



FROM RESEARCH TO IMPACT: STRENGTHENING THE INSTITUTIONAL RESEARCH ECOSYSTEM AND LOCALIZING THE SDGS THROUGH ISLAMIC HIGHER EDUCATION IN INDONESIA (A CASE OF LPPM IAI YASNI BUNGO, 2023–2025)

Mona Novita

Institut Agama Islam Yasni Bungo, Jambi, Indonesia

Email: monanovita.staiyasni@gmail.com

Abstract:

This study aims to analyze how the institutional reform of the *Lembaga Penelitian dan Pengabdian kepada Masyarakat* (LPPM) of Institut Agama Islam Yasni Bungo during 2023–2025 strengthened the research ecosystem and transformed research into measurable social impact through the localization of the Sustainable Development Goals (SDGs). Using a descriptive qualitative case study design, the study collected data from institutional documents, interviews, and field observations. The data were analyzed through thematic analysis to identify patterns of organizational change, SDGs alignment, and impact translation. The findings show that LPPM successfully institutionalized the SDGs within its Research and Community Service Roadmap, formed research groups, implemented internal grant schemes, and redesigned *Kuliah Kerja Nyata* (KKN) as a community-based learning model aligned with SDGs themes such as food security, education, entrepreneurship, and sustainability. These reforms strengthened academic collaboration, enhanced research productivity, and established measurable community impact. Theoretically, this study integrates Organizational Change Theory, Research Ecosystem Theory, and Islamic Epistemology to propose a Southern Islamic model of transformation guided by the principles of *‘ilm al-nafi’* (beneficial knowledge), *adl al-ma’rifah* (epistemic justice), and *maqāṣid al-syarī’ah* (moral purpose). The study concludes that institutional reform in Islamic higher education becomes effective when scientific, managerial, and moral dimensions are harmonized to create sustainable and just knowledge systems.

Keywords: *Institutional Reform, Research Ecosystem, SDGs Localization, Islamic Epistemology, Knowledge Justice*

INTRODUCTION

In the current era of global transformation, higher education institutions are increasingly expected to bridge the gap between academic research and sustainable social transformation. The global movement toward “research to impact” has become a shared agenda promoted by UNESCO and UNDP, both of which emphasize the importance of aligning higher education with the Sustainable Development Goals (SDGs). Among these, Goal 4.7 on Quality Education, Goal 16 on Peace, Justice, and Strong Institutions, and Goal 17 on Partnership for the Goals are particularly relevant to higher education reform

(UNESCO, 2022; UNDP, 2021). These goals highlight that universities should not only generate knowledge but also ensure that knowledge contributes directly to social well-being, equity, and environmental sustainability.

In developing countries such as Indonesia, the translation of academic research into measurable community impact remains a persistent challenge. Many Islamic Higher Education Institutions (IHEIs) continue to face difficulties in cultivating a research culture that connects academic productivity with real social transformation (Iskandar, 2017; Assa'idi, 2021). The main issues often appear in the form of fragmented institutional policies, low publication productivity, weak collaboration networks, and the lack of SDGs integration within research and community service. Without a systematic model that links academic research with practical outcomes, the potential role of IHEIs in advancing national and global development remains underutilized.

Before 2023, the institutional mechanisms for research and community engagement at Institut Agama Islam (IAI) Yasni Bungo were still limited in structure and documentation. Community service activities, particularly the *Kuliah Kerja Nyata* (KKN), had not yet been integrated into a coherent research-to-impact framework. Responding to this gap, the Lembaga Penelitian dan Pengabdian kepada Masyarakat (LPPM) initiated a comprehensive reform between 2023 and 2025. This reform included the ratification of SDGs within both the Research Roadmap and the Community Service Roadmap, the adoption of SDGs-based assessment rubrics for research and service, and the systematic production of institutional evidence that reflects transparency, accountability, and measurable outcomes.

The institutional records developed during this period demonstrate a complete and auditable documentation system. These include *Buku Kendali Administrasi LP2M*, the Research Roadmap 2025–2029, a comprehensive Internal Research Grant system for 2024–2025 (guidelines, socialization materials, detailed budget structures, decrees for reviewers and recipients, seminar reports, disbursement procedures, and final research outputs), as well as National Competitive Grants (Litapdimas) 2023–2024 and several international collaborative research proposals. Additional archives consist of KKN 2023–2024 documents (handbooks, planning reports, decrees, monitoring forms, evaluation results, and community impact reports), the *Jurnal Tadhamun* as an official publication outlet, Desa Binaan portfolios, documentation of international community service activities, and the inventory of Intellectual Property Rights (HaKI) owned by lecturers. The institutional reform also produced Memoranda of Understanding (MoU) with both national and international partners, the blueprint for the LPPM website and information system, a series of training and dissemination activities on research and community engagement, twelve Quality Assurance Standards (SPMI LP2M), documents on lecturer performance evaluation, and the mapping of academic specializations (*ranting ilmu*). Together, these materials form a strong evidence base showing how institutional management, academic culture, and program outcomes were progressively structured and strengthened during the reform period.

The reform signifies a strategic transition from an output-oriented paradigm to an approach that prioritizes outcomes and sustainable impact. Each research cluster within LPPM was aligned with specific SDGs, such as Goal 2 (Zero Hunger), Goal 4 (Quality Education), Goal 8 (Decent Work and Economic Growth), and Goal 11 (Sustainable Cities and Communities). This alignment ensured that every research project, community service program, and publication output contributed to the same integrated framework. Furthermore, the reform was grounded in Islamic epistemology and the principles of *maqāṣid al-syarī'ah*, which view knowledge as a means to achieve justice (*adl al-ma'rifah*) and benefit (*'ilm al-nafi'*) (Al-Attas, 1993; Sardar, 2015). By integrating these moral and epistemic foundations, the institution positioned research not merely as an academic exercise but as an ethical responsibility to serve humanity and promote social welfare.

Theoretically, this institutional transformation can be explained through four complementary perspectives. The Organizational Change Theory (Kotter,

1996; Armenakis & Bedeian, 1999) helps to understand how institutional culture evolves through leadership, vision, and stakeholder participation. The Research Ecosystem Theory (OECD, 2019; UNESCO, 2022) provides insight into the dynamic relationships between policy, human resources, academic output, and societal outcomes. The Sustainable Development Localization Framework (Sachs, 2015; UNDP, 2021) clarifies how global SDGs can be translated into local institutional actions, while the Islamic Epistemology and Knowledge Justice Framework positions these changes within the ethical and spiritual mission of Islamic higher education. Together, these frameworks explain the way LPPM reform integrated managerial, academic, and moral dimensions into a single continuum of institutional transformation.

The integration of these frameworks can be visualized in a conceptual model that illustrates how institutional reform connects theoretical foundations with practical outcomes (see Figure 1).

