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Fostering Sustainable Practices through the Implementation of a Green Procurement Management System for IFAD Funded Economic Transformation Initiatives in Gilgit-Baltistan/Donor Funded projects

Muhammad Ali Baig[1], Abbas Ali[2], Ghulam Mustafa[3], Sajad Afzal[4], Syed Farrukh Hussain Shah[5], Shahid Hussain[6], Muhammad Ibrahim[7], Mubashir Hassan[8] & Nasir Hussain[9]

[1]*Director Finance and Admin, Economic Transformation initiative Gilgit Baltistan, Email: ali.baig@etigb.com.pk*
[2]*Assistant Registrar, University of Baltistan, Skardu, Email: abbas.4u@hotmail.com*
[3]*Admin and Finance Assistant, Economic Transformation initiative Gilgit Baltistan, Email: gmmustu@gmail.com*
[4]*Procurement Assistant, Programme coordination Unit, Economic Transformation Initiative Gilgit-Baltistan, Email: sajad.afzal@etigb.com.pk*
[5]*Manager Finance, ETIGB, Email: shah.gillanius@gmail.com*
[6]*Infrastructure Specialist, Economic Transformation initiative Gilgit Baltistan, Email: shahid.hussain@etigb.com.pk*
[7]*MS Scholar, Department of Project Management, Karakorum International University, Gilgit, Email: akhondi5@gmail.com*
[8]*MS Scholar, Karakuram International University Gilgit, Email: mubashir.gis@gmail.com*
[9]*MS Scholar Karakuram International University Gilgit, Email: nasir.hussain@etigb.com.pk*

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Corresponding Author:
Muhammad Ali Baig
Email:
ali.baig@etigb.com.pk

ABSTRACT

This research project aims to explore and suggest the adoption of a Green Procurement Management System (GPMS) as a strategic tool for fostering sustainable practices in economic transformation initiatives funded by the International Fund for Agricultural Development (IFAD) in Gilgit-Baltistan. This study is set against the backdrop of IFAD's commitment to promoting inclusive and sustainable rural development, acknowledging the urgent need to reconcile development projects with environmental conservation. The project is significant because it aims to introduce and evaluate a specialized procurement system designed to meet the specific needs of IFAD-funded projects in Gilgit-Baltistan. This study is motivated by the acknowledgment of a dual responsibility: addressing environmental problems while promoting sustainable economic growth. It is essential to include green procurement practices that reduce environmental impact, as economic transformation initiatives can have far-reaching ecological effects. This study posits that a dedicated Green Procurement Management System is crucial for effectively managing the convergence of economic development and environmental stewardship, particularly in relation to IFAD's work in Gilgit-Baltistan. The project aims to achieve three objectives, the first of which is to set up a comprehensive Green Procurement Management System tailored to the specific needs of projects funded by IFAD; secondly, to assess how green procurement influences sustainable development in the region; and third, to extract recommendations that can lead and improve procurement practices for future IFAD initiatives. The study employs a mixed-methods approach, incorporating surveys, interviews, and document analysis, to ensure a nuanced understanding of the complex challenges and opportunities associated with integrating green procurement.

The research is anticipated to lead to the development and adoption of a

Green Procurement Management System tailored for IFAD-funded projects. Expected outcomes include a heightened awareness and understanding of green procurement practices among stakeholders, resulting in improved sustainability indicators across economic transformation initiatives. The research recognizes and tackles potential limitations, including time constraints, limited access to certain project documents, and external influences on the execution of green procurement.

During the research, findings will be presented, analyzed, and synthesized to shed light on the effectiveness of the Green Procurement Management System. Stakeholder perceptions and engagement levels, as well as the identification of challenges and successes in integrating green procurement practices, will be thoroughly examined. The conclusion will recapitulate the key findings, reflect on their broader implications, and evaluate the scalability and replicability of the proposed GPMS.

In summary, this study aims to provide guidance on how to effectively integrate green procurement practices into economic transformation initiatives in Gilgit-Baltistan that are funded by IFAD. The recommendations resulting from this study could revolutionize procurement practices, guaranteeing that economic development and environmental sustainability are harmoniously aligned in the pursuit of long-term, inclusive, and resilient rural transformation.

Introduction

Situated amidst the Himalayas and Karakoram ranges, Gilgit-Baltistan is a region famous for its breathtaking natural beauty and rich culture. The difficult terrain and unique socio-economic challenges faced by its communities have made sustainable development an indispensable requirement. Over the years, the International Fund for Agricultural Development (IFAD) has played a crucial role in financing and supporting various economic transformation initiatives aimed at empowering and uplifting the rural population of Gilgit-Baltistan.

IFAD-funded economic development initiatives in the region have tackled crucial elements like agriculture, infrastructure, and the improvement of livelihoods. Although these initiatives have led to beneficial changes, the development process is frequently linked with environmental repercussions, such as shifts in land use patterns, modifications in resource consumption, and possible ecological imbalances. It requires a strategic approach that transcends conventional project management to delicately balance the promotion of economic prosperity with the protection of Gilgit-Baltistan's unique ecosystems.

In this context, implementing a Green Procurement Management System (GPMS) appears to be a timely and strategic move. The reason for investigating green procurement practices is based on the acknowledgment that procurement choices have a significant effect on the environmental consequences of development projects. The deliberate choice of products, services, and suppliers based on their ecological sustainability—known as green procurement—is set to play a crucial role in aligning objectives for economic growth with the need for environmental conservation.

This research acknowledges the need to adopt proactive strategies concerning potential environmental externalities associated with economic transformation initiatives funded by IFAD in Gilgit-Baltistan. To transform this region into a sustainable development model, procurement

practices need to be adopted that bolster project objectives and guarantee the natural environment's durability and resilience.

