

D 6.6

EXPLOITATION AND SUSTAINABILITY PLAN

WP 6: DISSEMINATION AND EXPLOITATION



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Executive Summary

The Sustainability and Exploitation Strategy presents a comprehensive roadmap for the enduring success of the program, encompassing key facets that drive growth and impact. It is anchored in Advancing Faculty Growth and Expertise, cultivating a cadre of educators well-versed in innovative practices. The Innovative Framework and Holistic Learning Journey propel a curriculum that nurtures a comprehensive understanding of the subject matter. Fostering Dynamic and Inclusive Partnerships amplifies collaboration while ensuring inclusivity across the nine partner institutions offering the program. Strategic Resource Allocation optimizes assets, fueling deliberate and strategic growth. Elevating Student Engagement and Enriching Experiences prioritizes tailored and impactful learning experiences. Effective Communication and Outreach Strategies ensure a robust program presence across a global audience. Assessment and Progress Tracking stand as pillars of continuous improvement, aligning with the program's unwavering commitment to excellence. This comprehensive strategy solidifies the program's position as a transformative force in sustainable food innovation, guided by a united consortium of sixteen distinguished partner institutions.

1 Sustainability Plan

This sustainable plan represents a comprehensive blueprint that underpins the values and objectives that will guide the MSc FPI program forward. From curriculum enhancement and cross-border collaboration to industry integration and real-world application, our sustainable plan is a testament to our commitment to ensuring the continued availability of the program in ASEAN universities while contributing to a better world on a larger scale.

2 Assessing the Project

In order for us to present the sustainability and exploitation strategy for MSc Foodi, we did a SWOT analysis as a guidance. Our findings on the SWOT is presented in Figure 1 below.



Figure 1 SWOT Analysis for MSc Foodi

Strengths:

Pioneering Program: Most partners that offered MSc Foodi are pioneered in their country. This demonstrates innovation and leadership in the field of food innovation and sustainability.

Established Expertise: Strong faculty with expertise in food processing, innovation, and sustainability, providing students with a high-quality learning experience.

Industry Collaboration: Each ASEAN partners that offered the MSc Foodi have connections with industry partners that enable practical exposure and collaborations, enhancing students' real-world skills and networking opportunities. To date, (see Internship Report), the consortium managed to have 42 companies, which includes corporate sectors, SMEs and MSMEs.

Holistic Curriculum: The MSc Foodi curriculum is well-rounded, covering various aspects of food processing, innovation, and sustainability, giving graduates a comprehensive skills set. It is transdisciplinary that combines both food science, food engineering, and business.

Research Opportunities: Research facilities through Foodi Centre of Excellence and ongoing projects through MIDAS offer students opportunities to engage in cutting-edge research and contribute to advancements in the field.

Weaknesses:

Limited Awareness: Being a new program, the MSc Foodi might have limited visibility, leading to challenges in attracting a diverse pool of qualified candidates.

Resource Allocation: UTM might face challenges in allocating resources, including faculty time and facilities, to a relatively new program alongside existing commitments.

Opportunities:

Growing Demand: The global emphasis on sustainable food systems presents a significant opportunity for MSc Foodi graduates to contribute to addressing critical issues in the food industry.

International Collaboration: UTM can explore partnerships with other universities and organizations globally to enhance the program's reputation and provide cross-cultural exposure.

Transdisciplinary Approach: The transdisciplinary nature of the program allows UTM to collaborate with diverse departments within the university, fostering innovation and knowledge exchange.

Threats:

Competition: Similar programs offered by other universities could pose a threat to student enrolment and program differentiation.

Evolving Industry: Rapid changes in technology and industry trends require UTM to continuously update the curriculum to ensure its relevance and effectiveness.

Economic Challenges: Economic fluctuations or funding cuts might impact the availability of resources for the program's development and operations.

Regulatory Changes: Changes in regulations related to education or the food industry might require UTM to adapt the program to remain compliant and effective.