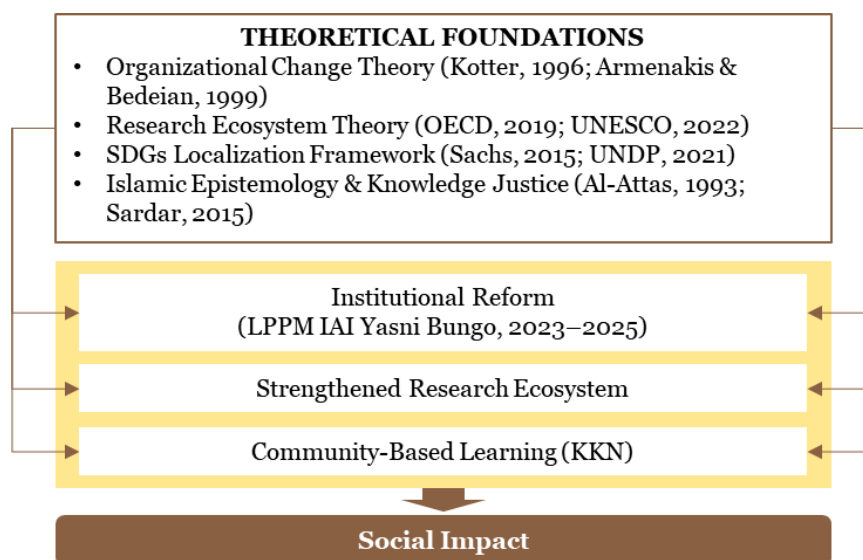


Figure 1. Conceptual Model Integrating Organizational Change (Kotter, 1996; Armenakis & Bedeian, 1999), Research Ecosystem (OECD, 2019; UNESCO, 2022), SDGs Localization (Sachs, 2015; UNDP, 2021), and Islamic Epistemology (Al-Attas, 1993; Sardar, 2015) in Institutional Reform at LPPM IAI Yasni Bungo (2023–2025).

Accordingly, this study examines how the integration of SDGs, institutional reform, and the development of a dynamic research ecosystem have strengthened the research-to-impact continuum at LPPM IAI Yasni Bungo. By analyzing policies, program innovations, and outcomes achieved between 2023 and 2025, supported by verifiable institutional documents, this paper demonstrates how the harmonization of Islamic epistemology and the SDGs framework can generate a distinctive model of “knowledge justice” within Islamic higher education. Ultimately, the transformation of LPPM into a center for sustainable research and community engagement presents a replicable model for other Islamic higher education institutions seeking to align academic excellence with global commitments to sustainable and inclusive development.

RESEARCH METHODS

This study employed a descriptive qualitative case study design to explore the institutional reform of the *Lembaga Penelitian dan Pengabdian kepada Masyarakat* (LPPM) at Institut Agama Islam Yasni Bungo during the 2023–2025 period. The case study approach was chosen because it allows an in-depth understanding of the process, strategy, and outcomes of reform within its real institutional context. As Yin (2018) notes, the case study method is most

appropriate when the boundaries between a phenomenon and its context are not clearly separated, and when multiple forms of evidence are needed to explain the complexity of organizational change.

Research Setting and Scope

The research was conducted at IAI Yasni Bungo, located in Jambi Province, Indonesia. The institution was selected because it represents an Islamic higher education context that has recently implemented a structured reform to align research and community service with the Sustainable Development Goals (SDGs). The temporal scope of the study covers three academic years, from 2023 to 2025, which constitute the initial phase of institutional transformation under the leadership of the restructured LPPM. The study focuses on three interrelated domains of reform; (1) Institutional restructuring and the ratification of SDGs in the research and service roadmaps, (2) Strengthening of the institutional research ecosystem through policy instruments, human resource development, and collaboration networks, (3) The translation of research and service outcomes into measurable community impact through the *Kuliah Kerja Nyata* (KKN) program

Data Sources

The research utilized multiple data sources to ensure depth and validity.

Primary data were collected through semi-structured interviews with key stakeholders, including the Head and Secretary of LPPM, coordinators of research and community service programs, research group leaders, lecturers, student representatives, and village heads from partner communities. Participants were selected purposively (Creswell, 2012) based on their active involvement in the implementation of LPPM programs and their direct experience in SDGs-based initiatives.

Secondary data were obtained from institutional documents that collectively form a comprehensive and auditable corpus of evidence regarding the reform process. The document set includes:

Administrative and Governance Files

Buku Kendali LP2M and other administrative records that trace institutional decision-making.

Research Policy Documents

Roadmap Riset 2025–2029; Internal Research Grants (2024–2025) consisting of guidelines, integrated dissemination materials, detailed budget plans, decrees of reviewers and grant recipients, seminar reports, disbursement mechanisms, and completed research outputs.

National and International Collaboration Files

Summaries of *Hibah Kompetitif Nasional* (Litapdimas 2023–2024), and international collaborative research proposals with universities in Thailand and Malaysia.

Community Engagement Documents

KKN archives for 2023–2024, including the handbook, location surveys, implementation reports, official decrees, coordination letters, briefing agendas, field monitoring forms, evaluation reports, student and supervisor reflections, and documentation of outputs and community impact.

Academic and Intellectual Property Records

Issues of *Jurnal Tadhamun* (as an institutional publication outlet), *Desa Binaan* reports, documentation of international PkM activities, HaKI (Intellectual Property) inventory of permanent lecturers, and MoUs at both national and international levels.

Quality Assurance and Human Resource Instruments

Twelve internal standards of *Sistem Penjaminan Mutu Internal (SPMI LP2M)*, self-evaluation reports, service matrices, lecturer performance assessment tools, and mapping of disciplinary branches (*ranting ilmu*) according to academic rank.

Together, these materials serve as the institutional audit trail, providing verifiable evidence for each phase of reform, from policy formulation and program implementation to measurable results and reflections.

Data Collection Procedures

Data collection was carried out through three main stages. First, document analysis was conducted to identify changes in institutional structure, policy content, and program outputs. All documents were reviewed systematically and coded according to thematic relevance. Second, in-depth interviews were conducted to capture the perspectives and experiences of internal and external stakeholders regarding the implementation of SDGs-based initiatives. Interviews were conducted between August 2023 and May 2025, recorded with participant consent, and transcribed verbatim. Third, field observations were undertaken during selected KKN and community engagement programs to observe directly how academic projects were implemented and how they contributed to community problem-solving. The combination of these three techniques enabled the researcher to triangulate findings and reduce the risk of bias.

Data Analysis Procedures

Data analysis followed the **thematic analysis approach** proposed by Braun and Clarke (2006), which emphasizes identifying, organizing, and interpreting patterns of meaning across the dataset. The process involved three main stages; (1) Data Reduction, by coding transcripts, documents, and field notes to extract meaningful segments related to institutional change, SDGs localization, and community impact, (2) Data Display, through the construction of matrices that linked policy initiatives with their outputs and observed outcomes, (3) Conclusion Drawing and Verification, through iterative interpretation, comparison, and synthesis of themes. To enhance trustworthiness, the study applied data triangulation and member checking, ensuring that the interpretations accurately reflected the participants' perspectives. The documentation trail and coding memos were maintained as part of an audit trail to guarantee transparency and replicability (Miles, Huberman, & Saldaña, 2014).