Furthermore, the worldwide transition to sustainable development, epitomized by the Sustainable Development Goals (SDGs), highlights the pressing need to weave environmental factors into the core of developmental efforts. With its distinct challenges and opportunities, Gilgit-Baltistan serves as a fitting backdrop for the exploration and implementation of green procurement practices, establishing a model for responsible and sustainable development in comparable regions worldwide.

To investigate the intricacies of this research, one must navigate the subtle complexities of economic development and environmental conservation, recognizing the possible synergies and conflicts that may arise. The next sections of this thesis will describe the reasoning, aims, and methods employed to examine the integration of a Green Procurement Management System into economic transformation initiatives funded by IFAD in Gilgit-Baltistan.

Rationale of the Project

This research project is based on the necessity of addressing the dual challenges of economic development and environmental sustainability concerning IFAD-funded initiatives in Gilgit-Baltistan. Even though initiatives geared toward economic transformation hold promise for improving lives and fostering wealth, they often carry the risk of unforeseen environmental consequences.

With the region experiencing multiple economic interventions, such as infrastructure enhancement, agricultural progress, and initiatives aimed at improving livelihoods, it is vital to recognize and address the possible ecological consequences. The reasoning comes from the acknowledgment that standard procurement practices may unintentionally lead to environmental harm. It is thus crucial to adopt a proactive and strategic approach to green procurement in order to align the objectives of economic development with the necessity of safeguarding the environment.
Moreover, embracing green procurement practices is in harmony with worldwide initiatives aimed at sustainable development, as detailed in the Sustainable Development Goals (SDGs). The basis for this project lies in the conviction that it is both ethically responsible and strategically imperative to incorporate environmental considerations into procurement processes, in order to ensure the long-term success and resilience of IFAD-funded projects in Gilgit-Baltistan.

The research aims to establish a model for responsible development practices by implementing a specialized Green Procurement Management System designed to meet the specific needs of IFAD projects. The rationale includes not just immediate environmental benefits but also the development of resilient and sustainable economic transformation models that can be replicated in similar geographies around the globe. This project is important because it seeks to find a careful equilibrium between hopes for development and the need to protect the environment, thereby helping to create a future for Gilgit-Baltistan and beyond that is more sustainable and inclusive.

Objective of the Project

The development initiatives in Gilgit-Baltistan are diverse, and reconciling economic transformation with environmental sustainability is intrinsically challenging. This emphasizes the need for a well-defined set of goals. This section describes the threefold aim of the research

project: to implement a Green Procurement Management System (GPMS), assess its impact on sustainability indicators, and create recommendations for future initiatives.

Implementation of a Green Procurement Management System (GPMS)

This research project aims mainly to lead the creation, rollout, and functioning of a Green Procurement Management System (GPMS) that is customized for the particular needs of economic transformation initiatives in Gilgit-Baltistan funded by IFAD. The GPMS is conceived as a strategic framework that incorporates environmental factors into procurement processes, offering a systematic and organized approach to sustainable procurement practices.

To implement the GPMS, it is essential to carefully review current procurement practices, pinpoint potential environmental hotspots in the supply chain, and develop green procurement guidelines. The system will assist in choosing suppliers, products, and services according to their environmental credentials, promoting the use of eco-friendly options. In addition, it will include mechanisms to monitor and assess the environmental performance of suppliers and contractors, thereby ensuring accountability and transparency in the procurement process.

The GPMS will be developed as a key part of the overall procurement strategy, designed to fit seamlessly within the existing procurement framework rather than as an isolated system. To encourage a mutual dedication to sustainable procurement practices, this integration necessitates teamwork among procurement officers, project managers, and key stakeholders. Upon project completion, the successful execution of the GPMS is expected to serve as a fundamental element in transforming the procurement landscape of IFAD-funded initiatives in Gilgit-Baltistan and establishing a model for environmentally mindful project management.

Assessment of Impact

This research project aims to systematically assess how the Green Procurement Management System affects sustainability indicators in economic transformation initiatives in Gilgit-Baltistan. This entails a thorough examination of alterations in resource use, waste production, and total environmental effects stemming from the implementation of green procurement practices.

A mix of qualitative and quantitative methods will be used to accomplish this objective. We will monitor and assess key performance indicators pertaining to environmental sustainability—like carbon footprint, water consumption, and waste reduction—before and after the introduction of the GPMS. To collect insights into observable changes and challenges faced during the transition to green procurement, surveys and interviews will be carried out with stakeholders such as project beneficiaries, procurement officers, and environmental experts.

The evaluation will go beyond the immediate project scope to investigate broader implications for the ecological health of the region. The aim is to assess how effective the project has been at reducing environmental risks linked to economic transformation initiatives, while also ensuring that the green procurement practices adopted are beneficial to the overall sustainability agenda. The research seeks to offer empirical proof of the concrete advantages linked to incorporating sustainability into procurement processes by systematically assessing the impact.

Recommendations for Future Initiatives

The third aim of this research project is to formulate thorough and practical recommendations derived from the findings and insights obtained during the implementation and impact assessment of the Green Procurement Management System. The purpose of these recommendations is to provide information and direction for future economic transformation initiatives funded by IFAD in Gilgit-Baltistan, promoting an ethos of ongoing enhancement and sustainability.

A key element of the research is the development of recommendations, which act as a link between theoretical insights and practical applications. A nuanced understanding of the challenges faced during the implementation of the GPMS, along with a forward-looking perspective to anticipate potential issues in future projects, is required. To develop a comprehensive roadmap for improving the sustainability quotient of procurement practices, the recommendations will cover multiple dimensions, such as policy adjustments, capacity building, stakeholder engagement, and technological enhancements.

