

Research Article

Navigating Curricular Mandates in Peripheral Classrooms: Teachers' Perceptions of Curriculum 2013 Implementation in Rural Indonesian Schools

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ABSTRACT

Curriculum reform in developing countries frequently encounters substantial implementation gaps, particularly in geographically and socioeconomically peripheral settings. Indonesia's Curriculum 2013 (Kurikulum 2013, K-13) introduced sweeping pedagogical changes, mandating student-centered learning, integrated thematic instruction, and competency-based assessment across the national school system. Yet the lived experiences of teachers working in rural schools as they navigate these policy demands remain insufficiently examined in the existing literature. This study investigates how teachers in rural Indonesian schools perceive the implementation of Curriculum 2013, exploring the specific challenges they encounter, the adaptive strategies they develop, and the ways in which rural school conditions mediate instructional practice. Employing a descriptive qualitative approach, the study was conducted across four rural primary and junior secondary schools in a peripheral district of Aceh Province, Indonesia. Data were generated through semi-structured interviews with fifteen teachers, non-participant classroom observations, field notes, and curriculum document analysis over six months of fieldwork. Thematic analysis following the framework of Miles, Huberman, and Saldana (2014) was applied to identify recurring patterns across participants. Findings reveal that while teachers broadly affirm the philosophical intentions of Curriculum 2013, they report persistent tensions between policy expectations and the material realities of rural schooling, including inadequate facilities, constrained professional development access, and heavy administrative burdens. Teachers nonetheless demonstrate considerable adaptive ingenuity, yet systemic constraints curtail the depth of pedagogical transformation achievable under prevailing conditions. These findings carry significant implications for curriculum policy design, teacher professional development programs, and educational equity in rural contexts across Indonesia and comparable national settings.

Keywords: Curriculum 2013; rural education; teacher perceptions; curriculum implementation; educational reform

1. INTRODUCTION

Curriculum reform has emerged as a central instrument of educational modernization across the globe, reflecting state ambitions to cultivate economically competitive, critically minded, and nationally cohesive citizens (Apple, 2014; Fullan, 2015; Ornstein & Hunkins, 2013). In developing country contexts, however, the space between policy intention and classroom reality frequently expands into what Spillane (2004) describes as a “standards deviation”, a condition in which ambitious mandates are systematically reshaped, diluted, or redirected by institutional, social, and material conditions at the school level. The study of this implementation gap therefore demands sustained empirical attention, particularly in settings where the distributional effects of curriculum change are sharpest and where researchers have historically paid the least attention: rural and peripheral school communities (Azano, 2011; McLaughlin, 2010).

Indonesia presents an especially instructive case. Home to approximately 270 million people spread across more than 17,000 islands, the country has undertaken successive rounds of curriculum reform since independence, each reflecting shifting political and economic priorities (Reimers & Chung, 2016). The most recent and far-reaching of these initiatives, Curriculum 2013 (Kurikulum 2013, hereafter K-13), was introduced nationally in 2013 and subsequently revised in 2016. K-13 marked a substantive departure from its predecessor by foregrounding student-centered, thematic, and integrative pedagogy, competency-based assessment aligned with higher-order thinking skills, and a comprehensive character

education framework drawing on national values (Ministry of Education and Culture of Indonesia, 2013). These commitments placed new and demanding expectations on teachers throughout the country, regardless of the institutional resources available to them.

The ambition embedded in K-13 must be understood in light of Indonesia's persistent educational inequalities. Despite substantial improvements in enrollment rates and national literacy figures over the past two decades, access to quality education remains deeply uneven between urban centers and rural peripheries (UNESCO, 2015; World Bank, 2014). Rural schools frequently contend with underfunded physical infrastructure, a shortage of qualified teachers, limited access to curriculum support materials, and geographic isolation that constrains professional development opportunities (Darling-Hammond, 2010; Hargreaves & Fullan, 2012). When a reform of K-13's complexity is introduced into these settings, the assumptions embedded in the policy, including access to digital resources, manageable class sizes, and technically capable teachers, may themselves constitute additional sources of institutional strain.

Teacher perception occupies a pivotal position in the sociology of curriculum implementation. Decades of research have established that teachers are not passive conduits for policy mandates; rather, they actively interpret, negotiate, and reconstruct curricular prescriptions in light of their professional knowledge, prior experiences, institutional contexts, and personal beliefs about learning (Priestley, Biesta, & Robinson, 2015; Hargreaves & Shirley, 2012). Where teachers perceive a curriculum reform as philosophically coherent and practically achievable, implementation tends to be more consistent and more transformative (Timperley, 2011). Where they encounter significant mismatches between policy demands and available resources, or between new pedagogical models and deeply held professional beliefs, they are more likely to engage in surface compliance, symbolic adoption, or pragmatic resistance (Fullan, 2015; Coburn & Penuel, 2016).

The demands of K-13 are particularly salient in this regard. The shift toward student-centered learning requires teachers to relinquish considerable control over the pace and content of instruction, facilitate collaborative inquiry, and manage formative assessment processes that are far more complex than conventional examination-based models. According to Remillard and Heck (2014), curriculum enactment involves a recursive interplay between policy intentions, teacher interpretations, instructional materials, and the immediate demands of classroom life. In rural settings where these resources are scarce and where many teachers received their professional preparation under very different pedagogical paradigms, this interplay generates particular tensions that merit close investigation.

The administrative demands of K-13 compound these challenges. Teachers under the new curriculum are required to produce detailed lesson plans (RPP), maintain comprehensive assessment portfolios, document student progress across multiple competency domains, and fulfill reporting obligations to school principals and district education offices (Ministry of Education and Culture of Indonesia, 2013). Research on teacher workload in Indonesia has consistently identified administrative burden as a significant source of professional stress, particularly in under-resourced contexts where teacher support systems are limited (Schleicher, 2011). The cumulative effect of these demands on teachers' capacity to invest in genuine pedagogical innovation deserves careful examination.

Despite the breadth of scholarship on educational reform in Indonesia, existing studies have tended to focus on urban or semi-urban settings, on quantitative outcome measures, or on system-level policy analysis (Ball, 2012; UNESCO, 2015). The qualitative perspectives of rural teachers, those who work in the most constrained institutional environments and whose voices are least represented in educational research, remain markedly underexplored. This lacuna constitutes the central research gap that this study addresses. Understanding how rural teachers experience and respond to K-13 is not simply an exercise in academic description; it is a necessary condition for designing more effective, equitable, and contextually sensitive curriculum policy.

