



ANGEL
ERASMUS+ CBHE



Co-funded by the
Erasmus+ Programme
of the European Union



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R5.5. ANGEL Policy recommendation 1

WP 5. Dissemination and Exploitation





Project Information

Project Acronym:	ANGEL
Project Full Title:	ASEAN Network for Green Entrepreneurship and Leadership
Project No:	619421-EPP-1-2020-MY-EPPKA2-CBHE-JP
Funding Scheme:	Erasmus+ KA2 Capacity Building in the field of Higher Education
Coordinator:	UTM
Project Website:	https://angel-project.eu

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Date	June 2024
Status:	Completed
Dissemination Level:	Public

Reviewed by UTM and ReadLab





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Executive Summary

Indonesia is one of the biggest contributors of CO₂ emission (Statista, 2021). Furthermore, Greenhouse Gas (GHG) emissions from the SME sector throughout Indonesia will reach 216 million tons of carbon dioxide a year in 2023 which almost equal to GHG emissions produced from the national industrial sector in 2022 which is 238.1 million tons of carbon dioxide. The GHG data indicates that businesses contribute the majority of CO₂ emissions (Pristiandaru, 2024). Therefore, it is important to pay attention to how businesses can minimize their environmental impact by implementing the concept of green business. Several studies demonstrate the crucial role of green leaders in shaping green businesses. In China, transformational leaders inspire employees to engage in Organizational Citizenship Behavior for the Environment (OCBE) through visionary motivation (Mi et al., 2019). In Pakistan, ethical leadership and Green Human Resource Management (GHRM) positively influence subordinates' green behaviors (Islam et al., 2020; Ahmad et al., 2021); In Saudi Arabia, Green Human Resource Management (GHRM) enhances competitive advantage in higher education institutions and leadership shapes HRM practices, fostering green innovation in SMEs (Asfahani, 2023; Singh et al., 2020). Implementing green leadership in businesses faces challenges such as funding, lack of awareness, and human resources, as revealed by a survey of 140 respondents in ASEAN universities (ANGEL Gap Analysis Report, 2023).

Responding the issues, the author developed the Green Leadership & Entrepreneurship Framework to build a Green Ecosystem in Indonesia in contribution to The ASEAN Network for Green Entrepreneurship and Leadership (ANGEL). ANGEL which is co-funded by the ERASMUS+ programme of the European Union (Capacity Building for Higher Education) is a convergence of ASEAN partner institutions' responses to the strong need for capacity-building while confronting challenges of environmental degradation.

This research policy paper offers practical and actionable recommendations for developing green leaders, including building green awareness & mindset, stimulating green motives, enacting green behavior, and becoming a green agent. Green enterprises can be developed by initiating green business adoption (initial or transformative), green human resource management, green finance, and green operations. Then, to create a green ecosystem by growing green value chain (customers, investors, suppliers, regulators, competitors, international organizations roles) and adopt green supply chain management.





1. About ANGEL

1.1. About

The ASEAN Network for Green Entrepreneurship and Leadership (ANGEL) is co-funded with the ERASMUS+ programme of the European Union (Capacity Building for Higher Education). ANGEL project is a convergence of ASEAN partner institutions' responses to the strong need for capacity-building while confronting challenges of environmental degradation. (www.angel-project.eu)

1.2. Vision

ANGEL aims to support graduates as well as disadvantaged groups to attain a decent income which is derived from quality employment, and enhanced with entrepreneurial-leadership skills. Another goal is to help improve inclusiveness, because gender and other demographic divides exist and derail wealth creation across the ASEAN nations.

1.3. Mission

The mission of ANGEL is to engender impact and transformation for two major target stakeholders of each partner institution in Cambodia, Indonesia, Lao PDR, Vietnam and Malaysia.

- The first target group is the internal stakeholders, namely students, academic and non-academic staff, and top management. Within the context of Southeast Asian institutions, the green entrepreneurial mindset and transformational leadership skills and competencies are still new concepts and less implemented.
- The second target group of ANGEL are the disadvantaged groups within societies in Cambodia, Indonesia, Lao PDR, Vietnam and Malaysia. This includes women and minorities, poor income groups in both urban and rural communities as well as people with disabilities (PWD). The Asian partners are supported by universities and institutions from Greece and Cyprus.

1.4. Objective

ANGEL aims to build the necessary capacity in eleven ASEAN Universities for balancing the high potential economic growth and innovation in the partner countries with their lack of capacities in green entrepreneurship as well as resolving entrenched issues and challenges of poverty, low-quality jobs in the informal sector, the digital divide and filling leadership gaps.

Its objectives are:

- to address green entrepreneurship and transformational leadership and social innovation challenges,
- to build a high caliber network of future green entrepreneurial leaders with effective and efficient styles of management, who will uphold ethics and good governance while being able to connect with the local/regional and





international market ecosystem while producing a multiplier effect in the ASEAN region.