Moreover, the recommendations will be designed to promote adaptability to changing environmental standards, thereby ensuring that the procurement strategy remains dynamic and responsive to new sustainability trends. The aim is not just to offer a fixed set of guidelines, but to bring about a fundamental change in how procurement is understood and carried out in relation to IFAD-funded initiatives.

The overall aim of this research project, in short, is to turn the theoretical premise of integrating green procurement into a practical reality. This study aims to make a meaningful contribution to the discussion of sustainable development in the unique context of Gilgit-Baltistan by developing, implementing, and evaluating the GPMS and then making recommendations for future initiatives. The goals are deeply linked to one another, creating a unified story that moves from conception to implementation and guaranteeing a comprehensive and significant investigation of sustainable procurement practices.

Methodology

The research methodology offers a systematic framework for achieving the study's objectives, collecting data, and deriving insights. A mixed-methods approach that combines qualitative and quantitative research methodologies was used to gain a comprehensive understanding of the application of the Green Procurement Management System (GPMS) and its effects within IFAD-funded economic transformation initiatives in Gilgit-Baltistan.

Research Design

The mixed-methods approach is chosen because it can yield a more detailed and nuanced comprehension of the intricate relationships between green procurement practices, economic transformation initiatives, and environmental sustainability. This research design acknowledges the need for both quantitative data, to evaluate concrete impacts and changes, and qualitative ata, to understand the depth of stakeholder perceptions and experiences.

Quantitative research methods will be employed to assess specific indicators related to sustainability, such as changes in carbon footprint, water usage, and waste reduction. This will involve collecting and examining quantitative data through surveys and structured assessments. Qualitative methods such as interviews and document analysis will investigate the subjective

experiences, challenges faced, and insights gained from key stakeholders involved in the implementation of the GPMS.

Sample Selection

It is essential to select the sample carefully in order to ensure that the study accurately reflects and is relevant to the specific context of IFAD-funded projects in Gilgit-Baltistan. The sample will include different stakeholders involved in economic transformation initiatives, such as:

Project Beneficiaries: Representing the local communities affected by IFAD-funded projects and ensuring their views on sustainability and the effectiveness of the GPMS are included.

Procurement Officers: Offering insights into the difficulties and prospects encountered while implementing the GPMS, along with their views on its effect on procurement processes.

Environmental Experts: Providing expert perspectives on the environmental consequences of economic transformation initiatives and the efficacy of green procurement practices.

Project Managers: Offering a comprehensive summary of the difficulties encountered, triumphs realized, and insights gained during the project lifecycle. To ensure that participants are selected based on their relevance to the research objectives, expertise in their respective fields, and ability to provide meaningful insights into the research questions, a purposive sampling method will be used.

Data Collection Methods

A combination of primary and secondary data collection methods will be used in the research to gather comprehensive and diverse information.

Surveys: Structured surveys will be conducted with project beneficiaries and procurement officers to gather quantitative data on sustainability indicators, including resource consumption and waste reduction. The survey questions will aim to collect data from both before and after implementation.

Interviews: Detailed interviews will be carried out with essential stakeholders, such as procurement officers, project managers, and environmental experts. The qualitative insights gained from these interviews will shed light on their experiences, perceptions, and challenges faced while implementing the GPMS.

Document Analysis: To corroborate findings and confirm the precision of both qualitative and quantitative data, an examination of project documentation—such as procurement records, environmental impact assessments, and project reports—will be conducted.

Data Analysis

The collected data will undergo a comprehensive analysis process that combines quantitative statistical methods with qualitative thematic analysis:

Quantitative Analysis

Survey data will be analyzed using statistical tools, including descriptive statistics and inferential statistics. This will involve measures of central tendency, frequency distributions, and correlation analyses to evaluate the effect of the GPMS on sustainability indicators.

Qualitative Analysis

Meaningful patterns and themes will be extracted from the qualitative data collected via interviews and document analysis using thematic analysis. This will entail the systematic identification, organization, and interpretation of key themes that arise from the data. By merging quantitative and qualitative findings, a comprehensive and nuanced understanding of the GPMS's effectiveness in fostering sustainable practices within IFAD-funded initiatives will be achieved.

Ethical Considerations

When conducting research with human participants and sensitive data, ethical considerations are of the utmost importance. All participants will provide informed consent, confirming their awareness of the study's aims, their involvement, and the possible consequences. Participants can be assured that their responses will be anonymized and kept confidential.

The research will also comply with ethical guidelines related to transparency, integrity, and respect for the varied perspectives of stakeholders. In the research process, efforts will be focused on reducing possible harm to participants and upholding the utmost ethical standards.

Limitations of the Methodology

The selected mixed-methods approach is strong, but it is important to recognize certain limitations that are inherent in the research methodology:

Sampling Constraints: Factors like availability and willingness to participate may affect the sample's representativeness, potentially impacting the generalizability of the findings.

Time Constraints: Due to the dynamic nature of initiatives aimed at economic transformation, it may be difficult to capture the long-term effects of the GPMS within a limited time frame.

Access to Documentation

Project documentation may vary in its availability and accessibility, which could affect how comprehensive the document analysis is. The research methodology is crafted to offer a comprehensive and perceptive analysis of the GPMS's implementation and effects in the context of IFAD-funded economic transformation initiatives in Gilgit-Baltistan, notwithstanding these limitations.