Conceptually, this study draws on educational change theory (Fullan, 2015), teacher agency theory (Priestley et al., 2015), and rural education scholarship (Azano, 2011; Howley & Howley, 2010) to frame the analysis. These theoretical resources collectively illuminate how curriculum reform is mediated by the ecological conditions of schooling, including physical environment, professional culture, institutional history, and community context. Rather than evaluating implementation success or failure against a fixed policy standard, this study adopts an interpretive stance that foregrounds teachers' own sense-making as the primary object of inquiry.

This study is guided by four principal research questions: How do teachers in rural schools perceive the philosophical goals and practical requirements of Curriculum 2013? What specific challenges do they encounter during curriculum implementation? How do rural school conditions shape and constrain instructional practices under K-13? And what forms of adaptive strategy do teachers develop in response to curriculum demands? Together, these questions orient the inquiry toward a grounded, contextually sensitive understanding of curriculum implementation as it unfolds in peripheral Indonesian classrooms. The following sections present the theoretical landscape, methodological design, empirical findings, and policy implications of this investigation.

2. LITERATURE REVIEW

2.1 Curriculum Reform in Developing Countries

Curriculum reform in developing countries is rarely reducible to a straightforward technical process of policy dissemination. As Apple (2014) has argued, curriculum represents not simply a list of instructional objectives but a selective tradition, a socially contested construction of what knowledge is considered most legitimate and most worth teaching. In the developing world, the politics of curriculum selection are intensified by the intersection of colonial educational legacies, donor-driven reform agendas, and nationalist aspirations for economic development (Ball, 2012; Reimers & Chung, 2016). Curriculum changes are therefore simultaneously pedagogical interventions and political acts, generating institutional responses that are shaped as much by power dynamics as by technical capacity.

The implementation of curriculum reform in developing countries is further complicated by what Fullan (2015) identifies as the complexity of educational change. He argues that educational systems are not merely complicated structures amenable to engineering solutions, but genuinely complex adaptive systems in which interventions produce emergent, often unpredictable outcomes. Reform success depends on alignment across multiple levels, including policy design, institutional culture, teacher capacity, and community support, in ways that are frequently absent in resource-constrained national systems. This complexity is magnified when reforms are ambitious in their pedagogical demands, as in the case of K-13, and when they are introduced rapidly and without sufficient teacher preparation (McLaughlin, 2010; Timperley, 2011).

Research across several developing country contexts, including Sub-Saharan Africa, South and Southeast Asia, and Latin America, has identified a recurring pattern in which progressive curriculum reforms produce demonstrable improvement in urban flagship schools while leaving rural and peripheral institutions largely unchanged (UNESCO, 2015; World Bank, 2014). This pattern reflects structural inequalities in teacher quality, professional development access, material resources, and community engagement that curriculum policy alone is insufficient to address. In the Indonesian context, the history of curriculum reform, from Curriculum 1994 through KTSP and into K-13, shows a consistent tendency toward over-ambitious policy design followed by uneven implementation that replicates rather than reduces educational inequality (Ministry of Education and Culture of Indonesia, 2013; Ornstein & Hunkins, 2013).

2.2 Teacher Perceptions and Educational Change

The study of teacher perceptions constitutes a mature but continuously evolving field within educational research. Foundational work on teacher beliefs established that teachers hold relatively stable, subjectively structured knowledge systems about the nature of learning, the purpose of schooling, and appropriate pedagogical practice, and that these belief systems profoundly mediate their engagement with reform initiatives (Hargreaves & Fullan, 2012; Priestley et al., 2015). Reforms that align with teachers' existing belief systems tend to produce deeper and more sustained instructional change, while those that require fundamental reorientation of professional identity frequently generate resistance, superficial compliance, or selective adoption.

Priestley, Biesta, and Robinson (2015) have theorized teacher response to reform through the concept of teacher agency, understood as the capacity of teachers to act purposefully and constructively in relation to the demands placed upon them. Agency in this sense is not a fixed property of individual teachers but an emergent achievement, enabled or constrained by the ecological conditions of schooling, including the physical environment, institutional culture, professional relationships, and policy context. In settings where teachers' agency is constrained by material scarcity, professional isolation, or hierarchical accountability pressure, the quality of curriculum implementation is predictably compromised. This theoretical framework is particularly germane to the rural school context, where structural constraints on teacher agency are pervasive.

Hargreaves and Shirley (2012) have further argued that sustainable educational change requires what they term "professional capital", an accumulation of human capital (individual knowledge and skills), social capital (collegial trust and collaborative learning), and decisional capital (professional judgment developed through experience). In many rural Indonesian schools, each of these capital forms is in short supply: teachers may have received inadequate initial preparation, work in professional isolation, and have had insufficient experience with student-centered pedagogies to exercise confident instructional judgment. Without deliberate investment in professional capital development, the transformative goals of K-13 remain aspirational rather than operational for large portions of the rural teaching force.

2.3 Rural Schools and Educational Inequality

Rural education scholarship has documented persistent and multidimensional inequalities between rural and urban schooling contexts across a range of national settings (Azano, 2011; Howley & Howley, 2010). These inequalities manifest not only in material dimensions, such as physical infrastructure, library and laboratory resources, and digital connectivity, but also in less visible dimensions including teacher retention rates, professional community formation,

curricular breadth, and parental educational capital. The compound effect of these disadvantages creates what Howley and Howley (2010) describe as an accumulation of educational poverty, a condition in which material deprivation, professional isolation, and community marginalization reinforce one another in ways that are difficult to address through any single policy intervention.

In the Indonesian archipelago, rural educational disadvantage has a pronounced geographic and ethnic dimension. Schools in remote districts of Sumatra, Kalimantan, Papua, and Nusa Tenggara face qualitatively different challenges from those in Java or Bali, including not only resource scarcity but also the cultural and linguistic distance between centrally designed curricula and locally lived experience (World Bank, 2014; Reimers & Chung, 2016). K-13's emphasis on character education and national values, while nationally coherent in aspiration, may produce tensions in regions where community identities are grounded in distinct cultural and linguistic traditions. This dimension of rural educational inequality, too often neglected in curriculum reform scholarship, adds further complexity to the implementation challenges documented in this study.

