono Soekanto: "Research is a scientific activity based on an analysis and construction that is done in a systematic, methodological and also consistent fashion and aims to be able to reveal the truth as one manifestation of human desire to be able to know about what is being faced". The author's current research is conducted so that the achievement of Indonesia's aspirations since independence – its welfare and peace goals – can be realised as soon as possible.

This field research was undertaken with a qualitative approach. Kirk and Miller define qualitative research as a particular tradition in social science that is fundamentally dependent on observation. In addition, this research is supported by library research, encompassing books, literature and data sources on the internet. It is "qualitative research", rather than quantitative, in that it produced analytical procedures that do not use statistical analysis procedures or any other quantification method.

The study has used the utilitarian theory of "greatest happiness for the greatest number", pioneered by Jeremy Bentham, and supported by R. Edward Freeman in "A Stakeholder Theory of the Modern Corporation". The theory of stakeholders is based on two principles:

- The principle of corporate securities, which states that "The company and its managers are responsible for the effects of their actions on others"; and
- The principle of corporate rights, which states that "The company and its managers do not violate the legitimate rights of others to determine their own future". This principle is derived from the deontological theory of Immanuel Kant (1724–1804) based on the principle of respect for people *i.e.*, that you should treat other people as you would wish to be treated yourself, independent of any conditions.

Managing a company to improve the welfare of its employees as a primary stakeholder is a righteous act and an obligation of every company because it is supposed to be the way the company is run. And if this concept is linked to justice, then it is fair that management be concerned with improving the living standards and welfare of employees and the surrounding community as stakeholders. John Rawls argues that the situation of society should be such that the highest profits possible should be generated for the lower classes and that everyone should be given equal opportunities in their lives.

Findings

This forum is not the place for a full exposition of the research and results; however the following are its main findings:

- In the Fourth Industrial Revolution, emerging technologies and broad-based innovation are diffusing much faster and more widely than in previous ones, which continue to unfold in some parts of the world. The Second Industrial Revolution has yet to be fully experienced by about 20 percent of Indonesian people. Thus, for example, nearly 50 million people still lack access to electricity. This is also true for the Third Industrial Revolution, given that, at present, more than half of Indonesia's population, 132 billion people, lack internet access.
- Fundamental changes affecting the environment, economic, social and political systems are difficult to undo. The reality of disruption and the inevitability of the impact drive policy choices that seek to enact the changes that will make the Fourth Industrial Revolution an opportunity for all.
- In the course of its implementation of the goals of the Fourth Industrial Revolution, it is important to contextualise the potential impacts of this revolution on growth with reference to the potential of Indonesia as a maritime and agrarian country.
- Ineffective law enforcement is often considered to be the fundamental problem. This highlights the need for a "mental revolution".³
- Up to now, the process of economic development in Indonesia has been increasingly moving away from the ideals of social justice and prosperity for all Indonesian people.
- The Environment Law (UPPLH-2009) needs to be reviewed in accordance with the Fourth Industrial Revolution.

Conclusion

Accordingly, the author has reached the following conclusions:

- Indonesia is ready to implement its Fourth Industrial Revolution.
- As clearly stated in the preamble of the 1945 Constitution, four key principles should guide this effort:
 - "That indeed freedom is the right of all nations and hence the occupation of the world must be abolished because it is incompatible with humanity and justice";
 - "And the struggle for independence of the Indonesian independence movement has come to a happy moment with a happy *sentosa* delivering the people of Indonesia to the gate of independence of the Indonesian state which is independent, united, sovereign, just and prosperous";
 - "By the blessing of Allah Almighty and by being encouraged by the noble desire for a free nationalist life, the people of Indonesia declare with this their independence"; and

- "Then to form an Indonesian state government that protects the entire Indonesian nation and the entire blood of Indonesia and to promote the common prosperity, to educate the nation and to carry out the world order based on freedom, eternal peace and social justice, the independence of Indonesian nationhood in an Indonesian State Constitution, which is formed in the composition of the state of the Republic of Indonesia sovereignty of the people".
- The development of Indonesian economic law needs to pay attention to the concept of sustainable environmental development. Legal thinkers in Indonesia should develop a team of experts in anticipation of this process, not waiting for new events to push them to react. This will result in a renewal in attitudes, ways of thinking, and various aspects of our legal society's behaviour in accordance with the demands of the times. Unfortunately, the jurists prefer to play politics rather than enforcing laws that could result in prosperity for the people.
- The time has come for the government and the people again to focus on protecting and managing the potential of this prosperous country.
- Some of the disciplines that are developing and need to be mastered by Indonesia's next generation include: internet, 3D printing, nanotechnology, biotechnology, genetic editing and e-learning. This mastery must start with qualifying teachers and lecturers in these matters, without removing their focus on marine and agricultural disciplines.
- Challenges of corruption, collusion and nepotism must be addressed. This is currently one of the demands of Indonesia's growing reform movement.
- The *Nawacita* programme⁴ is the right approach to Indonesia's problems and, in line with the SDGs, should be fully supported by the law enforcement.

Law without power is a dream and a lawless power is unrighteous. Indonesia is a State of law. "In the concept of the State of the Law, it is idealized that the commander in the dynamics of State life should be a law, not a political or a power, but very sad that what happened in Indonesia today is the opposite".

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Notes

- 1 [According to Wikipedia (the only available online discussion in a language we read), "Pancasila" is the official, foundational philosophical theory of the Indonesian State. The word is comprised of two Old Javanese words originally derived from Sanskrit: "pañca" (five) and "sīla" (principles). Ed.]
- 2 [Revolutionising the nation's character is point 8 of the nine-point Nawacita programme, and is also referred to as the "Mental Revolution". It relies on a policy of restructuring the national education curriculum by prioritising aspects of education, such as teaching history of national formation, patriotism and love of the country, the spirit of national defence and character, in the Indonesian education curriculum. Eds.]
- 3 [Ibid. Ed.]
- 4 [According to Wikipedia, Nawa Cita or Nawacita is a general term absorbed from Sanskrit, nawa (nine) and cita (hopes, agendas, desires). In the context of Indonesian politics, it refers to a nine-point programme/manifesto presented in the lead-up to the 2014 elections by Widodo and Kalla (presidential and vice-presidential candidates). Ed.]