MSc Foodi program in ASEAN has the advantage of being a pioneering program with a strong faculty and industry connections. However, it needs to overcome challenges related to program awareness and resource allocation. The program's unique transdisciplinary approach presents opportunities for growth and collaboration, but it must also navigate competition and external changes in the industry and regulatory landscape.

3 Sustainability and Exploitation Strategy

This section explains our sustainability and exploitation strategies, with its tactics.

3.1 Fostering Dynamic and Inclusive Partnership

Collaborate with local universities, governmental bodies, NGOs, and industry partners in each country. As written in D3.6, 42 industries across ASEAN have agreed to support the MSc programme through internship, curriculum development and research. In 2023, McDonald's Malaysia inaugurated its Hamburger University, Malaysia Campus, and subsequently initiated a collaboration with UTM. This partnership focuses on enhancing cooperation in the realms of MSc FOODI and FOODI professional training.



Figure 2 LOI with McDonalds' Malaysia

Due to ongoing global geopolitical uncertainties, Southeast Asia has emerged as a destination for asylum-seekers originating from countries like Myanmar, Bangladesh, Syria, Palestine, and Yemen. Although their proportion within the population may not be substantial, it is our objective to ensure that their presence is duly acknowledged in the context of Diversity, Equality, Inclusiveness, and Belongingness (DEIB). Looking beyond the scope of the current project, we intend to collaborate with the Erasmus CBHE ANGEL initiative (ASEAN Network of Green Entrepreneurial Leadership), which centers on marginalized communities. This collaboration aims to extend FOODI professional training to a specific group of refugees in Malaysia. To realize this, we will collaborate with a non-governmental organization specializing in inclusive innovation programs for refugees, leveraging their support and expertise.

On top of that, another tactics is to collaborate with existing successful projects in each partner university. For instance, in UTM, the researchers at Universiti Teknologi Malaysia (UTM) have introduced an ingenious solution to address challenges within the bee farming industry – the Bee Modular UTM. This cutting-edge kelulut breeding box is meticulously designed to meet the highest bio-security standards, utilizing a specially formulated concrete that guarantees a lifespan of at least 10 years. The project has involved various stakeholders including marginalised community.



Figure 3 Kelulut Honey Bee

Collaboration opportunities arising for MSc Foodi students and researchers to explore how the principles and technologies behind the Bee Modular UTM can be extended to other areas of the food industry. This collaboration could lead to research initiatives, joint projects, and even potential thesis topics that intersect both innovations.

3.2 Innovative Framework and Holistic Learning Journey

To date, through the curriculum, MSc Foodi students developed innovative solutions for food industry through their MIDAS project. To enhance the students' experience and to create sustainability, those projects can be turned into case study. The projects stands as an ideal candidate for use as a compelling case study within both industry and academic circles. Its innovative achievements can serve as a valuable point of reference, offering practical insights and real-world examples to enrich the learning experiences of professionals and scholars alike.

To support this strategy, some tactics will include collaboration in case writing with renowned business schools in the world such as University of Gadjah Mada, Indonesia, Shaoguan University, Guangdong Province and University of Birmingham, United Kingdom. UTM will establish a satellite lab to include our partners in producing the cases in Food Industry.

3.3 Advancing Faculty Growth and Expertise

Through this project, we have inked 16 MOAs, 11 are ASEAN partners. To ensure the sustainability of the MSc Foodi, our researchers and academics need to improve their skills.

To achieve this strategy, we will do faculty exchange among the partners' universities. This plays a pivotal role in ensuring the sustainability of the MSc Foodi program for several key reasons: include knowledge exchange, bring unique global perspectives to the program, promote cultural understanding and sensitivity, enhance the curriculum's breadth and depth, expose to different teaching methods and approaches that can enhance the pedagogical toolkit of faculty members and foster research collaborations across partner institutions. The research collaboration can lead to joint publications, innovative projects, and sustainable partnerships, enriching the program's academic rigor and relevance.