Ethical Considerations

All research activities adhered to institutional ethical standards for qualitative inquiry. Informed consent was obtained from all participants, confidentiality was assured, and official permission was granted by the Rectorate and LPPM of IAI Yasni Bungo prior to data collection. The study also ensured that findings were presented respectfully, focusing on systemic improvement rather than personal or historical critique.

Summary

This methodological design was constructed to capture both the structural aspects (policy, governance, and standardization) and the cultural aspects (academic habits, collaboration, and values) of reform. By combining institutional archives, stakeholder interviews, and field observations, the study provides a comprehensive and credible portrait of how LPPM IAI Yasni Bungo operationalized the SDGs, strengthened its research ecosystem, and transformed community engagement into a platform for measurable social impact and epistemic justice.

RESULTS AND DISCUSSION

Theme 1 – Institutional Reform and SDGs Ratification

The first key finding of this study shows that the LPPM of IAI Yasni Bungo undertook a structured institutional reform that positioned the Sustainable Development Goals (SDGs) as the central framework for research and community service governance. This transformation reflects what Kotter (1996) conceptualized as a strategic change process, in which an organization creates a

sense of shared urgency, formulates a clear vision, and translates it into institutional systems. Similarly, Armenakis and Bedeian (1999) emphasize that successful change requires both leadership commitment and stakeholder participation, a condition that was strongly evident in the reform process of LPPM.

The ratification of SDGs within the Research Roadmap and Community Service Roadmap represented a paradigm shift from procedural administration to impact-oriented management. As recommended by UNESCO (2022), higher education institutions must adopt a transformative role in achieving SDGs through integrated research, innovation, and partnerships. Responding to this global call, LPPM IAI Yasni Bungo formally incorporated SDGs indicators into its research and service rubrics, ensuring that every project proposal explicitly stated its intended contribution to one or more SDG targets. This strategic integration was consistent with the Sustainable Development Localization Framework (Sachs, 2015; UNDP, 2021), which highlights the importance of adapting global goals to local contexts.

The reform also introduced structural innovations that redefined institutional accountability. Each research cluster (*klaster riset*) was aligned with SDG themes such as food security, quality education, gender equality, decent work, and sustainable communities. The redesigned Kuliah Kerja Nyata (KKN) served as a practical mechanism for connecting academic knowledge with community realities, consistent with Boyer's (1996) notion of the *scholarship of engagement*, where teaching and research are interwoven to address societal challenges. The availability of comprehensive documentation—ranging from the *Roadmap Riset dan PkM 2025–2029* and *Buku Kendali LP2M* to grant guidelines (*Juknis Hibah Internal 2024–2025*), reviewer decrees, and KKN evaluation reports—illustrates the establishment of an evidence-based governance culture within LPPM.

Institutional Instruments and Policy Implementation

The institutional reform was operationalized through several interconnected policy instruments. Table 1 summarizes the major instruments, their substantive changes, expected outcomes, and documentary evidence.

Instrument	Substantive Change	Expected Outcome	Documentary Evidence (2023–2025)
Ratification of SDGs into Research and Service Roadmaps	SDGs Goals 2, 4, 5, 8, 11, and 17 adopted as thematic priorities	Cross-cutting alignment of research and service programs	<i>Roadmap Riset dan PkM 2025–2029</i> ; Rector and LPPM decrees
Integration of SDGs Indicators into Evaluation Rubrics	Inclusion of SDG relevance and impact in proposal assessments	Improved proposal quality and accountability	<i>Juknis Hibah Internal 2024–2025</i> ; Internal evaluation rubric
Mapping of Research Clusters	Thematic grouping of research according to SDGs targets	Stronger specialization and interdisciplinary collaboration	<i>Peta Klaster Riset; Pemetaan Ranting Ilmu Dosen</i>
Redesign of KKN Framework	KKN reformulated as SDGs-oriented community-based learning	Enhanced relevance and measurable social impact	<i>Pedoman KKN 2023–2024</i> ; <i>Laporan Evaluasi KKN</i>
Strengthening of Quality Assurance	Integration of SDGs indicators in internal standards	Continuous institutional monitoring and quality control	<i>SPMI LP2M</i> (12 Standards and Self-Evaluation)

Partnership and Collaboration Policy	Expansion of local and international MoUs	Broader visibility and global engagement	<i>MoU Nasional dan Internasional</i> archives
Institutional Incentive System	Establishment of internal grants and performance rewards	Increased motivation and participation in research	<i>SK Reviewer, SK Penerima Hibah, Grant output reports</i>

The coherence among these instruments illustrates a systematic reform process. This aligns with the *Research Ecosystem Framework* described by OECD (2019) and UNESCO (2023), which emphasizes that a sustainable academic ecosystem depends on the integration of policy, human resources, and performance evaluation.

Process of Institutional Change

The process of change at LPPM followed the logical progression outlined in Organizational Change Theory. According to Kotter (1996), institutional transformation requires a continuous cycle of awareness, empowerment, and institutionalization. This pattern was evident as the LPPM leadership built collective awareness through workshops and socialization events, developed empowerment through grant programs and capacity-building initiatives, and institutionalized the reform by embedding SDGs into annual work plans and quality assurance standards.

The inclusion of SDGs in both the Research Roadmap and SPMI LP2M standards provided a unifying framework that linked policy implementation with measurable indicators. As Spaapen and van Drooge (2011) argue, universities can only demonstrate research impact when they establish *productive interactions* between academic and societal actors. The redesigned KKN, for example, became such an interaction platform, connecting students, lecturers, and communities in co-producing knowledge that responds to local development challenges.

Logical Flow and Impact Pathway

The reform also produced a measurable logic of change that can be summarized as follows (see Figure 2).