2.4 Curriculum 2013 and Student-Centered Pedagogy

Student-centered learning, the pedagogical cornerstone of K-13, has its theoretical roots in constructivist accounts of cognitive development, most influentially in the work of Vygotsky (1978), whose concept of the zone of proximal development provided a scientific basis for collaborative, scaffolded learning. In K-13, constructivist principles are operationalized through the "5M" (5 M) learning approach: observing, questioning, associating, experimenting, and communicating (Ministry of Education and Culture of Indonesia, 2013). This approach represents a significant departure from the teacher-centered, chalk-and-talk pedagogies that have historically dominated Indonesian classrooms and that continue to be reinforced by high-stakes national examinations.

The evidence base for student-centered learning in developing country contexts is more mixed than its advocates sometimes acknowledge. Remillard and Heck (2014) note that the enactment of student-centered curricula depends heavily on teachers' own conceptual understanding of the underlying pedagogical theory, their comfort with managing open-ended inquiry, and their capacity to design appropriate learning tasks and assessment instruments. Where these preconditions are absent, student-centered mandates can produce classroom confusion rather than cognitive engagement. International research on inquiry-based and collaborative learning in under-resourced settings consistently emphasizes the need for sustained, school-based professional learning rather than one-off training events as the primary vehicle for pedagogical transformation (Timperley, 2011; Darling-Hammond, 2010).

2.5 Challenges of Policy Implementation in Rural Education

The implementation of educational policy in rural schools confronts a distinct configuration of institutional challenges that urban-centric policy frameworks routinely underestimate. McLaughlin (2010) has documented, across decades of policy implementation research, the recurrent finding that local capacity and will are more decisive determinants of implementation quality than policy design or technical prescription. In rural settings, both capacity and will are shaped by conditions that lie largely outside the control of individual schools or teachers: geographic isolation, community economic conditions, teacher recruitment difficulties, and the historical legacy of neglect in national educational investment.

Coburn and Penuel (2016) have argued that research-practice partnerships offer one productive mechanism for bridging the gap between policy ambition and local implementation reality, but such partnerships remain rare in rural Indonesian contexts. More commonly, teachers in rural schools receive their only professional development through district-level training workshops (*pelatihan*) that are irregularly scheduled, of variable quality, and frequently disconnected from the day-to-day challenges of classroom implementation. The cumulative effect is a professional development system that produces surface familiarity with K-13 terminology while leaving the deeper pedagogical transformations largely unrealized. Addressing this systemic failure requires not incremental adjustment of existing professional development models but a fundamental rethinking of how teacher learning is supported in peripheral institutional settings (Hargreaves & Fullan, 2012; Schleicher, 2011).

3. METHOD

3.1 Research Design

This study adopts a descriptive qualitative research design, which Creswell and Poth (2018) define as an approach oriented toward the thick, naturalistic description of social phenomena in their contextual specificity, without the imposition of a priori theoretical categories on participants' meanings. Descriptive qualitative research is epistemologically grounded in the interpretive paradigm, which posits that social reality is constituted through the meaning-making practices of social actors and that the researcher's primary task is to access, describe, and interpret

these practices with appropriate rigor and reflexivity (Denzin & Lincoln, 2011). This design is well suited to the present inquiry, in which the complexity of teachers' perceptions of curriculum reform cannot be adequately captured through quantitative instruments or predetermined coding frameworks.

3.2 Research Setting and Participants

The study was conducted in four schools, two primary schools (Sekolah Dasar) and two junior secondary schools (Sekolah Menengah Pertama), located in a rural district of Aceh Province, Indonesia. The district was selected purposively on the basis of its geographic peripherality, its limited access to professional development infrastructure, and its representative character as a site of K-13 implementation under conditions of institutional constraint. All four schools had been officially implementing K-13 since the national roll-out in 2013 and had received basic training support from the district education office.

Fifteen teachers participated in the study, selected through purposive sampling aimed at maximizing variation in years of teaching experience, subject area taught, gender, and school level. Purposive sampling in qualitative research is designed not for statistical representativeness but for conceptual richness, ensuring that the range of perspectives relevant to the research questions is adequately represented in the data (Miles, Huberman, & Saldana, 2014). Participants had between three and twenty-two years of teaching experience and ranged in age from 27 to 52 years. Demographic characteristics of participants are presented in [Table 1](#). Informed consent was obtained from all participants and from school principals prior to data collection. Participant confidentiality was maintained through the use of alphanumeric codes (T1 through T15) in all data transcripts and analytical records. The study conformed to the ethical guidelines of the researchers' institution and to Indonesian national research ethics standards.

Table 1. Participant Demographics

No.	Gender	Age	Education Level	Experience (yrs)	Subject Area	School Level
T1	Female	34	S1 (Bachelor's)	8	Thematic / Primary	Primary (SD)
T2	Male	42	S1	15	Mathematics	Junior Secondary (SMP)
T3	Female	29	S1	4	Indonesian Language	Junior Secondary (SMP)
T4	Male	52	S1	22	Science / IPA	Junior Secondary (SMP)
T5	Female	37	S1	11	Thematic / Primary	Primary (SD)
T6	Male	45	S1	18	Social Studies / IPS	Junior Secondary (SMP)
T7	Female	27	S1	3	Thematic / Primary	Primary (SD)
T8	Male	39	S1	12	English Language	Junior Secondary (SMP)
T9– T15	Mixed	28–48	S1	3–19	Various (Thematic, PKn, Agama, PJOK)	Primary & Junior Secondary

Note. S1 = Strata 1 (undergraduate degree); SD = Elementary School; SMP = Junior High School.

3.3 Data Collection

Data were collected through four complementary methods over six months of sustained fieldwork. Semi-structured interviews constituted the primary source of data, enabling participants to articulate their perceptions, experiences, and interpretations of K-13 implementation in their own terms while allowing the researcher to probe emergent themes (Creswell & Poth, 2018). Each interview lasted between 45 and 75 minutes, was conducted in Bahasa Indonesia, and was audio-recorded with participants' consent. Non-participant classroom observations, totaling 42 sessions across the four schools, provided contextual data on actual instructional practices, classroom environments, and teacher-student interactions. Detailed field notes were maintained throughout the observation period, recording both descriptive and reflective commentary. Document analysis of school curriculum plans (KTSP adaptations), lesson plan archives, student assessment records, and K-13 implementation reports provided additional institutional context. Data collection procedures are summarized in [Table 2](#).