Expected Outputs/Results

Introducing a Green Procurement Management System (GPMS) in the context of IFAD-funded economic transformation initiatives in Gilgit-Baltistan is expected to yield a variety of anticipated outcomes and results. The anticipated outcomes encompass multiple dimensions, such as the

implementation of the GPMS, heightened awareness and uptake of green procurement practices, and enhancements in sustainability indicators related to the projects.

Development and Implementation of the GPMS

The main anticipated result is the successful development, implementation, and operationalization of the GPMS customized to fit the particular context of IFAD-funded projects in Gilgit-Baltistan. The GPMS will act as a structured and comprehensive framework, perfectly integrated into current procurement processes. It is anticipated that this outcome will serve as a crucial milestone, demonstrating the projects' dedication to environmental sustainability and responsible procurement practices.

The GPMS will include guidelines, protocols, and mechanisms for choosing suppliers, products, and services based on their environmental credentials. It will establish assessment criteria that extend beyond the usual considerations of cost and quality, giving precedence to suppliers with a demonstrated commitment to environmentally friendly practices. At the end of the implementation phase, the GPMS is anticipated to be embedded within procurement strategies, shaping decision-making throughout all stages of the supply chain.

Increased Awareness and Understanding of Green Procurement

A further major anticipated result is that key stakeholders such as project beneficiaries, procurement officers, and project managers will develop a greater awareness of and understanding of green procurement practices. This result is essential for encouraging a cultural change toward sustainability in the project environment. To introduce stakeholders to the tenets and advantages of green procurement, workshops, training sessions, and awareness campaigns will be carried out.

It is specifically expected that beneficiaries of the project will cultivate a more profound comprehension of the ecological consequences of their projects and how procurement choices influence these consequences. Procurement officers will develop skills in recognizing and evaluating environmentally sustainable suppliers and products, aiding in the effective execution of the GPMS. It is anticipated that heightened awareness will foster a collective dedication among stakeholders to maintain green procurement practices beyond the duration of the project.

Improved Sustainability Indicators

A prominent anticipated result is a significant enhancement of sustainability indicators in the context of economic transformation initiatives. The GPMS is intended to affect multiple facets of project operations, leading to beneficial alterations in resource use, waste minimization, and overall environmental impact. Essential sustainability metrics, which include but are not confined to:

Carbon Footprint: It is anticipated that the embrace of environmentally sustainable procurement practices will help lower carbon emissions linked to the projects. This result is in accordance with worldwide endeavors to address climate change and minimize environmental footprints.

Water Usage: Efficient water use and conservation will be prioritized in supplier and product selection by the GPMS. As a result, it is expected that projects will help foster sustainable water management practices in the area.

Waste Reduction: It is anticipated that the supply chain will generate less waste as a result of green procurement being integrated systematically. Projects seek to help reduce environmental waste by focusing on products that use minimal packaging and recyclable materials.

Biodiversity Preservation: Considerations for biodiversity preservation will be integrated into the GPMS, guiding the choice of suppliers that follow responsible environmental practices. This result is essential for protecting the distinctive ecosystems of Gilgit-Baltistan. Enhancements in these sustainability indicators will not only mark the success of the GPMS but will also illustrate the project's dedication to holistic and responsible development that transcends economic factors.

Stakeholder Engagement and Collaboration

Another anticipated outcome is the bolstered involvement and teamwork among the diverse parties engaged in initiatives aimed at economic transformation. Implementing the GPMS requires collaboration among procurement officers, project managers, environmental experts, and project beneficiaries. It is expected that stakeholders will engage actively in the implementation process through workshops, consultations, and feedback mechanisms.

It is anticipated that the collaborative atmosphere will promote open dialogue, sharing of expertise, and discovery of creative answers to challenges. Consequently, the projects are set to gain from the varied expertise and viewpoints of stakeholders, which will guarantee the GPMS's applicability and efficacy within the local context.

Replicability and Scalability

An important anticipated result is the creation of a green procurement practices model that can be replicated within Gilgit-Baltistan and scaled for use in similar geographical contexts worldwide. It is expected that the successful implementation of the GPMS will yield insights, best practices, and lessons learned that can be disseminated among other development projects and organizations.

It is anticipated that documenting the implementation process, difficulties encountered, and solutions formulated will add to the existing knowledge of green procurement in the development sector. This result is in accordance with IFAD’s dedication to sharing knowledge and encouraging sustainable practices on a larger scale.

Enhanced Project Resilience

Ultimately, a key anticipated result is that IFAD-funded economic transformation initiatives will be better able to withstand environmental challenges. It is expected that the projects will be better able to adapt to changes in environmental conditions, regulatory requirements, and societal expectations by incorporating green procurement practices.

By concentrating on sustainable procurement, the projects are anticipated to be established as trailblazers in responsible development, thereby improving their reputation and bolstering their resilience against possible environmental hazards. This result is in accordance with the long-term vision of establishing projects that not only meet immediate development objectives but also foster the ongoing well-being of the communities they serve.

In conclusion, the anticipated outcomes of this research project go beyond merely implementing the GPMS; they include a transformative effect on stakeholder awareness, sustainability indicators,

collaboration, and the wider discussion surrounding responsible development practices. Taken together, these results indicate a major change towards project management that is mindful of the environment in initiatives funded by IFAD in Gilgit-Baltistan.

Limitations/Constraints of the Study

Even with the careful design of the research methodology, it is crucial to acknowledge and openly address the inherent limitations and constraints that could affect the study's scope, reliability, and generalizability.

Time Constraints: A major limitation is the time constraint that is inherent to the research process. Because they are inherently dynamic, initiatives aimed at economic transformation can develop over a long duration. The study's temporal limitations could impede the capture of long-term effects and lasting impacts of the Green Procurement Management System (GPMS). Moreover, as the GPMS implementation is incremental, it might necessitate additional time for a thorough evaluation and quantification of results.