On top of that, faculty exchange allows for ongoing quality assurance by promoting continuous review and improvement of the curriculum. An extension of the MOA/or MOU needs to be done to materialise this strategy and tactics.

3.4 Optimizing Resource Allocation for Strategic Growth

Ensuring the program's development and long-term sustainability hinges upon the establishment of robust funding sources. These sources encompass a strategic tactics of grants, partnerships, and student tuition.

Grants provide essential financial support that fuels the program's initial establishment, expansion, and innovation, thereby fostering its growth trajectory. A courtesy visit to EU Embassy was done after the conference to discuss on the potential of extending the Foodi project; Foodi 2.0. Foodi 2.0 represents an evolution in which the synergy between international collaboration, industries, government and higher education institutions will be elevated to new heights. Central to this advancement is a heightened emphasis on community building, designed to empower entrepreneurs in nurturing sustainable innovations within the food industry. This forward-looking initiative envisions a dynamic network where diverse stakeholders converge to share knowledge, leverage resources, and foster a culture of innovation that is not only visionary but also deeply rooted in the principles of sustainability. Through Foodi 2.0, the boundaries between academia and industry will dissolve, ushering in a collaborative ecosystem that propels the food innovation landscape toward a more vibrant, equitable, and environmentally-conscious future.



Figure 4 Meeting with EU Ambassador to discuss potential research collaboration

In UTM, students who are doing MIDAS project and internship are encouraged to secure grants from the industry and government. One of the potential grants is Public Private Research Network (PPRN). UTM Foodi students have applied this grant, and one of them have successfully qualified to the second round of evaluation.

JADUAL BENGKEL PEMBENTANGAN PROJEK PUBLIC-PRIVATE RESEARCH NETWORK (PPRN) BIL. U2023

TARIKH : 8 MEI 2023 (ISNIN)
 PLATFORM : GOOGLE MEET
 Kump. 1 : <http://meet.google.com/nf-maaa-xgy>
 Kump. 2 : <http://meet.google.com/suy-ydtn-wqj>

MASA	KUMPULAN 1 PANEL PENILAI (KPT) 1) Puan Hasmah binti Osman		KUMPULAN 2 PANEL PENILAI (KPT) 1) Encik Mohd Fakhru bin Abdul Rahman	
	PEMBENTANGAN	IPT	PEMBENTANGAN	IPT
9.30 – 9.50 PAGI	CNW JITRA Manufacturing Sdn Bhd Dr. Majid Khan Majahar Ali Panel Penilai: Prof. Dato' Dr. Azhar Mat Easa Prof. Ir. Dr. Faizal bin Jamlos	USM	Sun Yuen Rubber Manufacturing Co. Sdn Bhd Dr. Madiah binti Omar Panel Penilai: Prof. Madya Dr. Zulkifli Bin Zainal Abidin Prof. Madya Ts Dr. Mohd Farhan bin Mohd Fudzoze Ts. Dr. Kok Swee Loong	UTP
10.00 – 10.20 PAGI	Zinon Food Industry Sdn Bhd Prof. Wan Rosli bin Wan Ishak Panel Penilai: Prof. Dato' Dr. Azhar Mat Easa Prof. Ir. Dr. Faizal bin Jamlos	USM	High Optometrist Assoc Prof. Mohd Zulfaezal bin Che Azemin Panel Penilai: Prof. Madya Dr. Zulkifli bin Zainal Abidin Prof. Ir. Dr. Hafizal bin Mohamad	USAM
10.30 – 10.50 Pagi	Jamalah Wealth Sdn Bhd Dr. Nor Hasnul Akhmal bin Ngadiman Panel Penilai: Prof. Dr. Risby bin Mohd Sohami Prof. Dato' Dr. Azhar Mat Easa Prof. Madya Dr. Kasevan Bhubalan	UTM	Serunai Commerce Sdn Bhd En. Rizal Mohd Nur Panel Penilai: Prof. Madya Ts Dr. Mohd Farhan bin Mohd Fudzoze Prof. Madya Ts. Dr. Maszaha bin Man Prof. Ir. Dr. Hafizal bin Mohamad	USAM