Table 2. Data Collection Procedures

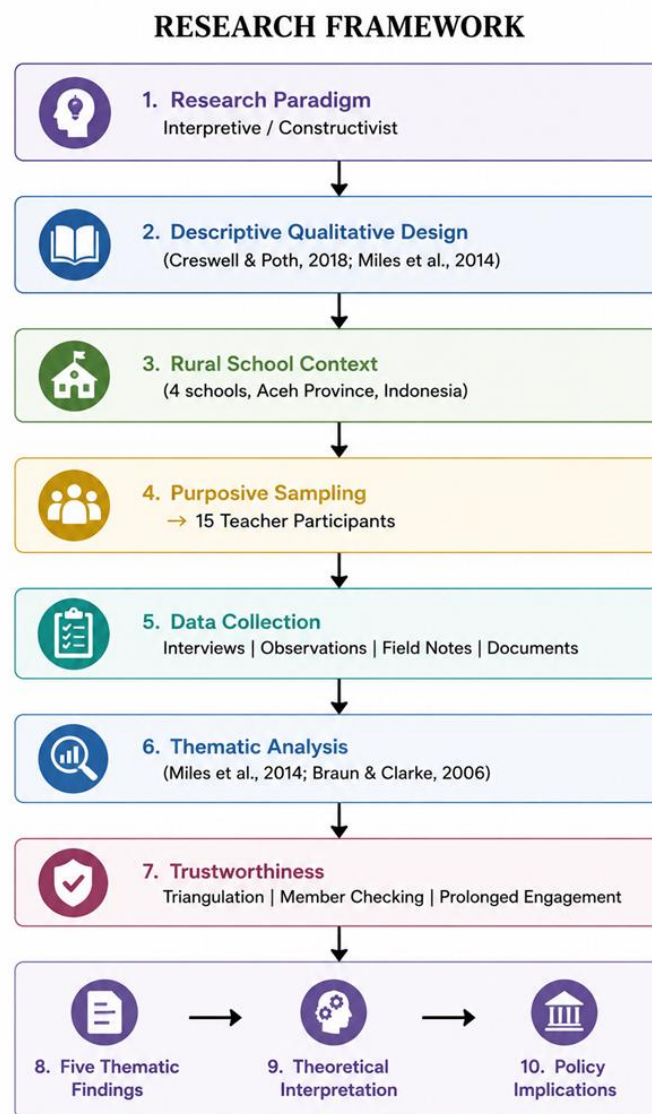
Method	Description	Duration / Volume
Semi-structured interviews	Individual, audio-recorded; Bahasa Indonesia; open + guided questions on K-13 perceptions, challenges, and strategies	45–75 min per session; 15 participants
Classroom observations	Non-participant observation of lesson delivery, student-teacher interaction, resource use, and classroom management	42 sessions; 2–4 per teacher
Field notes	Descriptive and reflective notes maintained during and after	Continuous over 6 months

	observations and school visits	
Document analysis	Review of RPP lesson plans, curriculum plans, assessment portfolios, district K-13 training records	Approx. 120 documents

Note. RPP = Rencana Pelaksanaan Pembelajaran (Lesson Implementation Plan).

3.4 Data Analysis

Data analysis followed the three-stage iterative framework proposed by Miles, Huberman, and Saldana (2014): data condensation, data display, and conclusion drawing and verification. Interview transcripts were first transcribed verbatim and translated into English by a bilingual research assistant; translations were checked by the lead researcher. Open coding was applied to all transcripts, field notes, and documentary materials, generating an initial pool of 127 codes. These were progressively refined through focused and axial coding into broader categories, and ultimately organized into five thematic clusters that form the basis of the Results section. Braun and Clarke's (2006) thematic analysis procedures informed the iterative movement between data and emerging themes, emphasizing semantic and latent levels of meaning. Analytical memos were maintained throughout to document interpretive decisions and enhance the dependability of the analysis. Trustworthiness was established through triangulation across data sources and methods, member checking with six participants who reviewed preliminary findings, and prolonged engagement in the field (Lincoln & Guba, 1985). The research framework is depicted in **Figure 1**.



Note. Arrows indicate the sequential and iterative relationship between research phases.

Figure 1. Research Framework

4. RESULTS AND DISCUSSION

Analysis of the interview corpus, classroom observations, and documentary data yielded five thematic findings that together constitute a comprehensive account of teachers' perceptions of K-13 implementation in the rural Acehnese school context. These themes are: (1) principled endorsement with practical skepticism; (2) the administrative overload dilemma; (3) pedagogical transformation constrained by material conditions; (4) rural infrastructure as a structural barrier; and (5) teacher adaptive strategies and professional resilience. The curriculum implementation process as experienced by participants is modeled in **Figure 2**. Coding categories and associated themes are presented in **Table 3**.

