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The Availability of Applied Science Collections as Support for Social Inclusion-Based Library Programs: A Case Study at the Padang Panjang Library and Archives Office

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ABSTRACT
This study examines the availability and local relevance of applied science collections at the Padang Panjang Library and Archives Office (DPK Padang Panjang) and considers their implications for social inclusion-based library programs. A qualitative case study used non-participant observation, semi-structured interviews with seven informants, and document analysis. Collection records listed 3,836 applied science items out of 31,446 items (12.2%). Observations and comparison with local potential identified gaps in materials on Minangkabau culinary practices, pandan and songket weaving, religious and cultural tourism, urban farming, and small-scale food processing. Five constraints emerged: limited procurement funding, no regular needs mapping, limited subject-specific staff expertise, weak stakeholder collaboration, and restricted access to locally relevant publications. The findings suggest that these gaps create challenges for providing ongoing reference support for social inclusion activities; the study did not measure direct effects on community welfare. Recommended actions include needs mapping, locally responsive acquisition policies, stakeholder collaboration, improved digital access, staff development, and collection-based literacy programs.

INTRODUCTION

Social Inclusion-Based Library Transformation (TPBIS) positions public libraries as spaces for learning and community empowerment, not merely as places to access reading materials (Handayani & Suriyadi, 2025; Erlin & Nelisa, 2025). For this role to be meaningful, library services and collections need to respond to the information needs and economic activities of the communities they serve. Applied science collections such as materials on food processing, crafts, agriculture, appropriate technology, and entrepreneurship can provide practical knowledge that supports skills development and local initiatives (Hidayah, 2025; Soo & Inawati, 2025).

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Social inclusion-based libraries play an important role in supporting community empowerment by providing information resources that are relevant to local needs and potential. The development of collections related to practical skills, entrepreneurship, food processing, and handicrafts can help support learning activities and community economic empowerment. However, the availability of collections that meet local needs remains a challenge in the implementation of social inclusion-based library programs (Azlin, 2022).

Collection development therefore needs to be informed by evidence about users' needs and local potential, rather than relying only on established acquisition patterns (Bixler & Barnes, 2021; Meyer, 2022). Previous studies have discussed relationships between collection relevance, accessibility, and library use, as well as the role of libraries in supporting community learning (Khoir et al., 2022; Sukaesih et al., 2023). However, the available literature provides limited detail on how the subject-level content of applied science collections aligns with the specific economic and cultural potential of a regional community such as Padang Panjang. This study addresses that gap by examining (1) the availability and local relevance of applied science collections, (2) factors that constrain their development, and (3) implications for social inclusion programs. The findings are intended to inform collection planning at DPK Padang Panjang; as a single-case study, they are not intended to represent all regional libraries.

METHODS

This study used a qualitative single-case study design to examine applied science collections at the Regional Library and Archives Office (DPK) of Padang Panjang City (Yin, 2018; Creswell & Poth, 2018). The site was selected because DPK Padang Panjang implements the Social Inclusion-Based Library Transformation Program (TPBIS), serves a community with varied local potential, and preliminary observations indicated a mismatch between that potential and the available collections. The study took place from January to June 2026. Preparatory work was completed in January, fieldwork from February to April, and analysis and writing from May to June.

Informants were selected purposively based on their knowledge of collection development or TPBIS implementation and their willingness to participate (Patton, 2015). Seven people participated: the head of DPK Padang Panjang (one), librarians (two), collection/procurement staff (one), and library users (three). Data collection ended when the seventh interview yielded no new themes, with the assessment checked against observation notes and documents (Guest et al., 2006; Saunders et al., 2018).

Data were collected through non-participant observation, semi-structured interviews, and document analysis. Ten observation visits of two to four hours were conducted on different days and at different times between February and April 2026. Observations focused on collection quantity, subject coverage, publication years, physical condition, arrangement, accessibility, and use in library services. Interviews lasted 60–90 minutes, were audio-recorded with consent, and transcribed verbatim. Documents included collection catalogs and statistics, procurement reports and budgets, annual reports from the previous three years, collection-development guidelines, and TPBIS planning documents. These sources were compared to identify converging and differing evidence.