MASA	KUMPULAN 1 PANEL PENILAI (KPT) 1) Puan Hasmah binti Osman		KUMPULAN 2 PANEL PENILAI (KPT) 1) Encik Mohd Fakhru bin Abdul Rahman	
	PEMBENTANGAN	IPT	PEMBENTANGAN	IPT
11.00 – 11.20 PAGI	FLAVORISTA SDN BHD En. Mohd Syafar bin Md Ishak Panel Penilai: Prof. Ir. Dr. Hafizal bin Mohamad Prof. Dato' Dr. Azhar Mat Easa Prof. Dr. Risby bin Mohd Sohami	POLITEKNIK	Ika Fleqa Enterprise Dr. Lijana binti Zahid Panel Penilai: Prof. Dr. Kamarulrazam bin Abu Bakar Prof. Madya Ts Dr. Mohd Farhan bin Mohd Fudzoze Prof. Ts. Dr. Haji Omar bin Zakaria Nature Profession Sdn Bhd Prof. Madya Dr. Ng Eng Pin	UNISAP
11.30 – 11.50 PAGI	Miracle Medallion Centre En. Izhar bin Ahmad Panel Penilai: Prof. Dr. Noraznawati binti Ismail Prof. Dato' Dr. Azhar Mat Easa	POLITEKNIK	Panel Penilai: Prof. Dr. Hafizal bin Juahir Prof. Madya Dr. Rosmah binti Misnan Prof. Madya Dr. Rafidah Hanim binti Mokhsar	USM
12.00 – 12.20 TENGAH HARI	ESK Florida Sdn Bhd Prof. Dr. Srenata AP Sreekantan Panel Penilai: Dr. Mohd Taufiq Prof. Noraznawati Prof. Madya Dr. Hakimah binti Osman	USM	TIADA	TIADA

Figure 5 A timetable to all successful applicant including our students to present their project

There are also grants available by the university, such as UTM who offer Prototype Development Research Grants. This grant will support research and development of prototype in any industry. Hence, every partners that offer the MSc program must discern avenues to back research endeavors, particularly concerning the MIDAS project that is poised to yield prototypes and journal publications.

3.5 Elevating Student Engagement and Enriching Experiences

The number of MSc students across partners universities are growing. Although the curriculum is fundamentally the same, the context of delivery might be different due to different culture and environment. Thus, to ensure the sustainability of the project and the MSc programme, one of the strategy is to improve students' engagement and support.

This can be achieved through better mentoring, workshops and flexibility in learning. Apart from that, to leverage the network of the consortium, students' exchange programme across

partners' universities can be established. Engaging in student exchanges among the Foodi ASEAN universities is a transformative endeavour that promises to significantly enrich students' learning experiences while yielding an array of additional benefits. Through this cross-border interaction, students are exposed to diverse perspectives, cultures, and academic environments, fostering a global mindset and intercultural competency. The exchange will offer the opportunity to learn from esteemed professors and industry experts at partner institutions, gaining insights into cutting-edge practices and innovations in the field of food processing and innovation. Additionally, students will cultivate invaluable personal and professional networks that span across borders, opening doors to potential collaborations, internships, and career opportunities in various ASEAN countries. This immersive experience nurtures adaptability, resilience, and open-mindedness, vital qualities in today's interconnected world. As participants traverse new academic settings and engage with different teaching methods, their problem-solving skills and critical thinking abilities are honed. Ultimately, students' exchange among Foodi ASEAN universities not only elevates their education but also fosters a generation of well-rounded, globally-aware professionals poised to contribute meaningfully to the food innovation landscape and beyond.

ASEAN partners can review their curriculum to include student mobility as one of the activities to enhance students experience and engagement. This programme will also improve the MSc Foodi visibility.