CURRICULUM IMPLEMENTATION PROCESS: RURAL SCHOOL MODEL

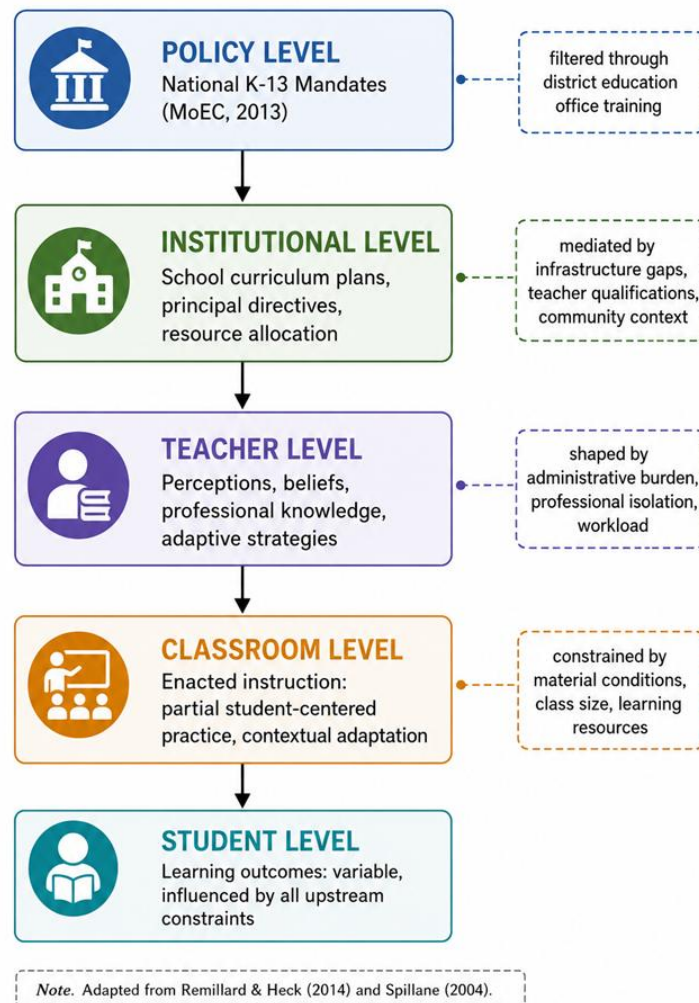


Figure 2. Curriculum Implementation Process in Rural Schools

Table 3. Coding Categories and Themes

Initial Code Examples	Category	Theme
Active learning, student inquiry, group work, discovery learning	Endorsement of K-13 philosophy	1. Principled endorsement with practical skepticism
RPP preparation, portfolio documentation, reporting tasks, time pressure	Administrative workload burden	2. The administrative overload dilemma
Whiteboard use, lack of projector, no internet, limited textbooks	Pedagogical adaptation under constraint	3. Pedagogical transformation constrained by material conditions
School building condition, electricity access, road access, library	Physical infrastructure limitations	4. Rural infrastructure as a structural barrier
Peer sharing, local context integration, simplified rubrics, self-study	Teacher coping and agency	5. Teacher adaptive strategies and professional resilience

Note. Themes derived through iterative thematic analysis (Miles et al., 2014; Braun & Clarke, 2006).

4.1 Principled Endorsement with Practical Skepticism

All fifteen participants expressed a degree of conceptual alignment with the stated goals of K-13, particularly its emphasis on active learning, character development, and higher-order thinking. Teachers articulated understanding of the curriculum's philosophical orientation in terms consistent with the constructivist learning framework underlying the 5M approach (Vygotsky, 1978; Ministry of Education and Culture of Indonesia, 2013). As one participant explained:

"The curriculum is truly good in its ideals. It wants children to think, to ask questions, to find answers for themselves. That kind of learning sticks. But when I am standing in front of forty students with no books, and the lights sometimes go out, the ideal is difficult to reach."

This pattern of principled endorsement tempered by practical skepticism recurred across participants of varying experience levels, subject areas, and school types, suggesting that it reflects a structural feature of K-13 implementation in rural contexts rather than idiosyncratic individual attitudes. More experienced teachers (T4, T6, T2) tended to frame their skepticism historically, situating K-13 as one in a sequence of reforms that had promised transformation while delivering complexity. As T4, with 22 years of experience, observed:

"Every new curriculum says it will be better than the last. With K-13, the philosophy is more advanced than before. But the support for implementing it, in this school, in this area, has not changed much. We are still waiting for the training we were promised two years ago."

These findings resonate with Priestley, Biesta, and Robinson's (2015) ecological model of teacher agency, which emphasizes that teachers' enacted agency, their capacity to translate professional beliefs into classroom practice, is conditioned by the material and institutional dimensions of their working environment. Where those conditions are not adequately supportive, even philosophically committed teachers cannot fully realize the pedagogical transformations the curriculum demands.

4.2 The Administrative Overload Dilemma

The administrative demands of K-13 emerged as one of the most consistently and forcefully articulated challenges across the participant group. The requirement to produce detailed RPP lesson plans for every lesson, maintain competency-based assessment portfolios for each student across multiple learning domains, and submit regular reports to school administration and district offices was perceived as consuming a disproportionate share of teachers' professional time and energy. T3 described her weekly experience in terms that were echoed by the majority of participants:

"I spend most of Sunday preparing RPPs for the following week. Sometimes I am copying formats from a friend because there is no other way. The documents are complete, but I am not sure they always reflect what truly happens in the classroom. They are what the supervisor needs to see, not always what I am actually teaching."

This gap between documented and enacted curriculum is a well-established phenomenon in implementation research. Coburn and Penuel (2016) describe how accountability pressures can redirect teachers' attention from instructional quality toward procedural compliance, producing what they term a "surface implementation" dynamic in which the forms of reform are adopted without substantive pedagogical transformation. Schleicher (2011) similarly notes that teacher time spent on administrative documentation is time not available for lesson preparation, student feedback, or professional learning, creating a structural trade-off between bureaucratic accountability and instructional quality that is particularly acute in under-resourced settings where teachers lack administrative support.

Classroom observation data confirmed that the pressure of documentation obligations was visible in instructional practice. In seven of the forty-two observation sessions, teachers distributed student seatwork at the beginning of a lesson in order to complete assessment record-keeping during class time. While this practice reflects the genuine practical constraints teachers faced, it also represents a form of instructional compromise that reduces the interactive quality of learning that K-13 explicitly seeks to promote. The administrative overload dilemma thus operates not merely at the level of teacher stress but as a direct constraint on student learning opportunity.

4.3 Pedagogical Transformation Constrained by Material Conditions

The aspiration toward student-centered, inquiry-based pedagogy mandated by K-13 encountered persistent material barriers in the rural school settings studied. The absence or inadequacy of key instructional resources, including printed textbooks, laboratory equipment, digital devices, and stable electricity supply, fundamentally constrained the range of pedagogical approaches available to teachers. T8, an English language teacher at one of the junior secondary schools, described this constraint in explicit terms:

"Although the curriculum promotes active learning, limited classroom facilities often constrain instructional innovation. I want students to do projects, to research topics on their phones or computers. But most of my students do not have smartphones that work well, and there is no school computer lab. I adapt what I can, but there is a ceiling to the adaptation."