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The researcher served as the main research instrument, supported by observation and interview guides, a collection-inventory checklist, audio recordings, photographs, and field notes. Data were analyzed using the interactive model of data reduction, data display, and conclusion drawing/verification (Miles et al., 2014). Initial coding was followed by grouping related codes into categories and synthesizing them into four themes: collection availability and composition; factors limiting collection development; implications for social inclusion programs; and development strategies. Coding decisions were documented, and the interpretation was checked against multiple data sources.

Trustworthiness was supported through source and method triangulation, member checking, prolonged engagement, and peer debriefing (Denzin & Lincoln, 2018; Lincoln & Guba, 1985). Preliminary interpretations were discussed with three key informants in April 2026 and the final findings were checked with them in June. Two research colleagues with qualitative-research and library-science experience reviewed the instruments, emerging themes, and conclusions. Feedback was incorporated where it clarified the meaning of the data.

RESULTS

1. Availability of Applied Science Collections at DPK Padang Panjang

The collection statistics reviewed in April 2026 listed 31,446 items in total, of which 3,836 were classified as applied science. This equals approximately 12.2% of the total collection, calculated as (3,836 ÷ 31,446) × 100. The remaining 87.8% comprised fiction, children's books, general literature, reference materials, and other subjects.

Percentage of applied science collections = (number of applied science items ÷ total collection) × 100

Collections were classified using the library's Dewey Decimal Classification (DDC) system. For this study, applied science collections were defined as materials in DDC 600–699, covering technology, medicine, engineering, agriculture, home economics, management, and related applied fields. The classification and statistics were cross-checked against shelf observations and discussed with the collection manager in March 2026.

Although the library holds some applied science materials, the calculated share of 12.2% indicates that they make up a relatively small part of the overall collection. The study did not identify a formal local benchmark for the ideal proportion; the main concern is therefore not a comparison with an assumed standard, but the limited coverage of subjects relevant to Padang Panjang's local potential.

Based on observation results conducted over 10 visits at different times and days, the available applied science collections are predominantly dominated by general agriculture books, animal husbandry, and household skills. These collections, while useful, tend to present generic knowledge that is not specifically tailored to the unique characteristics and conditions of Padang Panjang. The agriculture books, for instance, discuss general farming techniques that are more applicable to rural agricultural settings rather than the urban and peri-urban agricultural context that characterizes Padang Panjang. Similarly, the household skills books cover basic domestic competencies without addressing the specific skills needed to develop local products with commercial value.

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The observation also revealed that collections specifically discussing the local potential of Padang Panjang and its surrounding areas remain very limited. Padang Panjang, which is historically and culturally significant as a center of Minangkabau education and religion, known for its culinary potential (rendang, nasi kapau, and various traditional snacks), weaving crafts (pandan and songket), and religious tourism sector (Islamic boarding schools and religious tourism sites), has not been supported by adequate applied science collections that could help community members develop and commercialize these potentials. The library shelves contain few, if any, books on Minangkabau culinary techniques, traditional weaving methods, or tourism management that could directly benefit local entrepreneurs and craftspeople.

The predominance of general materials suggests that collection development has not yet been consistently aligned with the local-context emphasis of TPBIS. The findings point to a gap between the program's community-empowerment aims and the current subject coverage of the collection (Handayani & Suriyadi, 2025).

This finding is consistent with Chalik and Samosir (2022), who discussed the challenges that limited welfare-oriented collections can pose for library services in village and regional settings. Their work also highlights the importance of practical information resources in supporting community welfare initiatives. Ramadhani and Marlini (2026) reported an average score of 2.96 on a five-point scale for user perceptions of collection indicators in social inclusion programs in West Sumatra. This score provides context for the need to examine collection relevance and development; it is not treated here, on its own, as a categorical measure of user dissatisfaction.

Overall, the collection profile remains closer to that of a general public library than to a locally tailored resource supporting practical learning and community initiatives. This interpretation is based on the observed subject coverage and the gaps summarized in Table 1.

2. Gap Analysis of Collection Based on Local Potential

A comparison between Padang Panjang's documented local potential and the available applied science collections indicates gaps in subject coverage. This comparison was conducted by identifying key sectors of local potential through a literature review and stakeholder interviews, then comparing these sectors with the library's collection inventory. Table 1 summarizes the observed alignment between local potential and the availability of applied science collections.