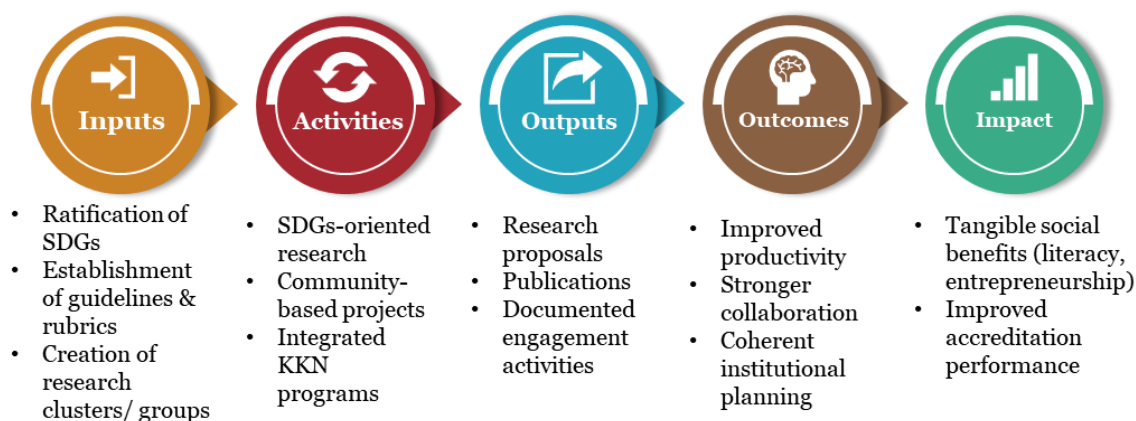


Figure 2. Institutional Reform Logic Model of LPPM IAI Yasni Bungo (2023–2025)

Figure 2 presents the institutional logic of change that guided LPPM IAI Yasni Bungo between 2023 and 2025. The reform began with key **inputs**—ratifying SDGs, establishing guidelines, and forming research clusters—that evolved into **activities** integrating research, service, and community engagement. These activities generated measurable **outputs** such as publications and engagement reports, which led to **outcomes** in productivity, collaboration, and institutional coherence. Ultimately, the reform delivered

impact in the form of tangible community benefits and enhanced institutional accreditation performance.

Each stage illustrates how the institutional reform evolved from policy ratification to measurable social transformation.

Inputs

Ratification of SDGs, establishment of guidelines and rubrics, and creation of research clusters.

Activities

Implementation of SDGs-oriented research, community-based projects, and integrated KKN programs.

Outputs

Research proposals, publications, and documented community engagement activities.

Outcomes

Improved research productivity, stronger collaboration, and more coherent institutional planning.

Impact

Tangible social benefits such as improved community literacy and entrepreneurship, as well as increased accreditation performance.

This sequence represents what UNESCO (2022) refers to as *transformative education in action*, where higher education institutions become living laboratories for sustainable development.

Theoretical Reflection

Viewed through the lens of Islamic Epistemology and Knowledge Justice, the reform at LPPM IAI Yasni Bungo also embodies the moral vision of Islamic education. Al-Attas (1993) defines *‘ilm al-naḥī* (beneficial knowledge) as knowledge that contributes to the improvement of human life, while Sardar (2015) emphasizes *adl al-maʿrifah* (epistemic justice) as a condition for social equilibrium. The institutional alignment of SDGs with these values created a hybrid framework that combines modern management with spiritual accountability.

In summary, the ratification of SDGs at LPPM IAI Yasni Bungo demonstrates how an Islamic higher education institution can transform its governance model from compliance-based administration to impact-based management. The process mirrors the global recommendations of UNESCO (2023) for universities to localize SDGs, yet it does so through an Islamic epistemic lens that prioritizes justice, benefit, and moral responsibility. This integration makes LPPM not only a center for research and service but also a living model of how *knowledge justice* can guide institutional transformation.

Theme 2 – Strengthened Research Ecosystem

The second major finding reveals how the institutional reform at LPPM IAI Yasni Bungo between 2023 and 2025 successfully established a dynamic and sustainable research ecosystem. The reform translated the institution's new policy framework into measurable practices that enhanced academic productivity, collaboration, and societal relevance. In line with the concept of *research ecosystem* developed by OECD (2019) and UNESCO (2022), the transformation at LPPM demonstrates how the interdependence between policy, structure, capacity, and impact can produce a self-sustaining cycle of academic excellence and social contribution.

Institutional Achievements and Innovations

The documentation collected from 2023 to 2025 shows a consistent trajectory of institutional growth. One of the earliest milestones was the mapping of scientific branches (*ranting ilmu*), which identified the disciplinary strengths of lecturers and aligned them with national research priorities and SDGs clusters. This mapping activity provided the foundation for establishing thematic research groups, thereby enabling the institution to focus its resources strategically. As

OECD (2019) emphasizes, clear mapping of expertise and research domains is essential for coherence and specialization within academic ecosystems.

The formation of research groups marked a significant shift toward collective inquiry. Each group was designed around priority SDGs such as food security, education quality, gender equality, entrepreneurship, and sustainable communities. These clusters not only encouraged interdisciplinary collaboration but also reflected Boyer's (1996) idea of the *scholarship of engagement*, in which teaching and research are combined to address real-world challenges. By structuring research around SDGs, LPPM created a platform for collaboration among lecturers and students that transformed research from an individual task into a shared institutional mission.

The Internal Research and Service Grant Program further strengthened this system by providing transparent, competitive funding opportunities for faculty and students. The existence of *Juknis Hibah Internal 2024–2025*, the decrees for reviewers and recipients, seminar reports, and final research outputs serves as tangible proof of this program's integrity. This initiative reflects the *productive interaction* principle proposed by Spaapen and van Drooge (2011), which argues that impactful research emerges when academic, institutional, and community actors engage in reciprocal collaboration rather than isolated activity.

A similar transformation was evident in the Institutional Research, Service, and Publication Performance Survey conducted annually. This survey functioned as both a diagnostic and evaluative instrument, assessing participation levels, publication rates, and academic rank progression. According to UNESCO (2023), such feedback mechanisms are crucial for fostering what it calls *learning organizations*—institutions that continuously evaluate their performance and adapt to emerging needs. Data from LPPM's 2024 performance reports indicate a 25–30 percent increase in lecturer participation in research activities and a doubling of publication output compared with the previous cycle.

The development of joint research and service projects between lecturers and students also played a pivotal role in nurturing experiential learning. These collaborations, particularly within the redesigned KKN model, linked academic theories with community-based applications. The projects followed the spirit of participatory research emphasized by UNDP (2021), where students acted as *knowledge mobilizers* who co-created solutions with communities. The growing number of reports and community outcomes documented in *Laporan Hibah Internal* and *Portofolio KKN SDGs* illustrates that such partnerships effectively bridged academic and societal domains.

LPPM also expanded its visibility internationally by establishing formal cooperation with universities in Thailand and Malaysia. The MoUs with Yala Rajabhat University, University Utara Malaysia, and related institutions opened opportunities for cross-border research, international conferences, and publication exchanges. This corresponds with Sachs's (2015) view that global partnerships, when localized effectively, can accelerate institutional progress and reinforce mutual learning.

A summary of LPPM's ecosystem-building initiatives is presented in Table 2.