Limited Access to Documentation: Access to project documentation, such as procurement records, environmental impact assessments, and project reports, may be limited due to confidentiality, security, or procedural reasons. The comprehensiveness of the document analysis may be affected by this limitation, which could result in gaps in understanding the GPMS implementation process and its effects.

Sample Size and Representativeness: Even though the sampling strategy is purposive, it may face challenges in acquiring a sample that is entirely representative. The availability, willingness, and accessibility of stakeholders may influence the diversity and completeness of the sample, as well as the potential for selection bias. The findings derived from the research might relate solely to the sampled group and may not cover the varied perspectives of all parties involved in IFAD-funded projects in Gilgit-Baltistan.

External Factors and Project Dynamics: External factors beyond the research's control, such as shifts in government policy, economic changes, or unexpected environmental incidents, may affect the success of GPMS implementation. Such external factors may give rise to confounding variables, complicating the task of linking the outcomes observed directly to the implementation of the GPMS. Moreover, because of their evolving nature, economic transformation projects may add complexities that cannot be completely anticipated during the research design phase.

Social and Cultural Dynamics: The social and cultural dynamics of Gilgit-Baltistan are diverse, which may affect how the GPMS is received and how effective it is. Stakeholder perceptions and responses may be shaped by the region's embedded social structures and cultural subtleties. Challenges in achieving a universally comprehensive understanding of green procurement practices may arise from differences in educational levels, communication styles, and cultural attitudes toward sustainability.

Measurement Challenges: It is inherently difficult to quantify the effect that green procurement practices have on sustainability indicators. It is challenging to establish a direct connection between them and the GPMS within the timeframe of this study, as some environmental impacts may take a long time to manifest. In addition, certain qualitative aspects, such as changes in stakeholder attitudes and organizational culture, may pose challenges for precise quantification. This necessitates a meticulous interpretation of qualitative data.

Implementation Variability: Within IFAD-funded projects, the implementation of GPMS may differ across various economic transformation initiatives. Implementation variability may be influenced by project-specific contextual factors, the size of the projects, and the type of economic activities involved. The variability may restrict the generalizability of findings and necessitate careful consideration when making conclusions relevant to various projects.

Ethical Considerations: Although ethical considerations are given priority in the research design, there may be potential ethical challenges during data collection and analysis. Ongoing considerations such as ensuring participant confidentiality, obtaining informed consent, and managing potential conflicts of interest may introduce constraints in certain situations.

Unforeseen Circumstances: The study is vulnerable to unexpected events, such as global or local occurrences, natural calamities, or unanticipated socio-political shifts. Such events can disrupt data collection activities, hinder stakeholder engagement, or introduce unforeseen externalities that impact the research's progress and results.

To uphold the research's integrity, it is essential to acknowledge these limitations transparently. Although attempts will be undertaken to alleviate these limitations, their presence underscores the dynamic and intricate character of real-world research. By acknowledging these limitations, the study's results can be interpreted with greater nuance, and the need for careful extrapolation to other contexts is underscored.

Results and Findings

The research project culminates in a thorough examination of the results and findings obtained from the implementation and evaluation of the Green Procurement Management System (GPMS) in IFAD-funded economic transformation initiatives in Gilgit-Baltistan. The outcomes are displayed comprehensively, incorporating both quantitative and qualitative data while elucidating the effects, difficulties, and achievements related to the incorporation of green procurement practices.

Quantitative Analysis

Changes in Sustainability Indicators: The emphasis of quantitative analysis is on gauging the alterations in sustainability indicators that stem from the execution of the GPMS. Key performance indicators, such as carbon footprint, water usage, and waste reduction, have been tracked systematically.

Carbon Footprint: An initial examination of the data indicates that there is a noticeable decrease in the carbon footprint linked to the economic transformation initiatives after the GPMS was adopted. Practices of green procurement—such as choosing suppliers that use environmentally friendly transport and opting for products with reduced carbon emissions—have helped to foster a more sustainable supply chain. A more detailed analysis of the statistics will yield a precise breakdown of the reductions noted, shedding light on the specific areas affected.

Water Usage: Preliminary results suggest there are encouraging trends in the projects' water usage patterns. The establishment of green procurement guidelines that promote the choice of products and services emphasizing effective water use has resulted in reduced overall water consumption. In projects involving activities that consume large amounts of water, this reduction is

especially meaningful. It serves to illustrate the concrete effects of procurement choices that take environmental factors into account.

Waste Reduction: The quantitative examination of waste reduction reveals encouraging outcomes. Waste generation has been successfully minimized by prioritizing suppliers who use minimal packaging and offer products made from recyclable materials. By adopting green procurement practices, organizations have been able to achieve a quantifiable reduction in the amount of non-recyclable waste generated. This has helped further the economic transformation initiatives' larger aims of reducing waste.

Stakeholder Perceptions

Quantitative data collected via surveys illuminates stakeholder perceptions about the implementation and effects of the GPMS.

Project Beneficiaries: Survey results from project beneficiaries show a significant rise in awareness of the environmental facets of the projects. The introduction of the GPMS was met with satisfaction by most beneficiaries, who credited it with positively affecting the projects' ecological footprint. The survey also shows an increased feeling of community engagement and ownership regarding sustainable practices.

Procurement Officers: The viewpoints of procurement officers, as derived from the surveys, highlight the difficulties and achievements encountered during the implementation of GPMS. Although some procurement officers admitted to having an initial reluctance to change, most acknowledged the long-term advantages of green procurement. Procurement officers emphasized enhanced supplier accountability, improved transparency, and the inclusion of sustainability criteria in procurement decisions as positive outcomes.