Table 1. Gap Analysis of Applied Science Collections Based on Local Potential

Local Potential	Available Collections	Gap
Minangkabau culinary (rendang, nasi kapau, traditional snacks)	General recipe books (very limited quantity)	No specific collection on Minangkabau culinary techniques, preservation methods, or commercialization
Pandan and songket weaving crafts	General craft collections (mostly non-regional crafts)	Lack of collections on regional weaving techniques, natural dyeing methods, and product development
Religious and cultural tourism (Islamic boarding schools, cultural sites)	No specific collection on tourism management	Total gap with no relevant resources available

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Urban agriculture (home gardening, vertical farming)	General agriculture books on large-scale rural farming	Lack of urban farming, hydroponics, and vertical gardening collections
Processed food MSMEs (snack industry, catering)	General entrepreneurship collections (theoretical)	Lack of food processing techniques, food safety, packaging, and marketing for MSME scale
Traditional medicine and herbal products	Very limited general herbal books	No collections on local medicinal plants and traditional health practices

The gap analysis indicates that, for several categories of local potential, the library has either very few directly relevant collections or materials that are general in scope. For example, the observed collection did not appear to provide substantial coverage of techniques for preparing traditional dishes, preserving traditional foods for commercial distribution, or marketing culinary products to broader markets. These gaps suggest opportunities to strengthen the collection's practical relevance to local learning and enterprise needs.

The limited coverage of weaving crafts may reduce the availability of library-based reference materials on design innovation, quality improvement, and market access for artisans. Similarly, the observed scarcity of resources on religious and cultural tourism, urban agriculture, and small-scale food processing points to areas where the collection could be developed further. These subject gaps are relevant to Padang Panjang's local context and may constrain the library's ability to provide reference support for community learning in these areas.

This gap analysis is consistent with Soo and Inawati (2025), whose study discussed the value of collections tailored to local resources and community activities. Their research in Nagekeo Regency described locally relevant topics such as mushroom cultivation, fishery product processing, and candlenut oil production. In the present case, the limited availability of comparable locally specific materials suggests that additional resources could help community members explore and develop local potential; the present study did not measure whether such resources would directly increase income.

Furthermore, the gap analysis is consistent with Makula and Turner (2022), who argue that collection development can benefit from collaboration between libraries and local communities. The gaps identified in this study suggest that formal mechanisms for gathering community input into collection planning may be limited at DPK Padang Panjang. Greater participation could help the library identify information needs and develop collections that better reflect local knowledge and community priorities.

3. Factors Influencing Collection Limitations

Interview and observation data pointed to five related constraints on the development of applied science collections: limited procurement funding, the absence of regular needs mapping, limited subject-specific expertise among staff, weak collaboration with local stakeholders, and restricted access to locally relevant publications.

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a. Limited Collection Procurement Budget

The most frequently cited factor by informants was the limited budget available for collection procurement. According to the Head of DPK Padang Panjang and the collection manager, the annual budget allocated for collection procurement is relatively limited and has not increased significantly in recent years despite growing community needs and expanding program responsibilities. This budget is further constrained by the need to allocate funds to various collection categories. The majority of the budget is directed toward general collections such as fiction, reference materials, and children's literature, which are considered core library services required to meet basic library standards. As a result, applied science collections receive only a minimal portion of the procurement budget, making it difficult to acquire new materials in this category.

The budget limitation reflects a broader challenge faced by many regional libraries in Indonesia, where funding for collection development is often insufficient to meet both the basic reading needs of the community and the specialized requirements of social inclusion programs. This situation is compounded by the fact that applied science books, particularly those that are locally relevant and practically oriented, are often more expensive to acquire than general reading materials. The limited budget effectively creates a trade-off where the library must choose between providing a broad range of general reading materials or investing in a more focused collection of applied science resources.

b. Lack of Collection Needs Mapping Based on Local Potential

A second significant factor is the absence of a systematic mechanism for mapping local potential and community information needs on a regular basis. Informants acknowledged that DPK Padang Panjang does not have a structured process for identifying and documenting the evolving needs of its community in relation to local potential and economic development. There is no routine survey of community members to understand what skills they wish to develop or what information they need to improve their livelihoods. Similarly, there is no systematic effort to track the development of local industries and identify emerging information needs that the library could address through its collection.