Institutional Initiative	Description	Expected Outcome	Supporting Documents (2023–2025)
Mapping of Scientific Branches	Identification of disciplinary strengths aligned with SDGs clusters	Clear research focus and specialization	<i>Pemetaan Ranting Ilmu Dosen, Roadmap Riset 2025–2029</i>
Formation of Research Groups	Thematic grouping of faculty and students by SDGs priorities	Stronger collaboration and productivity	<i>SK Research Group; Internal collaboration MoUs</i>
Internal Research and	Competitive funding for faculty and students	Increased innovation and measurable output	<i>Juknis Hibah Internal 2024–2025, SK</i>

Service Grants			<i>Reviewer & SK Penerima Hibah</i>
Institutional Research Survey	Evaluation of research participation and publication	Data-driven decision making and improvement	<i>Laporan Kinerja LP2M 2024, Evaluasi Diri SPMI LP2M</i>
Joint Research and Service Projects	Collaborative projects combining research and community service	Experiential learning and stronger relevance	<i>Laporan Hibah Internal, KKN SDGs Reports</i>
International Collaboration	Formal MoUs with foreign universities and NGOs	Broader network and global visibility	<i>MoU Internasional; Laporan PkM Internasional</i>
Accreditation Integration	Use of research outputs as accreditation evidence	Improved institutional credibility	<i>Instrumen Akreditasi Institusi dan Prodi</i>

Building a Coherent and Dynamic Ecosystem

The transformation of LPPM reflects what Armenakis and Bedeian (1999) describe as an integrative change process, where policy reform and capacity building are executed simultaneously. At the policy level, the institution adopted SDGs-based guidelines that functioned as a normative foundation for all research and service activities. This ensured that every academic project was not only thematically aligned but also ethically oriented toward social benefit.

The strengthened research ecosystem of LPPM can be visualized as a layered operational model that connects leadership and SDGs alignment at the core with four interrelated dimensions: policy, structure, capacity, and impact (see Figure 3).

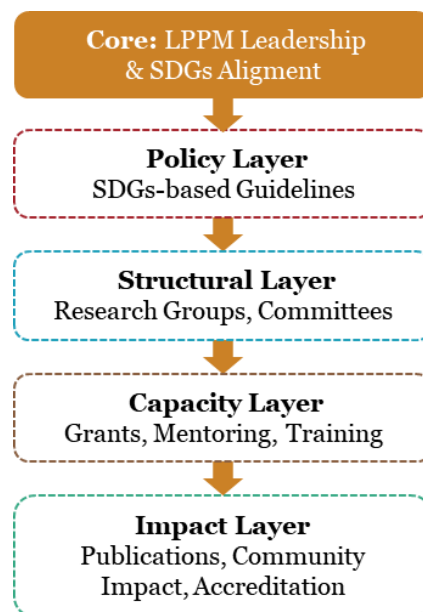


Figure 3. Operational Model of LPPM's Research Ecosystem Reform (2023–2025)

Figure 3 illustrates how institutional reform at LPPM IAI Yasni Bungo (2023–2025) evolved through four sequential layers built around SDGs alignment. The *policy layer* established guidelines and governance standards; the *structural layer* organized research groups and committees; the *capacity layer* developed human resources through grants, mentoring, and training; and the *impact layer* produced measurable outputs such as publications, community engagement results, and accreditation achievements. Together, these layers form

a coherent operational system that links institutional leadership with sustainable academic and social outcomes.

At the structural level, the creation of research groups, quality assurance committees, and impact-based monitoring systems ensured that the research process was guided by collaboration rather than individual initiative. This aligns with UNESCO's (2022) assertion that the sustainability of academic ecosystems depends on institutional coherence and the presence of shared goals.

At the capacity level, internal workshops, training sessions, and mentoring programs cultivated the analytical and managerial competence of lecturers and students. By linking these initiatives to the *maqāṣid al-syarī'ah* perspective, the institution emphasized that academic excellence must also embody *ihsan* (excellence), *amanah* (trust), and *maslahah* (public benefit).

At the impact level, research outputs were increasingly assessed not only by quantitative measures such as publication counts but also by qualitative indicators related to community outcomes. This multi-layered framework reflects the cyclical relationship between input, process, output, and outcome identified by OECD (2019) and UNESCO (2023), reinforcing that a genuine research ecosystem is one that learns, adapts, and evolves.

Cultural Transformation and Theoretical Interpretation

Data from institutional reports and interviews confirm a visible cultural transformation within two years of the reform's implementation. The proportion of active researchers increased substantially, collaborative projects grew in number, and the integration of SDGs into curricula became more systematic. These achievements exemplify the consolidation and institutionalization stages of change proposed by Kotter (1996).

From an epistemological standpoint, the strengthened research ecosystem at LPPM resonates with Sardar's (2015) notion of *knowledge justice*, which calls for balancing scientific rigor with ethical consciousness. Research activities at LPPM were reframed as acts of *'ibadah 'ilmiyyah*—intellectual devotion that contributes to human welfare. This perspective reinforces the Islamic view of knowledge not merely as information but as responsibility, consistent with Al-Attas (1993) who emphasized that beneficial knowledge must lead to social harmony and justice.

Synthesis

In summary, the strengthening of the research ecosystem at LPPM IAI Yasni Bungo demonstrates that institutional reform becomes effective only when governance structures and academic culture evolve together. The alignment between Organizational Change Theory (Kotter, 1996; Armenakis & Bedeian, 1999) and Research Ecosystem Theory (OECD, 2019; UNESCO, 2023) provides a robust analytical framework for understanding this transformation. The institution succeeded in combining managerial precision with moral purpose, proving that an Islamic higher education institution can simultaneously achieve scientific productivity and social responsibility.

By cultivating a culture of collaboration, transparency, and ethical research, LPPM has begun to function as a *living laboratory* for sustainable academic transformation. Its experience offers a replicable model for other Islamic higher education institutions seeking to integrate global SDGs frameworks with the spiritual and epistemic foundations of Islamic education.

Theme 3 – Translating Research into Impact through KKN

One of the most transformative components of the institutional reform at LPPM IAI Yasni Bungo was the redesign of the *Kuliah Kerja Nyata* (KKN) program through the framework of the Sustainable Development Goals (SDGs). This initiative repositioned KKN from a traditional community service activity into a model of community-based learning that connects research outcomes with local development priorities. The program's restructuring reflects UNESCO's (2022) call for higher education institutions to move beyond knowledge

dissemination toward *learning for transformation*, where academic activities directly contribute to the realization of sustainable communities.

Redesigning the KKN Framework

Under the reformed LPPM system, every KKN program was required to align explicitly with one or more SDG targets. Thematic clusters were created to ensure coherence between student projects and the broader institutional roadmap. For instance, the *Makan Bergizi Gratis* (MBG) initiative was linked to Goal 2 (Zero Hunger), entrepreneurship and cooperative training corresponded with Goal 8 (Decent Work and Economic Growth), and literacy improvement activities were tied to Goal 4 (Quality Education). This thematic structure transformed KKN into what Boyer (1996) conceptualized as the *scholarship of engagement*—an academic process that unites research, teaching, and community service within a single continuum of social relevance.

To institutionalize the reform, LPPM established a monitoring and evaluation matrix that measured the performance and impact of each KKN project. This matrix included indicators related to program planning, community participation, changes in local capacity, and sustainability of outcomes. The *Laporan Evaluasi KKN 2023–2024* and *Panduan KKN SDGs* documented how each project was assessed against specific SDGs indicators and community-based evidence. The approach aligns with the *productive interaction* model proposed by Spaapen and van Drooge (2011), where the value of research and service is determined by the degree of reciprocal engagement between academia and society.