3.6 Forging Strategic Alliances

In order to ensure the sustainability of the programme, we need to enhance collaboration and support with the industries and government. Government support plays a pivotal role in ensuring the sustainability of the MSc Foodi to provides essential financial backing that can sustain the program's operations, research initiatives, faculty development, and infrastructure improvements over the long term. Endorsement from governmental bodies lends credibility and legitimacy to the program, instilling confidence in students, industry partners, and potential collaborators. Government support ensures that the program's goals align with national and regional priorities in education, innovation, and sustainable development.

In an exclusive interview with Malaysia's national media powerhouse, RTM, the Assistant Secretary General of the Ministry of Science, Technology and Innovation effusively lauded the MSc Foodi program as an extraordinary undertaking seamlessly harmonizing with the grand tapestry of Malaysia's Economic Development Planning. With unwavering enthusiasm, he wholeheartedly endorses this remarkable program, citing its multifaceted advantages that reverberate across the realms of ground-breaking research, dynamic industry empowerment, and resolute national advancement. His interview can be watched from this link; <https://youtu.be/7-uuZtUXm8Y>.



Figure 6 An interview by the Assistant Secretary General, Ministry of Science of Technology

Government connections can open doors to collaborations with other institutions, industry stakeholders, and international partners, expanding the program's reach and influence. In recent development, one of the students in UTM will embarked a project with a municipal council in Selangor, Malaysia. This collaboration is a testament of trust and recognition towards the program. This project also opens a new research horizon in food industry that touch problems in the community. This letter (Figure 7) was written after a preliminary agreement set between the two parties (UTM and the municipal council) to embark on the project.

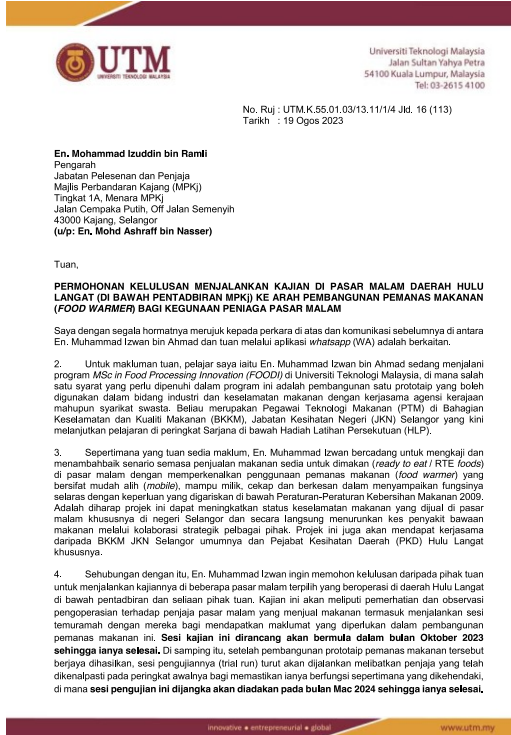


Figure 7 Letter of Application to do research collaboration under the MIDAS programme with Kajang Municipal Council, Selangor.

With the government back-up, it will assist in our plan to endeavour on non-profit organizations to make our alliances more inclusive. One potential collaboration involves partnering with a non-profit organization dedicated to sustainable food practices, food production and community development. This partnership could facilitate joint projects, workshops, or awareness campaigns focused on promoting sustainable food production, reducing food waste, and enhancing nutritional education within marginalized communities.

Strong support from the European Union (EU) holds paramount importance for the success and sustainability of the MSc Foodi program. The EU's endorsement (see Figure 6) not only lends credibility but also signifies a commitment to fostering international collaboration and education. This endorsement signifies alignment with EU's overarching goals of promoting innovation, sustainability, and knowledge exchange.