This testimony, and parallel accounts from nine other participants, illustrates the principle, well documented in comparative educational research, that pedagogical innovation presupposes a threshold level of material infrastructure (Darling-Hammond, 2010; UNESCO, 2015). Below this threshold, the implementation of student-centered methods requires teachers to exercise what Priestley et al. (2015) call “reactive agency”, responsive problem-solving within severe constraints, rather than the “creative agency” through which teachers actively shape their pedagogical environment. Classroom observation data documented a range of adaptive practices, including the use of local environmental materials as learning media, peer-teaching structures to compensate for resource scarcity, and thematic integration of locally available community knowledge, that reflected genuine pedagogical creativity within severe material limitations. However, these adaptations were heterogeneous and unsystematic, reflecting individual teacher resourcefulness rather than institutional support for K-13 implementation. **Table 5** presents the main observational findings organized by practice domain.

4.4 Rural Infrastructure as a Structural Barrier

Beyond individual classroom resources, participants identified broader infrastructural conditions as shaping the entire ecology of K-13 implementation in their schools. These conditions included the physical state of school buildings, the reliability of electricity supply, the quality of roads connecting schools to district centers, and the availability of a functioning school library. Collectively, these factors shaped not only the immediate possibilities for instruction but also the accessibility of professional development, the reach of supervisory support, and the availability of supplementary learning materials.

T6, the most senior participant, framed the infrastructure problem in explicitly political terms, arguing that curriculum reform without parallel infrastructure investment reflected a fundamental misalignment between policy aspiration and resource allocation:

“They design a curriculum in Jakarta for schools in the city. Then they send it to us here, with the same requirements, but without the same facilities. We try our best. But this is not equal. Students here have the same national examinations, but very different preparation.”

This perception of structural unfairness, expressed in various forms by eight participants, aligns with the rural education scholarship’s emphasis on the compound disadvantages facing peripheral schools (Howley & Howley, 2010; Azano, 2011). The World Bank’s (2014) analysis of Indonesian educational inequality similarly identified infrastructure disparities as a primary driver of learning outcome gaps between urban and rural students, a pattern that the introduction of K-13 has not altered and may in some respects have exacerbated by raising the resource bar for effective implementation. **Figure 3** presents the teacher adaptation model developed from the empirical findings.

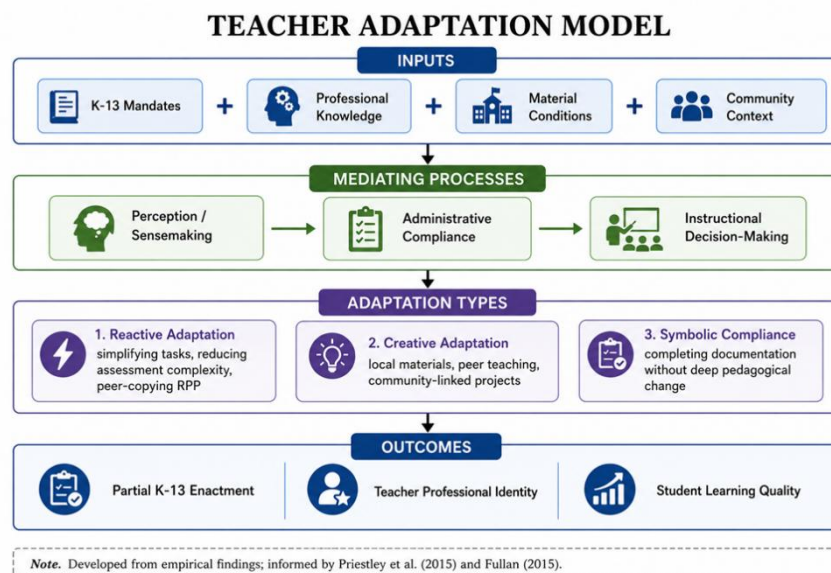


Figure 3. Teacher Adaptation Model Under Curriculum 2013 in Rural Schools

4.5 Teacher Adaptive Strategies and Professional Resilience

Despite the significant challenges documented above, all fifteen participants demonstrated evidence of what Hargreaves and Fullan (2012) would recognize as professional resilience, a capacity to maintain professional commitment and seek constructive solutions in the face of institutional adversity. Several distinct adaptive strategies were identified in the data.

Contextual integration, the practice of embedding curriculum content within locally meaningful phenomena and community experiences, was the most widely documented, with twelve of the fifteen participants describing explicit use of local contexts, including agricultural practices, local geography, traditional crafts, and community health issues, as vehicles for K-13 thematic learning. T5 described this approach with evident conviction:

"I take the K-13 themes and connect them to what children already know from their village. When we study ecosystems, we go to the rice fields or the forest edge. It is not in the curriculum plan exactly, but it makes the learning real, and the children are engaged. That is what active learning really means here."

Informal collegial sharing networks also emerged as an important adaptive resource. Eight participants described informal communities of practice, typically organized through WhatsApp groups connecting teachers across several schools in the district, through which lesson plan templates, assessment tools, and implementation tips were exchanged. While these informal networks represent a form of self-organized professional development, they operate without institutional recognition or support and are vulnerable to the departure of key individuals. The existence of these networks nonetheless attests to teachers' professional agency and initiative in circumstances where formal support is inadequate. **Table 6** provides a structured overview of the major implementation challenges and associated coping strategies identified across participants.

Table 4. Summary of Teacher Interview Findings by Theme

Theme	Sub-theme	Key Finding
Principled endorsement	Philosophical alignment	All 15 teachers endorsed K-13 goals; skepticism about implementation feasibility
Administrative overload	RPP and documentation burden	Document preparation consumes >30% of after-hours work time; surface compliance observed
Pedagogical constraint	Resource limitations	Absence of textbooks, lab equipment, and digital tools constrains 5M approach enactment
Infrastructure barrier	Physical environment	Unreliable electricity, poor building condition, road access limit professional development
Adaptive strategies	Contextual integration; peer networks	12/15 teachers integrate local contexts; 8/15 use informal WhatsApp-based professional networks