This design also reflects the *Sustainable Development Localization Framework* (Sachs, 2015; UNDP, 2021), which emphasizes that global goals must be translated into local action. In the context of LPPM, localization occurred through partnerships with village governments, BUMDes, and local schools that became both beneficiaries and collaborators in KKN activities. These partnerships transformed the KKN sites into participatory learning environments, where local knowledge and academic expertise were integrated to generate contextually relevant solutions.

Students as Knowledge Mobilizers

The redefined KKN model introduced the role of students as knowledge mobilizers—agents who translate academic concepts into practical interventions that address community challenges. This perspective is consistent with UNESCO's (2023) notion of *education for sustainable citizenship*, where students are not passive learners but co-creators of social change.

Field observations and interviews revealed that students participating in SDGs-based KKN projects developed not only disciplinary competence but also critical thinking, teamwork, and empathy. For example, in MBG programs, students collaborated with local women's groups to design nutrition interventions and record dietary data. In entrepreneurship projects, they assisted small enterprises in improving financial literacy and digital marketing. These activities generated new forms of social capital and learning networks, strengthening the link between academic inquiry and everyday life.

Scheirer and Dearing (2011) describe this process as part of the *sustainability loop* of impact-oriented programs, where field implementation generates feedback that informs subsequent research and institutional planning. The continuous interaction between lecturers, students, and community members created a feedback cycle in which research questions emerged from community needs, and solutions developed through KKN informed future research agendas.

The KKN as a Living Laboratory for Impact

In practice, the KKN program evolved into a living laboratory that bridged academic knowledge and social transformation. Each KKN cycle served as a pilot ground for testing the applicability of research findings in real community

contexts. As documented in the 2024 KKN portfolio, several projects produced measurable results such as improved school literacy programs, new business models for village cooperatives, and increased awareness of environmental management. These results exemplify the *productive interaction* framework, where impact is generated through iterative collaboration between researchers and communities (Spaapen & van Drooge, 2011).

From a theoretical perspective, this evolution demonstrates what UNDP (2021) calls *localizing sustainability through learning ecosystems*—a process in which educational institutions become facilitators of collective innovation. The integration of SDGs into KKN has positioned IAI Yasni Bungo as an institutional model for how Islamic higher education can operationalize global goals through local action while maintaining its cultural and ethical distinctiveness.

The cyclical nature of this process can be visualized in the following model, which illustrates how research findings are translated into community-based learning and fed back into institutional improvement (see Figure 4).

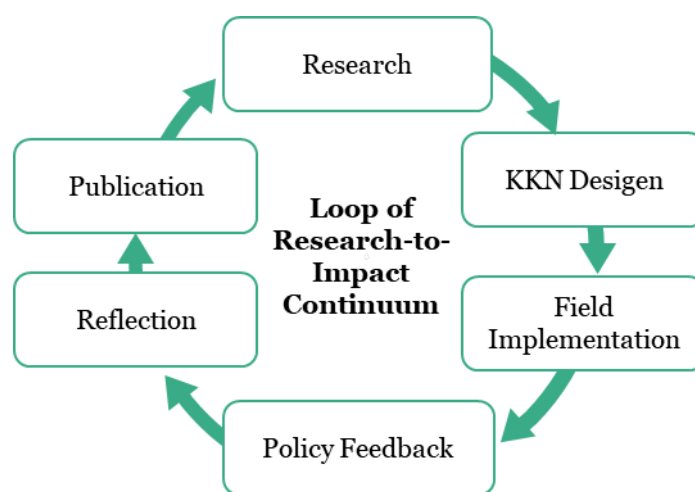


Figure 4. KKN as a Living Laboratory Model for SDGs Impact

Figure 4 represents the research-to-impact continuum operationalized through KKN. The model shows how research outcomes inform KKN design, which is then implemented in the field, reflected upon, disseminated through publications, and translated into policy feedback that shapes future research agendas. This continuous loop ensures that institutional knowledge production remains dynamic, context-sensitive, and socially impactful.

Integrating Islamic Epistemology and Social Impact

Beyond its technical and managerial dimensions, the reform of KKN at LPPM is deeply rooted in the values of Islamic epistemology. The guiding principles of *‘ilm al-nafi’* (beneficial knowledge), *adl al-ma’rifah* (epistemic justice), and *maslahah* (public good) serve as the moral foundation for designing and evaluating community engagement activities. As Al-Attas (1993) asserts, the true purpose of knowledge is to bring harmony and justice to society, while Sardar (2015) emphasizes that knowledge must empower rather than dominate. These concepts were translated into practice through KKN projects that prioritized inclusivity, collaboration, and long-term empowerment.

The incorporation of these values ensures that research and service at IAI Yasni Bungo go beyond fulfilling SDG indicators. They embody a holistic understanding of sustainability that integrates material progress with moral accountability. For example, the KKN projects related to entrepreneurship training did not merely teach business skills but also promoted ethical entrepreneurship grounded in fairness (*adl*) and responsibility (*amanah*). Likewise, literacy initiatives integrated discussions on moral education and civic

responsibility, reflecting the *maqāṣid al-syarī'ah* orientation toward protecting intellect (*hifz al-'aql*) and nurturing human potential.

Theoretical Reflection and Synthesis

The KKN model developed by LPPM IAI Yasni Bungo illustrates how the integration of SDGs and Islamic epistemology can generate a localized model of *knowledge justice*. By situating community engagement within a cycle of research, reflection, and action, LPPM transformed KKN into both a pedagogical and epistemological experiment. It demonstrates that the social impact of higher education emerges most effectively when learning is participatory and ethically guided.

In line with the *Research Ecosystem Framework* (OECD, 2019) and the *Scholarship of Engagement* (Boyer, 1996), the LPPM model bridges academic excellence and community empowerment through continuous interaction between policy, pedagogy, and praxis. Practically, it affirms UNESCO's (2022) vision of universities as engines of sustainable transformation. Theoretically, it contributes to the Southern epistemological discourse by showing that Islamic higher education can reinterpret global frameworks through its own moral vocabulary of benefit, justice, and collective well-being.

Theme 4 – Islamic Epistemology and Knowledge Justice

The institutional reform undertaken by LPPM IAI Yasni Bungo was not merely a managerial transformation; it represented a deeper epistemological shift grounded in the moral and spiritual framework of Islamic education. This transformation was shaped by an understanding that knowledge in Islam is inseparable from its ethical purpose and social responsibility. As Al-Attas (1993) asserts, knowledge is an *amanah* (trust) that must lead to *'adl* (justice) and *maslahah* (public benefit). In this sense, the reform embodies what Sardar (2015) calls the pursuit of *adl al-ma'rifah*—epistemic justice—where the process of knowing becomes a moral act aimed at restoring harmony and equity in society.