ROSMINI BINTI OMAR IBS <rosmini.kl@utm.my>

Seeking Good words from EU Office in Malaysia about FOODI

GOOSMANN Timo (EEAS-KUALA LUMPUR) <Timo.GOOSMANN@eeas.europa.eu> Wed, May 24, 2023 at 6:22 PM
To: ROSMINI BINTI OMAR IBS <rosmini.kl@utm.my>
Cc: *MAGONY Timea (EEAS-KUALA LUMPUR)* <Timea.MAGONY@eeas.europa.eu>, Haliyana Khalid <haliyana@utm.my>, NOR AIZA BINTI MOHD ZAMIL IBS <noraizamz@utm.my>

Dear Rosmini,

I hope this finds you well.

Please apologise for my delay in answering you, I had promised to write you until Friday last week. There were extremely busy times for us, only now we find a day to catch up.

"From the point of view of the EU Delegation to Malaysia, FOODI has been a textbook example of what a close, trustful network of universities can achieve in very little time. The quick results, achieved under harsh COVID conditions, are a testament of the remarkable spirit of cooperation and delivering results in this cluster. Food security has become a major global concern during the project lifetime. This makes the outcome even more politically salient, and in addition to that, this has also triggered a remarkable and extraordinary corporate interest. Bearing in mind the extraordinary potential of this cluster, the option of an extended and upgraded second project phase should be explored."

I hope this helps, and you can still use it.

Best regards,

Timo

Figure 8 Email from Mr Timo Goosman on the EU Delegation to Malaysia about Foodi.

3.7 Effective Communication and Outreach Strategies

Effective communication and outreach strategies play a pivotal role in ensuring the sustained success of the MSc Foodi program. To achieve this, a multifaceted approach is vital.

- Firstly, maintaining an active online presence through social media platforms, dedicated websites, and newsletters facilitates real-time updates, fostering a sense of community among stakeholders.
- Regular engagement with industry partners, government bodies, and academic networks ensures alignment with evolving trends and demands.
- Leveraging the program's alumni network as ambassadors significantly enhances outreach efforts. Alumni can serve as advocates, sharing their success stories and experiences, thereby attracting prospective students and industry collaborations. MSc Foodi in AIT and UTM have produced graduates. They can be the spokesperson of the programme or can lend their expertise towards improving the students' experience.
- Additionally, organizing events such as workshops, seminars, and webinars provides platforms for knowledge dissemination and interactive dialogues. Collaborative initiatives with other academic institutions, both nationally and internationally, amplify the program's reach. We will continue to organise the Foodi International Conference, which will be rotated by partners' institutions.

3.8 Assessment and Progress Tracking

In this project, 9 institutions have started its MSc Foodi programme. In order to ensure that it remain pertinent and adaptive, despite any challenges that may arise, there must be continuous assessment and progress tracking. There are some tactics that we plan to do for this strategy:

- **Standardized Evaluation Metrics:** Establish a set of standardized evaluation metrics, encompassing student performance, faculty effectiveness, and curriculum outcomes. This consistency allows for meaningful comparisons between partner institutions.
- **Shared Best Practices:** Foster a culture of sharing best practices among partner universities. Regular meetings, workshops, and seminars can facilitate the exchange of assessment strategies that yield successful outcomes.
- **Joint Research Initiatives:** Collaborate on joint research initiatives focusing on educational methodologies, learning outcomes, and industry impact. This research can drive evidence-based enhancements to the program.
- **Cross-Institutional Review Panels:** Establish cross-institutional review panels comprising representatives from each partner university. These panels can evaluate program progress, provide feedback, and suggest enhancements.
- **Student Feedback Mechanisms:** Implement consistent student feedback mechanisms across partner institutions to gather insights on curriculum relevance, teaching effectiveness, and learning experiences.
- **Advisory Boards:** Create joint advisory boards composed of industry experts, academic leaders, and program alumni. These boards can provide valuable external perspectives on assessment strategies and curriculum enhancements.
- **Annual MSc Foodi Students' Colloquium:** Organize annual assessment summits where students can share their MIDAS projects and celebrate success. During this Colloquium, academics and researchers from the partner universities can convene to collectively analyse assessment data, and plan strategies for refinement.