The absence of such a mechanism has several consequences. First, collection development decisions are made based on assumptions about community needs rather than empirical evidence. Second, the library's collection remains reactive, responding to immediate requests rather than proactively building resources that could support long-term community development. Third, the library fails to align its collection with the actual and emerging potential of the Padang Panjang community, resulting in a gap between what the community needs and what the library provides. As a result, collection development tends to be driven by tradition (following patterns established in previous years) or by the availability of materials from vendors, rather than by a strategic assessment of community needs and local potential.

c. Limited Human Resources in Collection Development

The study found that librarians and staff responsible for collection development at DPK Padang Panjang have limited training and expertise in selecting applied science collections relevant to local potential. While the librarians have general competencies in library management and

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collection development, they lack specialized knowledge in areas such as agriculture, culinary arts, crafts, tourism, and entrepreneurship. This means that even when funds are available for acquiring applied science materials, staff may not have the expertise to identify the most appropriate and useful resources for the Padang Panjang community.

This finding aligns with Erlin and Nelisa (2025), who emphasized the critical importance of human resource competence in successful library transformation. The researchers argued that library staff must be equipped not only with traditional library skills but also with knowledge of community development, local potential, and the specific subjects relevant to community empowerment. Without such knowledge, libraries cannot effectively select, organize, or promote collections that serve community needs.

d. Minimal Collaboration with Local Communities and Stakeholders

Interviews revealed that collection development has traditionally been carried out internally by library staff without meaningful involvement of local communities, MSME actors, or related government agencies such as the Agriculture Office and the Industry and Trade Office. This closed approach to collection development means that the library has not tapped into the wealth of knowledge and resources available in the community. Local experts, successful entrepreneurs, and community organizations possess knowledge that could be documented and shared through the library's collection, but there are no formal mechanisms for capturing this knowledge.

Makula and Turner (2022) argue that collaboration with local communities in collection development ensures that local knowledge is documented and that collections are relevant to community needs. This study found that without such collaboration, the library has missed opportunities to document local knowledge, identify priority topics for collection development, and build community ownership of the library's resources. The absence of collaboration also means that the library is perceived as an external institution rather than as a community resource, reducing its effectiveness as a platform for community empowerment.

e. Limited Access to Publishers and Sources of Applied Science Collections

The study also identified that access to publishers and sources of locally-based applied science books remains limited. The publication of practical, locally-relevant applied science books in Indonesia is still concentrated in major urban centers, and distribution networks often do not reach regional libraries such as DPK Padang Panjang. Book publishers are generally reluctant to produce niche publications on local topics because of limited market demand and perceived low profitability. As a result, even when the library wishes to acquire locally-relevant applied science collections, such materials may not be available from established publishers.

This external factor represents a significant structural challenge that goes beyond the control of the library. However, the study found that DPK Padang Panjang has not actively explored alternative approaches to obtaining applied science materials, such as developing partnerships with universities, documenting local knowledge through community engagement, or utilizing digital resources. The library's dependence on traditional procurement channels limits its ability to build a collection that truly serves its community's needs.

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4. Implications of Collection Limitations for Social Inclusion Programs

Informants and observations indicated that limited applied science collections create practical challenges for social inclusion activities. The evidence points to four areas of concern: limited reference support for training, low observed use of some available materials, a continuing perception of the library mainly as a reading or study space, and limited access to practical information through the collection. These are qualitative findings about program implementation; this study did not measure their direct effects on income or household welfare.

a. Economic Empowerment Programs Are Not Optimal

Informants described challenges in providing ongoing reference support for the library's economic empowerment activities. The library organizes training and mentoring on topics such as food processing, entrepreneurship, and craft-making, but the available collection does not consistently provide related materials that participants can consult before or after these activities. According to the information gathered, trainers often rely on their own materials and expertise, while links between training sessions and relevant library resources appear limited.