Epistemological Reorientation in Institutional Reform

The reorientation of LPPM's governance model reflects a commitment to *'ilm al-nafi'* (beneficial knowledge), which situates research not as an end in itself but as a means to improve the quality of life of individuals and communities. This approach stands in contrast to technocratic models of higher education that often equate success with output quantity rather than ethical or social outcomes. In aligning SDGs with Islamic values, LPPM sought to reconcile global frameworks of sustainable development with the *maqāṣid al-syarī'ah*—the higher objectives of Islamic law that emphasize the preservation of life, intellect, lineage, faith, and property.

This synthesis allowed the institution to internalize SDG principles such as equity, inclusion, and sustainability while grounding them in the moral logic of Islam. Sachs (2015) emphasizes that the SDGs must be localized to ensure relevance and ownership. LPPM operationalized this localization not only in administrative terms but also epistemically, interpreting each goal through the lens of *maslahah* and *amanah*. For instance, Goal 4 on Quality Education was understood as an obligation to nurture intellect (*hifz al-'aql*), while Goal 8 on Decent Work was implemented as a moral commitment to empower local entrepreneurship within ethical boundaries.

This epistemological repositioning also redefines the concept of impact. Instead of measuring success solely by numerical indicators, impact is understood as *falah*—the holistic well-being of individuals and society. The integration of *maqāṣid al-syarī'ah* with SDGs thus bridges two paradigms: the global pursuit of sustainability and the Islamic vision of moral prosperity.

Islamic Values as the Foundation of Knowledge Production

The reform of LPPM embeds three interrelated values that guide the production and dissemination of knowledge: *'ilm al-nafi'* (beneficial knowledge), *adl al-ma'rifah* (epistemic justice), and *maqāṣid al-syarī'ah* (the preservation of

human dignity and welfare). These values are not abstract ideals but practical principles that inform decision-making, research design, and community engagement.

Beneficial Knowledge (*‘Ilm al-Nāfī*)

Knowledge must be directed toward the improvement of human life and the environment. In LPPM's programs, this value is reflected in SDGs-based research that produces applicable outcomes such as improved literacy, entrepreneurship, and food security. The approach aligns with OECD's (2019) principle that research ecosystems achieve sustainability when outputs are socially utilized rather than confined to academic publication.

Epistemic Justice (*Adl al-Ma‘rifah*)

The institution seeks to democratize access to knowledge creation by involving lecturers, students, and communities in collaborative research and service. This participatory approach resonates with Sardar's (2015) argument that epistemic justice involves recognizing multiple sources of knowledge—including local wisdom and community experience—as legitimate contributors to the scientific process. It also reflects UNESCO's (2023) emphasis on inclusivity as the foundation of transformative education.

Maqāṣid al-Syarī‘ah (Higher Objectives of Islamic Law)

Every program is evaluated in light of its contribution to protecting and enhancing life (*hifz al-nafs*), intellect (*hifz al-‘aql*), and livelihood (*hifz al-mal*). By aligning SDGs with *maqāṣid*, LPPM ensures that development is not only sustainable but also ethical, equitable, and spiritually meaningful. This integration creates a distinctive Southern epistemology that contextualizes universal goals within local faith-based values.

Integrating SDGs and Maqāṣid al-Syarī‘ah

The synthesis of SDGs and *maqāṣid al-syarī‘ah* within LPPM's reform illustrates a model of Islamic sustainability that harmonizes global aspirations with spiritual accountability. UNDP (2021) and UNESCO (2022) emphasize that higher education institutions play a central role in contextualizing global agendas through culturally sensitive frameworks. LPPM's experience demonstrates that localization can extend beyond technical adaptation to include ethical translation—embedding moral purpose within the operationalization of SDGs.

For example, in the KKN programs aligned with Goal 2 (Zero Hunger) and Goal 8 (Decent Work), students were guided not only to produce measurable outputs such as community nutrition programs or microenterprise development but also to ensure that these initiatives upheld values of fairness, inclusivity, and sustainability. The process mirrored Boyer's (1996) vision of universities as spaces where scholarship and citizenship intersect, generating both intellectual and moral outcomes.

This model contributes to the discourse of *knowledge justice* by showing that scientific and ethical reasoning can coexist within the same institutional system. It challenges the dominance of Western epistemic paradigms that often separate facts from values and reaffirms the Islamic view that knowledge and morality are inherently integrated. As Sardar (2018) explains, “to know is to act justly,” and thus, any form of knowledge divorced from justice is incomplete.

Cultural and Theoretical Implications

The LPPM case offers several implications for the broader field of Islamic higher education. Culturally, it reasserts the relevance of Islamic values in shaping institutional ethics, research orientation, and leadership behavior. Theoretically, it contributes to what UNESCO (2023) calls *the decolonization of higher education*, providing an alternative framework in which knowledge is not merely a global commodity but a means of achieving human dignity and collective well-being.

From the perspective of organizational transformation, the integration of Islamic epistemology within LPPM's governance complements the stages of institutional change described by Kotter (1996). The moral foundation provided by *‘ilm al-naḥī* and *maqāṣid al-syarī‘ah* functions as the cultural reinforcement

necessary for sustaining long-term reform. Moreover, the combination of Organizational Change Theory and Islamic Epistemology creates a holistic model in which structural efficiency and spiritual accountability are mutually reinforcing.

This theoretical synergy also extends the concept of *research ecosystem* beyond its conventional parameters. In the case of LPPM, the ecosystem is not only a network of policies, resources, and outputs but also a moral space where knowledge production is guided by divine principles. Such a framework contributes to the emerging literature on *Southern epistemologies*—alternative models of knowledge rooted in the ethical and cultural contexts of the Global South.

Interpretive Synthesis

The experience of LPPM IAI Yasni Bungo illustrates that integrating Islamic epistemology with SDGs-oriented governance transforms higher education institutions into engines of both intellectual and moral development. By embedding *‘ilm al-naḥī*, *adl al-ma‘rifah*, and *maqāṣid al-syarī‘ah* into its research ecosystem, LPPM provides a living example of how *knowledge justice* can be institutionalized. This paradigm demonstrates that academic excellence and social justice are not separate objectives but interconnected pathways toward holistic sustainability.

In summary, the institutional reform at LPPM IAI Yasni Bungo reveals a distinctive *Southern Islamic model of transformation*—a model where organizational change, research ecosystem strengthening, and SDGs localization converge within the ethical compass of Islamic epistemology. It shows that when knowledge is produced and applied within a framework of justice, benefit, and spiritual consciousness, the university truly becomes a *living laboratory* for achieving both sustainable development and moral renewal.

IMPLICATIONS AND CONCLUSION

Policy Implications

The experience of LPPM IAI Yasni Bungo provides significant policy lessons for Islamic higher education governance in Indonesia and the wider Global South. It demonstrates that aligning institutional reform with the Sustainable Development Goals (SDGs) and Islamic epistemology can create a replicable governance model that strengthens the continuum from research to impact. The institutionalization of SDGs within the Research and Community Service Roadmap (2023–2025) shows how higher education can translate global frameworks into localized, faith-based strategies.