With the above general aims of ANGEL, the project specifically undertakes the following objectives in the hope to develop an innovative green entrepreneurial-leadership ecosystem that will foster:

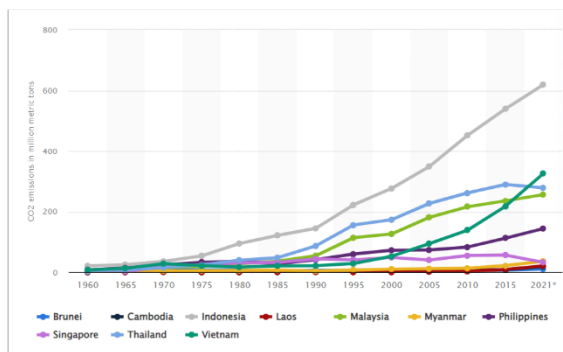
- Guidance: Creation of an online guide that will offer practical, personalized information for building and leading a green enterprise; a targeted training programme which will be complemented with personal coaching and will support the creation of start-ups.
- Engagement: Build a university network that will reach and mobilize both internal and external stakeholders through its ANGEL- Innovate Unit. Internal stakeholders will include faculty members, administrative staff, researchers, students and relevant external partners who will be social entrepreneurs, start-ups and government agencies that relate to green entrepreneurship.
- Exchanges and sharing: the ANGEL-Hub will be a center for the development of early-stage start-ups in green technologies, energy and sustainable development.
- Support: the ANGEL-Enterprise team will have the mission to support and advance ANGEL in the long term through the development of expertise in the commercialization of Universities' knowledge and technology, and partnership-building with the external regional/national/international entrepreneurial ecosystem.



2. Indonesia as One of The Biggest Contributors Of CO₂ Emission across Asian Countries

Based data from Statista (2021) Indonesia is one of the largest greenhouse gas emitters. This is largely due to deforestation and carbon-intensive electricity generation. Emissions from the energy sector amounted to more than 206 million metric tons of CO₂ equivalent in 2022, which is about 25% of the country's total CO₂ emissions (ASEAN: CO₂ Emissions by Country 1960-2021 | Statista, 2021)

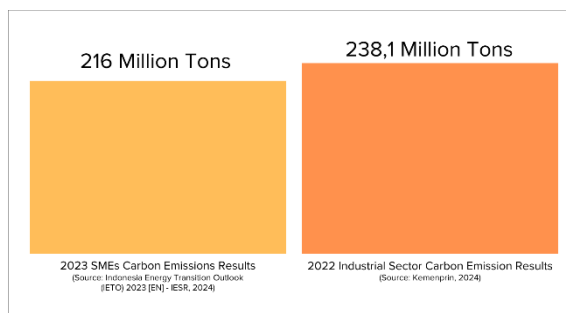
Figure 1. Data CO₂ emissions across ASEAN countries



Source: Statista (2021)

According to a survey conducted by the Institute for Essential Services Reform (IESR) think tank, Greenhouse Gas (GHG) emissions from the SME sector throughout Indonesia will reach 216 million tons of carbon dioxide a year in 2023. This figure is equivalent to GHG emissions produced from the national industrial sector which will reach 238.1 million tons of carbon dioxide in 2022 according to the Ministry of Industry (Pristiandaru, 2024).

Figure 2. Comparison of SMEs CO₂ emissions with industrial CO₂ emissions



3. The Importance of Green Leaders in Shaping Green Business

3.1. Business Leaders Have Important Roles in Shaping Green Business

The role of leaders in shaping green business practices has been demonstrated across various context & countries. In China, transformational leaders inspire employees to engage in Organizational Citizenship Behavior for the Environment (OCBE) through their visionary motivation (Mi et al., 2019).

In Pakistan, the green behaviors of leaders positively influence their subordinates' green behaviors. A study of supervisor-subordinate dyads in various Pakistani organizations found that ethical leadership significantly impacts subordinates' green behaviors, with Green Human Resource Management (GHRM) mediating this relationship (Islam et al., 2020; Ahmad et al., 2021).

In Saudi Arabia, Green Human Resource Management (GHRM) in public and private higher education institutions (HEIs) positively impacts competitive advantage (Asfahani, 2023). Additionally, in Saudi Arabian SMEs, leadership plays a critical role in shaping HRM practices and predicting green innovation within organizations (Singh et al., 2020). All the papers above indicate that leaders have an important role in building a green business.