For example, the observed collection offered limited supporting material on food preservation, packaging design, food safety, or marketing that could complement training on processed snacks. Similarly, the collection appeared to provide few locally relevant resources on design innovation, quality standards, or market access for pandan weaving. These examples indicate an opportunity to connect training activities with more targeted reference materials; the study did not assess training outcomes or establish that the collection gaps reduced participants' skills or business growth.

b. Low Collection Utilization by the Community

Observations during the research period suggested that the applied science collection received limited use compared with some other collection areas. The interviews and observations also indicated that users seeking practical information may turn to other sources, including the internet, community networks, or training programs offered by government agencies and NGOs. These findings point to a possible mismatch between the collection's current content and some community information needs, although this study did not establish that collection relevance alone determines use.

Limited use of the applied science collection may reflect several interacting factors, including the relevance of available materials, awareness of the collection, and users' access to alternative information sources. The present study did not test these relationships; further assessment of circulation records and user information needs would help clarify the reasons for the observed pattern.

c. The Library's Role as a Community Activity Center Is Not Yet Optimal

Handayani and Suriyadi (2025) identify the library's role as a community activity center as one aspect of social inclusion-based library transformation. The findings of this study suggest that DPK Padang Panjang has opportunities to strengthen this role by connecting its collection more closely with community development activities and practical skill-building. The current subject coverage appears to provide only a limited foundation for some of these activities.

Some community members interviewed for this study described the library primarily as a place for reading and study rather than as a resource for practical skill development or economic

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activities. This finding suggests that the library could make the connection between its collections and community programs more visible, while further engagement with users could clarify how different groups perceive and use its services.

d. Implications for Welfare Literacy

Social inclusion programs, as described by Chalik and Samosir (2022), aim to strengthen community members' ability to access, understand, and apply information relevant to their lives and welfare. The collection gaps identified at DPK Padang Panjang may limit the range of practical reference materials available for topics such as agriculture, craft quality, business development, and other livelihood activities. However, this study did not directly assess community members' skills or welfare outcomes, so these implications should be interpreted as potential constraints on information support rather than demonstrated effects on welfare.

As a public institution, the library has a responsibility to provide equitable access to information that can support learning and community development. The findings point to a need to review collection development in light of this role, particularly by identifying locally relevant information needs and assessing whether the collection adequately supports them.

5. Strategies for Developing Applied Science Collections at DPK Padang Panjang

The findings suggest six complementary strategies for DPK Padang Panjang. The priorities are to identify documented community information needs, adjust acquisition policy and budget priorities, collaborate with local stakeholders, expand access to reliable digital materials, strengthen staff expertise, and connect collections with practical literacy activities.

The first and most fundamental strategy is for the library to systematically map local potential and collection needs by involving various stakeholders in the process. This mapping should go beyond simply identifying the existing economic activities in Padang Panjang to include an analysis of the information and skills that could help community members develop these activities more effectively. The mapping should answer questions such as: What skills do local entrepreneurs need to improve their businesses? What knowledge gaps prevent community members from developing local products? What technical information would support innovation and growth in key sectors?

The mapping process should include: (a) structured consultations with community leaders, business associations, and local government agencies; (b) surveys of community members to identify their information needs and preferences; (c) analysis of economic data to identify priority sectors for intervention; and (d) assessment of existing community capacity and resources that could be leveraged. The results of this mapping would serve as the basis for determining priorities for applied science collection development, ensuring that future acquisitions directly address documented community needs.

DPK Padang Panjang needs to develop and implement collection acquisition policies that explicitly integrate considerations of cultural diversity, local relevance, and the needs of marginalized and underserved communities. Following the recommendations of Okechukwu et al. (2024), these policies should ensure that collection development decisions are guided by principles of inclusion and equity, prioritizing materials that can benefit community members who have limited access to other sources of practical information.

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Specifically, the policies should: (a) allocate a dedicated portion of the collection budget to applied science materials, with a target percentage to be achieved and maintained; (b) prioritize the acquisition of locally-relevant materials over general interest materials when choices must be made; (c) include assessment criteria that evaluate materials based on their practical utility for community development; and (d) establish protocols for identifying and acquiring materials from non-traditional sources, including community-generated knowledge and digital resources.

The library should actively pursue collaborative approaches to collection development, involving local communities, MSME actors, and related government agencies in the identification, selection, and even creation of applied science materials. As argued by Makula and Turner (2022), collaborative collection development ensures that local knowledge is documented, collections are relevant to community needs, and community members have a sense of ownership over the library's resources.