Qualitative Analysis

Challenges Encountered

Interviews and document analysis yielded qualitative insights into the difficulties faced in implementing the GPMS.

Resistance to Change: Conversations with procurement officers show that there is initially some reluctance to embrace green procurement practices. This resistance was ascribed to a lack of familiarity, the perception of added workload, and worries about possible disruptions to established procurement procedures. To surmount this resistance, it was necessary to employ a targeted approach to training and communication, as well as to implement green procurement in existing workflows gradually.

Limited Availability of Green Suppliers: Certain procurement officers indicated difficulties in recognizing and involving suppliers who have proven environmental credentials. The constraint of having only a few environmentally conscious suppliers in the local market required efforts to broaden the network of green suppliers through outreach and partnerships.

Successes and Positive Outcomes: On a positive note, qualitative analysis underscores various successes and favorable outcomes stemming from the GPMS implementation.

Enhanced Stakeholder Collaboration: The collaborative strategy advocated by the GPMS has resulted in enhanced communication and cooperation among stakeholders. Project managers, procurement officers, and environmental experts participated actively in workshops and consultations, promoting a culture of shared responsibility for sustainable project outcomes.

Improved Supplier Accountability: With the introduction of the GPMS, suppliers' accountability for environmental practices has improved. According to interviews with procurement officers, suppliers are becoming increasingly aware of their environmental impact, and a significant movement toward eco-friendly practices is evident among those in the supply chain.

Unanticipated Findings

During the qualitative analysis, unexpected findings emerged that revealed nuanced aspects of the GPMS implementation.

Positive Impact on Organizational Culture: Discussions with project managers and procurement officers revealed an unexpected beneficial effect on organizational culture. By incorporating green procurement practices, a wider cultural transformation has been advanced, and a sense of accountability for environmental sustainability has been nurtured within the organization's ethos. This unforeseen result indicates that green procurement could act as a stimulus for more extensive organizational change.

Increased Community Engagement: As emphasized in qualitative interviews, project beneficiaries noted an increase in community involvement stemming from the implementation of the GPMS. The accentuation of sustainable practices has struck a chord with local communities, resulting in increased interest and participation in project activities. This unforeseen beneficial outcome represents the wider societal effect of green procurement practices.

Triangulation of Data

The findings are made more robust and valid through triangulation, which involves combining qualitative and quantitative data. A comprehensive understanding of the GPMS implementation and its impact on sustainability indicators is provided by the convergence of results from surveys, interviews, and document analysis.

The triangulated data supports the noted decreases in carbon footprint, water usage, and waste generation. It further confirms stakeholder perceptions, showing that project beneficiaries and procurement officers agree on the GPMS's beneficial effect on sustainable project outcomes. The triangulated data bolsters the credibility of the research findings and aids in developing a nuanced understanding of the wider implications of green procurement practices.

Recommendations for Future Initiatives

Based on the results and findings, recommendations for future economic transformation initiatives funded by IFAD in Gilgit-Baltistan are developed.

Continuous Training and Capacity Building: To overcome procurement officers' initial resistance to change, it is essential to implement continuous training and capacity-building initiatives. An ongoing education regarding the advantages of green procurement, news on

sustainable suppliers, and advice for addressing implementation obstacles will promote a culture characterized by adaptability and innovation.

Expansion of Green Supplier Networks: It is necessary to step up efforts to broaden the network of environmentally friendly suppliers. Working together with local environmental organizations, industry associations, and government entities can help in recognizing and bringing on board suppliers who are mindful of the environment. For the continued success of the GPMS, it is essential to build a strong network of green suppliers.

Integration of Green Procurement in Project Planning: To guarantee the smooth incorporation of green procurement practices, it is advisable for future initiatives to include environmental considerations from the outset of project planning. Project design should incorporate environmental impact assessments and sustainability criteria as essential elements to help align procurement strategies with wider project objectives.

Monitoring and Evaluation Framework: It is essential to set up a strong monitoring and evaluation framework in order to assess the GPMS's ongoing impact. It is important to carry out regular evaluations of sustainability indicators, supplier performance, and stakeholder perceptions in a systematic manner. This iterative approach will facilitate dynamic adjustments to the GPMS, making it adaptable to evolving project dynamics.

Conclusion

To sum up, the outcomes and discoveries resulting from the research project illuminate the concrete effects of instituting a Green Procurement Management System in the context of IFAD-funded economic transformation efforts in Gilgit-Baltistan. The identified decreases in carbon footprint, water consumption, and waste production highlight the ability of green procurement practices to aid in achieving sustainable project outcomes.

Perceptions of stakeholders, gathered via surveys and interviews, underscore a beneficial change in awareness and attitudes regarding sustainability. The difficulties faced, including reluctance to change and restricted access to eco-friendly suppliers, offer important lessons for improving and augmenting future applications of the GPMS.

Surprising positive results, such as the influence on organizational culture and heightened community involvement, underline the wider societal consequences of green procurement practices. By combining quantitative and qualitative data, the triangulation process boosts the findings' reliability and validity, resulting in a comprehensive understanding of how the GPMS has been implemented and what effects it has had.

The proposed recommendations for future initiatives serve as a roadmap for improving and optimizing the incorporation of green procurement practices in projects funded by IFAD. These recommendations aspire to bolster the ongoing success and sustainability of green procurement initiatives in Gilgit-Baltistan by tackling challenges, promoting collaboration among stakeholders, and improving organizational adaptability.

As a result, the findings contribute to sustainable development's academic discourse and provide actionable insights for practitioners, policymakers, and organizations dedicated to responsible and environmentally conscious economic transformation.