3.2. Higher Education is The Key Actor That Produces Leaders; however, Indonesian Universities Have Not Yet Focused in Green Education due to Various Challenges

Based on a survey conducted in ASEAN administered to 140 respondents, several challenges faced at the university and faculty level regarding the development and capacity building on green entrepreneurship and leadership, such as funding, lack of awareness, human resources and others, as presented in Figures 3 and 4.

Figure 3. Challenges at the university level



Source: ANGEL Gap Analysis Report (2023)



Figure 3 shows the word cloud for the challenges at the university level. Among the most relevant challenges are (1) lack of awareness, (2) funding, (3) government policy, and (4) human resources.

Figure 4. Challenges at the faculty level



Source: ANGEL Gap Analysis Report (2023)

Figure 4 presents the word cloud for the challenges at the faculty level. Among the most relevant challenges are (1) funding, (2) human resources, (3) lack of commitment, (4) (lack of) specific programs, (5) lack of expertise, and (6) (lack of) specific policy.

3.3. The Issue of Low Awareness of Green Behavior in Indonesia and Contribution to Environmental Problems

Indonesia is one of the top 10 greenhouse gas emitters in the world. Most of its emissions come from land use, especially deforestation and clearing carbon-rich peatlands for agriculture, often for palm oil plantations. However, a survey by the Yale Program on Climate Change Communication (YPCCC) found that 76% of Indonesians know only "a little" about global warming (55%) or "have never heard of it" (20%) (Climate Change in the Indonesian Mind, 2023). Its indicates that low awareness of the environment in line with environmental problems.



4. Framework and Recommendation

4.1. Green Leadership and Entrepreneurship Framework

Figure 5. Green Leadership & Entrepreneurship Framework



4.2. Practical Recommendations

4.2.1. Practical Recommendations to Develop Green Leaders

Initiative of Green Leadership Program is essential to produce green leaders. A green leader is a transformational leader who is having green value and he/she will motivate the subordinates by their acts for the environment and these leaders will influence their green identity and improve their green creativity (Jamshed et al., 2022).

Green leaders are expected to have the following attributes:

- Green awareness represents the understanding of consequences such as the cost and benefits of an actions or decisions to the environment. (Gadenne et al.,2009)
- Green motivations represent the drives to perform green behavior because it makes them feel proud, happy, and satisfied (Ahmed et al., 2021).

4.2.2. Practical Recommendations to Develop Green Enterprises

Green leaders are expected to initiate green business and green social enterprise by establishing new businesses or modifying existing businesses. Green business represents an organization that is committed to the principles of environmental sustainability in its operations, strives to use renewable resources, and tries to minimize the negative environmental impact of its activities. Green business operation includes the following practices:

- Green Human Resource Management is implemented through recruitment process that is environmentally friendly and selecting employees based on their green attitudes and behaviors; training on green practices, standards, and implementation; evaluating and rewarding employees based on their green qualities (Hasan et al., 2019)



- Green Financing is implemented by making an investment in green projects and activities, developing green products, that help the businesses moving toward a more sustainable practice (Hasan et al., 2019)
- Green Operations involves the development of green products and business process as well as employing lean and green operation management by modifying the business models (Liu et al., 2017)

4.2.3. Practical Recommendations to Create Green Ecosystem

To apply green management, a business needs to collaborate with green stakeholders. Therefore, the existence of green business is expected to encourage the growth of green supply chain and business ecosystems. Green supply chain represents a set of supply chain management policies held, actions taken and relationships formed in response to concern related to the natural environment with regard to the design, acquisition, production, distribution, use, reuse, and disposal of the firm's goods and services. In other words, adoption of green supply chain management will stimulate the growth of other green businesses that forms a green supply chain. In addition, it will also foster green consumption through policies and education to consumers. (Guang Shi., 2012). In sum, businesses, market, and policies will form a green ecosystem that will grow bigger and stronger overtime.





Conclusion

Indonesia is one of the biggest contributors of CO₂ emission, mainly through the operations of industrial activities, especially the SMEs. Transforming SMEs into green businesses is expected to reduce the negative impact of business operations on the environment. However, previous study examining Indonesian students revealed the lack of environmental awareness calling for educational institutions and other stakeholders to educate and improve Indonesian students' environmental awareness and promote their green leadership. Green leaders, characterized by their awareness and motivation towards environmental issues, are vital in influencing their subordinates' green identity and creativity. It is essential to cultivate green leaders who can drive the transformation of businesses towards environmental stewardship. The development and implementation of green leadership and green enterprises are crucial for promoting environmental sustainability within businesses. Establishing green enterprises involves integrating sustainable practices such as Green Human Resource Management, Green Financing, and Green Operations into business models. Furthermore, fostering a green ecosystem through collaboration with stakeholders and adopting green supply chain management can enhance the overall environmental impact of businesses, encouraging sustainable growth and consumption. A collective effort is needed to turn green practices into sustainable profitable businesses.