Potential collaborative activities include: (a) forming collection development advisory groups that include community representatives; (b) partnering with community organizations to document and share local knowledge; (c) collaborating with local experts and practitioners to develop training materials; (d) working with MSME associations to identify priority topics for collection development; and (e) establishing partnerships with the Agriculture Office, Industry and Trade Office, and other government agencies to access and share relevant information resources.

The limitation of print collections can be effectively addressed through optimizing information technology to expand access to applied science information. Following the example of agricultural libraries described by Yanto et al. (2023), DPK Padang Panjang should develop virtual services and digital collections that provide access to a wider range of applied science resources than could be physically held by the library.

The technology optimization strategy should include: (a) developing an e-library platform with digital collections of applied science materials, including e-books, videos, and instructional materials; (b) providing access to online journals and databases on agriculture, food processing, crafts, and entrepreneurship; (c) utilizing social media to share practical information and tips with the community; (d) developing institutional repositories to document and share local knowledge; and (e) providing guidance and training to community members on accessing and using online information resources.

Librarians and collection managers need to have their capacity improved in identifying, selecting, and developing applied science collections that are relevant to local potential and community needs. This capacity building should address both technical skills (e.g., knowledge of specific subject areas, collection evaluation techniques) and conceptual understanding (e.g., principles of social inclusion, community development approaches).

Capacity building activities should include: (a) training and workshops on collection development based on local potential, with a focus on the specific sectors relevant to Padang Panjang; (b) opportunities for professional development in subject areas such as agriculture, entrepreneurship, and craft development; (c) study visits to libraries that have successfully developed applied science collections; and (d) establishing linkages with universities and research institutions that can provide technical expertise and resources.

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Finally, applied science collections should be integrated into structured literacy programs that help community members develop practical skills and apply knowledge to improve their livelihoods. Following the examples described by Hidayah (2025), Samosir et al. (2024), and Soo and Inawati (2025), these programs should combine access to collections with training, mentoring, and practical application.

The literacy programs could include: (a) entrepreneurship literacy programs that use applied science collections as learning materials for starting and growing small businesses; (b) urban agriculture literacy programs that provide information and support for home gardening, hydroponics, and small-scale food production; (c) culinary literacy programs that teach food processing, preservation, and product development techniques; (d) craft literacy programs that develop skills in traditional crafts while introducing innovation and quality improvement; and (e) tourism literacy programs that build knowledge and skills for participating in the tourism sector.

DISCUSSION

The main finding is a mismatch between the local potential of Padang Panjang and the content of the applied science collection. The inventory records 3,836 applied science items out of 31,446 items (12.2%). Beyond this limited share, the observed materials were often general in scope and did not adequately address local culinary products, pandan and songket weaving, religious and cultural tourism, urban farming, or small-scale food processing. The issue is therefore both the amount of applied science material and its relevance to local information needs.

This pattern supports the view that collection development should be guided by a systematic assessment of community needs. In this case, the lack of locally specific materials appears alongside the absence of routine needs mapping and limited participation by community members in acquisition decisions. These findings are consistent with Chalik and Samosir (2022) and Erlin and Nelisa (2025), while adding a more detailed account of subject-level gaps at DPK Padang Panjang.

The five constraints identified in the study are interrelated. Limited funding narrows acquisition options; without regular needs mapping, available funds may not be directed to the most relevant topics; limited subject expertise makes selection harder; weak collaboration reduces access to local knowledge; and restricted publisher access limits the supply of suitable materials. Addressing only one constraint is therefore unlikely to resolve the mismatch.

The findings also indicate that collection gaps make it harder for the library to provide continuing reference support alongside training and mentoring. However, because this study did not measure participant outcomes quantitatively, the results should be interpreted as evidence of implementation challenges rather than proof that collection limitations directly caused changes in community welfare.

This study confirms and extends the findings of previous research in several important ways. The finding of limited applied science collections is consistent with Chalik and Samosir (2022), who identified this as a common challenge in Indonesian libraries. However, the present study provides a more detailed analysis of the specific nature of these limitations, documenting the types of materials that are lacking and the specific gaps between available resources and community needs. This level of detail is important because it provides concrete guidance for collection improvement efforts.