Table 5. Observational Findings on Classroom Practices

Practice Domain	Observed Practice	Alignment with K-13
Learning mode	Mix of teacher-fronted explanation and structured group tasks	Partial; group work present but frequently teacher-directed
Questioning	Predominantly teacher-initiated recall questions; student questions rare	Weak; K-13 expects student-initiated inquiry
Assessment	Paper-based tests dominant; rubric-based formative assessment inconsistent	Partial; competency portfolios maintained but used primarily for compliance
Resource use	Whiteboard, printed or hand-copied materials; no digital media in 3 of 4 schools	Constrained; K-13 envisions varied media including ICT
Local context integration	Consistent use of local examples, community references, and environmental materials	Strongly aligned; represents teachers' most effective K-13 adaptation
Classroom management	Large class sizes (38-45 pupils); mixed ability managed through whole-class instruction	Challenging; K-13 assumes differentiated instruction

Table 6. Major Challenges and Coping Strategies

Challenge	Coping Strategy
Excessive administrative documentation (RPP, portfolios)	Template sharing via WhatsApp groups; simplified RPP formats
Absence of K-13 instructional materials	Use of local environmental materials; self-developed worksheets
Limited access to professional development	Peer learning networks; self-directed study of K-13 guides
Large class sizes and mixed ability groups	Peer tutoring structures; group rotation tasks
Unreliable electricity and infrastructure	Printed materials prepared in advance; outdoor learning activities
Inadequate training on K-13 assessment design	Simplified rubrics; adaptation of district assessment templates
Time pressure and work-life balance erosion	Collegial support; distributing preparation tasks across team teachers

4.6 Discussion

Taken together, these five thematic findings contribute a contextually grounded understanding of curriculum implementation that substantially extends the existing literature on K-13 in Indonesia. The pattern of principled endorsement with practical skepticism identified in this study resonates with Fullan's (2015) observation that teachers in reform contexts are frequently "moral actors" who are genuinely committed to educational improvement but experience a persistent gap between what is aspired and what is achievable under prevailing institutional conditions. This gap is not, as some deficit-oriented accounts suggest, primarily a product of teacher unwillingness or incapacity; it is, rather, a structural feature of the implementation context that policy design has consistently failed to adequately address.

The administrative overload phenomenon documented here reflects a broader tension inherent in competency-based curriculum models between the depth of assessment information they require and the practical capacity of under-resourced teachers to generate that information without sacrificing instructional quality. Coburn and Penuel (2016) have argued that this tension can only be resolved through deliberate system-level attention to teacher workload, including the provision of administrative support, the simplification of documentation requirements for rural contexts, and the creation of school-embedded time for collaborative planning. None of these conditions currently exists in the district studied, and the district's experience is unlikely to be exceptional within the wider Indonesian rural education system.

The material infrastructure findings of this study add empirical texture to the structural arguments made by World Bank (2014) and UNESCO (2015) about rural educational inequality in Indonesia. While these macro-level analyses identify infrastructure disparities in statistical terms, the present study illuminates the classroom-level dynamics through which infrastructure constraints translate into instructional compromises. The observation that teachers' most effective K-13 adaptation, the integration of local environmental and community knowledge, is also the one that depends least on material infrastructure suggests a counterintuitive policy implication: that rural K-13 implementation may be most effectively supported not by attempting to replicate urban resource environments but by legitimating and systematically developing the contextually responsive pedagogical practices that rural teachers have themselves innovated under conditions of constraint.

This finding aligns with Azano's (2011) argument for place-based education as a pedagogical framework that is uniquely well suited to rural contexts, offering curriculum coherence and student engagement through connection to the local environment and community. K-13's emphasis on contextual and thematic learning is philosophically consistent with place-based approaches, yet neither the curriculum design nor the professional development support system has explicitly operationalized this connection for rural teachers. A policy intervention that recognizes, validates, and provides professional development support for place-responsive K-13 implementation could meaningfully strengthen curriculum enactment in rural schools without requiring the level of material investment that conventional reform support models demand.

The informal professional networks documented in this study represent a form of distributed professional capital that, according to Hargreaves and Fullan (2012), is particularly important in settings where formal professional development is scarce or inadequate. The fact that these networks are self-organized and technology-mediated suggests both their resilience and their vulnerability: they function effectively as long as key individuals remain in the school system and maintain their informal leadership roles, but they lack the institutionalized structures that would ensure continuity and quality improvement over time. A promising policy direction, pursued with some success in comparable developing country contexts, involves converting such informal networks into formally recognized professional learning communities with modest institutional support, including scheduled collaborative time, facilitation training, and access to K-13 curriculum resources (Timperley, 2011; Darling-Hammond, 2010).

The conceptual framework developed from this study's findings, presented in [Figure 4](#), situates teacher perceptions as the mediating layer between policy mandates and classroom practice, modulated by institutional conditions, material resources, professional development quality, and teacher agency. This framework challenges linear, transmission-oriented models of curriculum implementation by emphasizing the recursive, context-dependent nature of the policy-practice relationship. It is precisely this recursiveness that makes contextually sensitive, qualitative empirical research indispensable for understanding curriculum implementation in settings as diverse and as institutionally varied as Indonesia's rural school system.

Finally, this study's findings underscore the importance of equity as a criterion for evaluating curriculum reform. The teachers in this study are not failing to implement K-13 because of professional deficiency; they are doing the best they can within institutional conditions that place them at a substantial disadvantage relative to their urban counterparts. A reform assessment framework that measures rural teachers' K-13 implementation against urban standards, without acknowledging the structural inequality of the implementation conditions, risks compounding the educational injustice it ostensibly seeks to address. Policy evaluation that attends to implementation conditions, as well as implementation outcomes, is an essential precondition for reform that advances rather than reproduces rural educational inequality.