This approach resonates with UNDP’s (2021) principle of *localizing the SDGs for inclusive development* and UNESCO’s (2022) vision of universities as transformative agents of sustainability. By embedding SDGs indicators into research rubrics, grant mechanisms, and performance evaluations, LPPM introduced an accountability structure that enhanced both transparency and coherence. These policy innovations reinforce the view that higher education institutions should be seen not merely as centers of knowledge production but as development accelerators that integrate teaching, research, and service within national development agendas.

Furthermore, the LPPM framework aligns with the Indonesian Ministry of Religious Affairs’ strategic direction for strengthening *Perguruan Tinggi Keagamaan Islam (PTKI)* as institutions of global relevance. The integration of SDGs and *maqāṣid al-syarī‘ah* demonstrates that Islamic universities can operationalize sustainable development without losing their epistemic identity. This dual alignment supports Goal 4.7 of the SDGs, which promotes education for sustainable development, human rights, gender equality, and global citizenship.

Practical Implications

At the institutional level, the LPPM reform provides practical insights into how Islamic higher education institutions can establish a research–service

synergy that generates measurable social impact. The creation of research groups, internal grants, and SDGs-based KKN programs represents an operational blueprint for developing a culture of collaboration, reflection, and innovation.

The redesigned KKN serves as a living laboratory for applying academic findings to real-world problems. As Boyer (1996) suggested, universities must integrate the *scholarship of engagement* to ensure that learning contributes directly to social betterment. The participatory KKN model, in which students act as *knowledge mobilizers*, embodies this principle by linking data-driven research with community empowerment.

Moreover, the integration of Islamic values such as *amanah* (trust), *ihsan* (excellence), and *maslahah* (public good) ensures that institutional outcomes extend beyond technical achievements to include spiritual and ethical dimensions. This framework can be adapted by other Islamic universities seeking to balance professional competence with moral integrity. It also provides a pathway for developing impact literacy among faculty and students—the ability to conceptualize, measure, and sustain the societal effects of academic work.

Theoretical Implications

Theoretically, this study contributes to the expansion of higher education reform literature by integrating Organizational Change Theory, Research Ecosystem Theory, and Islamic Epistemology within a single analytical model. Kotter's (1996) and Armenakis & Bedeian's (1999) frameworks explain how leadership and stakeholder engagement facilitate institutional transformation. The research ecosystem perspective (OECD, 2019; UNESCO, 2023) clarifies the systemic nature of academic productivity, linking policies, capacities, and outcomes.

When combined with the epistemological foundations of Al-Attas (1993) and Sardar (2015), these theories form a distinctive Southern Islamic model of transformation. This model proposes that sustainable institutional reform requires not only structural and managerial change but also epistemic renewal—a process of reorienting knowledge toward justice, benefit, and human flourishing. It challenges Western-centric narratives of modernization by demonstrating that Islamic higher education can generate its own paradigm of innovation rooted in spiritual ethics.

The integration of SDGs with *maqāṣid al-syarī'ah* also contributes to the growing discourse on *knowledge justice* by offering a framework that connects scientific rationality with moral reasoning. In this sense, the LPPM model adds a new dimension to the global conversation on sustainability and higher education by illustrating how ethical and spiritual consciousness can coexist with academic excellence.

CONCLUSION

The case of LPPM IAI Yasni Bungo illustrates that systematic institutional reform, grounded in SDGs localization and Islamic epistemic values, can transform the culture of research into a driver of sustainable social change. By integrating policy, structure, and moral purpose, the institution has evolved into a *living laboratory* for translating knowledge into action.

The findings reaffirm that the most effective transformation in Islamic higher education occurs when scientific rigor and moral consciousness operate together. This alignment produces what UNESCO (2023) refers to as *transformative education*—learning that not only informs but also reforms society.

Ultimately, the experience of LPPM IAI Yasni Bungo between 2023 and 2025 represents more than an administrative success; it is an epistemological achievement. It shows that when *ilm al-nafti* (beneficial knowledge), *adl al-ma'rifah* (epistemic justice), and *maqāṣid al-syarī'ah* (ethical purpose) guide institutional reform, research becomes an instrument of *falah*—the holistic well-being of humankind. This model offers a powerful contribution to the global discourse on sustainable development by demonstrating that Islamic higher

education can lead not only in producing knowledge but also in ensuring that knowledge serves humanity and sustains life.

REFERENCES

- Al-Attas, S. M. N. (1993). *Islam and secularism*. Kuala Lumpur: International Institute of Islamic Thought and Civilization (ISTAC).
- Armenakis, A. A., & Bedeian, A. G. (1999). Organizational change: A review of theory and research in the 1990s. *Journal of Management*, 25(3), 293–315. <https://doi.org/10.1177/014920639902500303>
- Assa'idi, S. (2021). The growth of pesantren in Indonesia as the Islamic venue and social class status of santri. *Eurasian Journal of Educational Research*, 93(1), 425–440. <https://doi.org/10.14689/ejer.2021.93.21>
- Boyer, E. L. (1996). The scholarship of engagement. *Journal of Public Service and Outreach*, 1(1), 11–20. <https://doi.org/10.2307/3824451>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp0630a>
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Boston, MA: Pearson.
- Iskandar. (2017). Improving the quality of academic services through implementation of internal quality assurance system in State Institute of Islamic Studies STS Jambi. *Journal of Education and Practice*, 8(3), 57–63. <https://www.iiste.org>
- Kotter, J. P. (1996). *Leading change*. Boston, MA: Harvard Business School Press.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Thousand Oaks, CA: SAGE.
- OECD. (2019). *Research and innovation ecosystems for development*. Paris: OECD Publishing. <https://doi.org/10.1787/9789264313512-en>
- Sachs, J. D. (2015). *The age of sustainable development*. New York, NY: Columbia University Press.
- Sardar, Z. (2015). *Reading the Qur'an: The contemporary relevance of the sacred text*. Oxford: Oxford University Press.
- Sardar, Z. (2018). *Critical Muslim: Reclaiming the Islamic tradition*. London: Hurst & Company.
- Scheirer, M. A., & Dearing, J. W. (2011). An agenda for research on the sustainability of public health programs. *American Journal of Public Health*, 101(11), 2059–2067. <https://doi.org/10.2105/AJPH.2011.300193>
- Spaapen, J., & van Drooge, L. (2011). Introducing 'productive interactions' in social impact assessment of research. *Research Evaluation*, 20(3), 211–218. <https://doi.org/10.3152/095820211X12941371876742>
- UNDP. (2021). *Localizing the SDGs for inclusive development*. New York, NY: United Nations Development Programme.
- UNESCO. (2022). *Universities and the SDGs: Transformative roles of higher education*. Paris: UNESCO Publishing.
- UNESCO. (2023). *Reimagining higher education for people and planet*. Paris: UNESCO Publishing.
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Thousand Oaks, CA: SAGE.