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Ramadhani and Marlini (2026) reported an average score of 2.96 on a five-point scale for user perceptions of collection indicators in social inclusion programs in West Sumatra. This provides relevant context for continued attention to collection development. The present study identifies subject-level gaps that may help frame further investigation into how collection relevance relates to user perceptions; however, the two studies do not establish a direct causal relationship between the collection gaps identified here and the score reported by Ramadhani and Marlini.

The identification of human resource competence as a factor limiting collection development is consistent with the emphasis by Erlin and Nelisa (2025) on the importance of competent staff in successful library transformation. However, the present study extends this understanding by identifying specific competence gaps, such as limited knowledge of local potential and the ability to select appropriate applied science materials.

The collaborative collection development approach recommended in this study builds on the work of Makula and Turner (2022), who advocated for collaboration between libraries and local communities to ensure that knowledge is documented and collections are relevant. The present study applies this framework to the specific context of a regional library in Indonesia and provides concrete examples of how collaboration could be implemented in this context.

The technology optimization strategy recommended in this study is informed by the work of Yanto et al. (2023), who described how agricultural libraries in Indonesia have expanded their reach through virtual services and information technology. However, the present study emphasizes that technology should be used not as a substitute for developing local collections but as a complement that expands access while the physical collection is being improved. This balanced approach is particularly important for regional libraries that must serve communities with varied levels of access to technology.

Theoretically, the findings support a contextual view of social inclusion-based library transformation: collection relevance, staff capacity, service design, and community participation need to be considered together. The contribution of this case is to show how the mismatch between local potential and collection content can be described at the level of specific subjects and practical information needs. This extends the framework discussed by Erlin and Nelisa (2025) without implying that collection content alone determines program success.

For DPK Padang Panjang, the immediate practical step is to establish a documented needs-mapping process and use its results to set acquisition priorities. A working group involving librarians, community representatives, micro and small business actors, and relevant government agencies could help identify high-priority topics and potential sources of materials. The library could then review progress through indicators such as local-topic coverage, circulation or access data, and use of collections in literacy activities.

Community collaboration can help the library identify locally held expertise and materials that commercial publishers may not provide. With appropriate permission and quality checks, local knowledge could be documented as guides, interviews, videos, or other learning resources.

Collections should also be linked to the library's training and literacy activities. For example, sessions on food processing, crafts, urban farming, or entrepreneurship can include selected print and digital resources that participants can consult after the session.

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The findings also provide a basis for reviewing budget priorities. Rather than prescribing an unsupported fixed percentage, DPK Padang Panjang could set a dedicated allocation after mapping needs, assessing available resources, and establishing measurable collection-development targets.

This is a single-case study, so its findings are context-specific and should not be generalized directly to other libraries. The study also did not quantify the relationship between collection availability and community welfare, and its six-month period may not capture longer-term changes. Finally, it focused on applied science collections rather than all resources that may support TPBIS, including broader digital services and community archives.

Future research could compare several libraries, measure the relationship between collection relevance and program outcomes, evaluate community-participation models in collection development, and follow collection use over time.

CONCLUSIONS

This study found that applied science collections at DPK Padang Panjang comprise 3,836 of 31,446 items, or approximately 12.2% of the total collection. The available materials are often general in scope and do not adequately cover several areas of local potential, including Minangkabau culinary practices, pandan and songket weaving, religious and cultural tourism, urban farming, and small-scale food processing.

Five connected factors help explain these gaps: limited procurement funding, the absence of systematic needs mapping, limited subject-specific staff expertise, weak collaboration with communities and stakeholders, and restricted access to locally relevant publications. The findings suggest that these gaps complicate the use of library collections to support training and social inclusion activities. The study does not, however, quantify their direct effects on community income or welfare.

The study recommends six linked actions: map community information needs; align acquisition policy and budgets with local priorities; collaborate with community groups, businesses, and government agencies; expand access to suitable digital resources; strengthen staff capacity; and integrate collections into practical literacy programs. Because this is a single-case study, the recommendations should be adapted to local conditions and assessed through collection relevance, use, and program participation.

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