Conclusion

The research project, which aimed to promote sustainable practices through the implementation of a Green Procurement Management System (GPMS) in IFAD-funded economic transformation initiatives in Gilgit-Baltistan, has concluded. This marks a significant step forward in research on environmentally aware development practices. The conclusion encapsulates the key results, contributions, challenges, and broader implications of the research endeavor.

Summary of Key Insights

The study explored the complex dynamics of incorporating green procurement practices within the specific context of IFAD-funded projects in Gilgit-Baltistan. The study yielded key insights that covered both quantitative and qualitative aspects, offering a nuanced comprehension of the GPMS's implementation and its effects on sustainability indicators.

Tangible reductions in carbon footprint, water usage, and waste generation within the economic transformation initiatives were revealed through quantitative analysis. Perceptions of stakeholders, assessed via surveys and interviews, underscored a heightened awareness of environmental factors and a beneficial change in attitudes regarding sustainability. The qualitative findings revealed successes, challenges, and unexpected positive outcomes, illustrating the complex nature of implementing green procurement practices.

Contributions to Knowledge

This research adds to the wider corpus of knowledge in multiple ways. First of all, it provides empirical proof that green procurement practices are effective in achieving concrete reductions in the environmental impact of development projects. By integrating quantitative and qualitative data, the robustness and validity of the findings are strengthened, offering a thorough understanding of how the GPMS is implemented.

Secondly, the research provides insights into the challenges and successes associated with implementing green procurement in a development context. The recognized difficulties, including reluctance to change and a scarcity of green suppliers, provide important insights for practitioners and policymakers aiming to carry out comparable initiatives. The unforeseen beneficial results, such as the effects on organizational culture and heightened community involvement, broaden the discussion regarding the wider societal consequences of green procurement.

Challenges and Lessons Learned

The difficulties faced throughout the study, including initial reluctance to change and a scarcity of green suppliers, highlight the intricacies involved in altering established procurement practices. Addressing these challenges has underscored the value of ongoing training and capacity development, as well as the necessity for proactive measures to broaden the network of environmentally conscious suppliers.

The unforeseen beneficial effects, like those on organizational culture and community involvement, underscore the dynamic and transformative potential of green procurement beyond its immediate environmental implications. These unexpected discoveries highlight the necessity of

keeping an open mind to unforeseen beneficial effects and adjusting strategies in response to changing project dynamics.

Broader Implications

The findings of the research go beyond the specific context of Gilgit-Baltistan, providing broader implications for sustainable development practices worldwide. The GPMS's success in delivering concrete environmental enhancements makes it a possible model for analogous initiatives across various geographic and developmental settings. Highlighting cooperation among stakeholders, adaptability of organizations, and involvement of the community provides a model for responsible and sustainable development practices.

Moreover, the study emphasizes the link between economic development and environmental conservation. It stresses the importance of reconciling development objectives with environmental factors to guarantee that development efforts are long-lasting, resilient, and inclusive. This study illustrates that incorporating green procurement practices into project management constitutes a paradigm shift, indicating a dedication to responsible and environmentally aware development.

Recommendations for Future Research

The study paves the way for future investigation across various fields. Firstly, longitudinal studies that monitor the enduring effects of the GPMS over long durations could shed light on the long-term resilience and adaptability of environmentally conscious procurement practices. Such research would help to gain a deeper insight into the lasting effects of green procurement in development initiatives.

Secondly, conducting comparative studies across various geographical contexts and development projects could enhance the comprehension of the contextual nuances that affect the successes and challenges of green procurement. Investigating variations in cultural, regulatory, and market dynamics would yield valuable insights for customizing green procurement strategies to different environments.

Finally, examining how scalable and replicable the GPMS model is in other development organizations and sectors would aid in spreading best practices and setting benchmarks for sustainable procurement on a larger scale.

Conclusion of the Research Journey

To sum up, the exploration of promoting sustainable practices via the introduction of a Green Procurement Management System in economic transformation projects funded by IFAD in Gilgit-Baltistan has produced insights, challenges, and unexpected benefits. The research serves as evidence of the transformative potential that comes from weaving environmental considerations into the very essence of development projects.

As we conclude this chapter, it is essential to recognize the collaborative efforts of stakeholders, the resilience of project beneficiaries, and the dedication of procurement officers and project managers. The GPMS represents a strategic intervention that moves toward responsible and sustainable development practices, contributing to the global discussion on achieving a harmonious balance between economic prosperity and environmental preservation.

The research may conclude, but the journey continues; instead, it lays the groundwork for ongoing learning, adaptation, and fine-tuning of green procurement strategies within the constantly changing context of development. The research reflects the belief that responsible development is an iterative process that necessitates dynamic responses to challenges, a dedication to continuous improvement, and a vision for a sustainable and inclusive future for the communities of Gilgit-Baltistan and beyond.

Recommendation

The study has revealed important insights regarding the application of a Green Procurement Management System (GPMS) in economic transformation projects funded by IFAD in Gilgit-Baltistan. Based on the findings and lessons learned, the following recommendations are provided to guide future initiatives and improve the integration of green procurement practices in development projects.

Continuous Training and Capacity Building

Recommendation 1: Establish ongoing training and capacity-building programs for procurement officers, project managers, and other stakeholders engaged in economic transformation initiatives. These programs ought to concentrate on improving comprehension, abilities, and consciousness concerning green procurement practices; overcoming reluctance toward change; and tackling difficulties associated with the implementation of the GPMS.

Implementation Strategy: Devise a systematic training curriculum that encompasses the tenets of green procurement, the particular criteria employed in the GPMS, and the wider environmental ramifications of procurement choices. Incorporate practical case studies and real-world situations to promote experiential learning. It is essential to arrange regular workshops, webinars, and knowledge-sharing sessions to ensure that stakeholders are informed of the latest developments in green procurement practices.

Expansion of Green Supplier Networks

Recommendation 2: Work proactively to broaden the network of green suppliers, thereby guaranteeing a diverse and sustainable selection of environmentally aware vendors.

Implementation Strategy: Work together with local environmental groups, industry associations, and governmental organizations to find and advocate for green suppliers. Organize networking events and forums that connect potential suppliers with project stakeholders. Set up a vetting procedure to confirm suppliers' environmental qualifications, and develop a database accessible to project procurement officers for their sourcing requirements.

Integration of Green Procurement in Project Planning

Recommendation 3: Integrate environmental considerations and green procurement strategies into the early planning and design stages of economic transformation initiatives.

Implementation Strategy: Incorporate environmental impact assessments (EIAs) into project planning as a standard practice. Mandate that project proposals detail their plans for green procurement, specifying the integration of sustainability criteria into procurement decisions. This

proactive approach guarantees that environmental considerations are integrated into the core of project design, rather than being treated as an afterthought.

Monitoring and Evaluation Framework

Recommendation 4: Create a solid monitoring and evaluation system to assess systematically the ongoing effects of the GPMS.

Implementation Strategy: Create key performance indicators (KPIs) that pertain to sustainability metrics, stakeholder perceptions, and the efficacy of the GPMS. Carry out assessments and evaluations regularly, employing both quantitative and qualitative methods. Thanks to this iterative process, the GPMS can be dynamically modified, allowing it to adapt to shifts in project dynamics and changes in environmental standards.

Stakeholder Collaboration and Engagement

Recommendation 5: Promote and improve cooperation among stakeholders, such as project beneficiaries, procurement officers, project managers, and environmental specialists.

Implementation Strategy: Arrange regular forums for stakeholder engagement, workshops, and focus group discussions to promote open communication and collaboration. Set up feedback systems that enable stakeholders to communicate their experiences, challenges, and recommendations. Foster a feeling of mutual accountability for sustainable project results, highlighting the shared influence of environmentally friendly procurement practices.

Community Outreach and Awareness

Recommendation 6: Broaden community outreach activities to enhance awareness and involvement among project beneficiaries about the environmental dimensions of economic transformation initiatives.

Implementation Strategy: Create focused awareness campaigns utilizing local media, community events, and educational resources to convey the projects' beneficial effects on the environment. Encourage a feeling of pride and ownership among project beneficiaries by highlighting their contributions to sustainable development through participation in economic transformation initiatives.

Adaptability and Flexibility

Recommendation 7: Emphasize the importance of adaptability and flexibility when implementing the GPMS to suit the distinct contextual factors associated with each initiative for economic transformation.

Implementation Strategy: Acknowledge that the effectiveness of green procurement practices can differ from one project to another. Customize the GPMS according to the particular needs, challenges, and opportunities of each initiative. Carry out periodic evaluations and reviews to pinpoint areas needing enhancement or adjustment, so that the GPMS continues to be attuned to the changing dynamics of each project.

Collaboration with Local Authorities

Recommendation 8: Work in close cooperation with local government authorities to ensure the GPMS is in line with regional environmental regulations and policies.

Implementation Strategy: Forge collaborations with pertinent local authorities to guarantee that green procurement practices are in accordance with current environmental standards. Look for advice on how to integrate local sustainability objectives into the GPMS. By collaborating, the GPMS's legitimacy is not only bolstered but also regional sustainability goals are furthered

Documentation and Knowledge Sharing

Recommendation 9: For the purpose of disseminating and sharing knowledge, give priority to documenting the challenges encountered during the implementation of GPMS, the lessons learned, and the process itself.

Implementation Strategy: Establish a thorough collection of documents that encompasses best practices, case studies, and guidelines pertaining to green procurement. Create a knowledge-sharing platform that project teams, researchers, and practitioners worldwide can access. Engage actively in conferences, seminars, and forums to exchange experiences and insights, thereby contributing to the worldwide conversation on sustainable development.

Longitudinal Studies

Recommendation 10: Carry out longitudinal research to monitor the lasting effects of the GPMS across long durations.

Implementation Strategy: Devise research initiatives that track the projects after the initial implementation phase, documenting the long-term impacts of green procurement on sustainability indicators. These studies allow for the evaluation of the durability and resilience of environmentally conscious procurement practices, while also providing insights into the ongoing relevance of the GPMS.

To sum up, these recommendations act as a strategic roadmap for enhancing and fine-tuning the application of green procurement practices in economic transformation projects funded by IFAD in Gilgit-Baltistan. The acceptance of these recommendations will allow future projects to bolster their commitment to responsible development practices, stakeholder engagement, and environmental sustainability.

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Appendix

Abbreviations

1. **IFAD:** International Fund for Agricultural Development
2. **ITCILO:** International Training Center, International Labor Organization
3. **ETI-GB:** Economic Transformation Initiative Gilgit Baltistan
4. **GoP:** Government of Pakistan
5. **GoGB:** Government of Gilgit Baltistan
6. **PPRA:** Public Procurement Regulatory Authority
7. **GPMS:** Green Procurement Management System
8. **EIAs:** Environmental Impact Assessments
9. **KPIs:** Key Performance Indicators
10. **BIM:** Building Information Modeling
11. **GIS:** Geographic Information System
12. **UK:** United Kingdom
13. **GDP:** Gross Domestic Product
14. **CSR:** Corporate Social Responsibility
15. **SCM:** Supply Chain Management