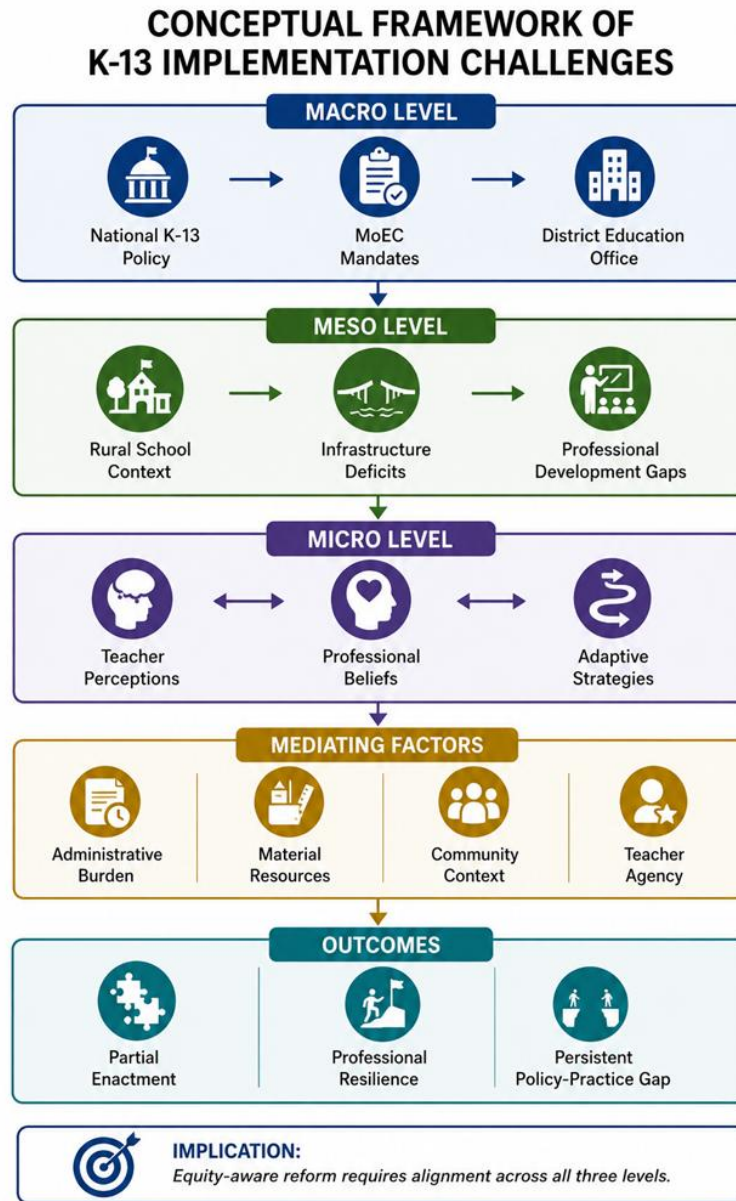


Figure 4. Conceptual Framework of Curriculum Implementation Challenges in Rural Schools

5. CONCLUSION

This study set out to investigate how teachers in rural Indonesian schools perceive the implementation of Curriculum 2013, the challenges they face, and the adaptive strategies they develop in response to curriculum demands. The findings demonstrate, with considerable empirical consistency, that rural teachers in the studied context possess both the professional commitment and the contextual knowledge necessary for meaningful K-13 engagement, but are systematically constrained by institutional conditions that the curriculum reform was designed without adequately accounting for. The five thematic findings, encompassing principled endorsement, administrative overload, pedagogical constraint, infrastructure barriers, and adaptive resilience, collectively constitute a grounded account of curriculum implementation as it unfolds at the intersection of ambitious policy aspiration and material institutional reality.

The theoretical contribution of this study lies in its empirical elaboration of teacher agency under conditions of structural constraint, extending the ecological framework of Priestley, Biesta, and Robinson (2015) to a specific developing country rural context. The study demonstrates that agency in reform implementation is not simply a function of individual professional disposition but is shaped, enabled, and constrained by the ecological conditions of schooling in ways that policy design must take seriously. The practical contribution lies in the identification of contextual integration and informal professional networks as particularly effective and contextually appropriate adaptation strategies that deserve explicit policy recognition and support.

For curriculum policymakers, the findings suggest several actionable implications. First, K-13 implementation support systems should be differentiated by school context, with rural schools receiving dedicated resources, simplified documentation requirements, and locally stationed curriculum support personnel. Second, professional development for rural teachers should be redesigned around school-embedded collaborative learning models rather than one-off district training events, drawing on the informal network structures that teachers have themselves developed. Third, place-based and contextually responsive pedagogical approaches should be explicitly recognized within K-13 implementation guidelines as legitimate and educationally valuable forms of curriculum enactment, rather than treated as deviations from a nationally standardized model. Fourth, curriculum reform evaluation should adopt equity-sensitive frameworks that assess implementation quality in relation to available institutional conditions, rather than applying uniform standards that structurally disadvantage rural schools.

This study is not without limitations. The findings are drawn from a single district in Aceh Province and cannot be mechanically generalized to other provincial or district contexts, which vary considerably in their cultural, economic, and institutional characteristics. The six-month fieldwork period, while substantial by the standards of qualitative educational research, may not have captured the full range of seasonal variation in K-13 implementation practices. Future research should seek to extend and compare these findings across multiple provincial and district contexts, attending to the ways in which cultural and linguistic diversity mediates curriculum implementation in Indonesia's complex multiethnic educational landscape.

SUGGESTIONS FOR FUTURE RESEARCH

The findings of this study open several productive directions for future inquiry. Comparative research contrasting K-13 implementation in rural and urban schools within the same district or province would allow systematic examination of the structural factors, rather than individual teacher variables, that account for implementation quality differences. Such research would benefit from employing mixed-methods designs that combine the interpretive depth of qualitative inquiry with the distributional precision of survey and observation-based quantitative measures, enabling both contextual understanding and statistical generalization.

The role of digital technology in mediating K-13 implementation deserves particular attention in future research. As mobile connectivity increasingly reaches rural Indonesian communities, the potential for digital tools to bridge professional development gaps, expand access to curriculum resources, and enable teacher networking across geographic distances grows substantially. Longitudinal studies tracking the implementation experiences of rural teachers over multiple academic years would also contribute valuable evidence on whether and how pedagogical transformation deepens or stagnates over time, and what professional development interventions most effectively support sustained instructional change under conditions of institutional constraint (Timperley, 2011; Darling-Hammond, 2010).

Finally, research on the effectiveness and sustainability of school-based professional learning communities as vehicles for K-13 implementation support in rural Indonesia is urgently needed. The informal networks documented in this study represent an endogenous institutional resource whose development into more systematic professional learning structures may offer a cost-effective and contextually appropriate model for professional development under resource constraints. Evaluative research on pilot programs supporting such structures, drawing on international evidence from comparable contexts (Hargreaves & Fullan, 2012; Coburn & Penuel, 2016), would provide an empirical basis for scaling promising practices across Indonesia's extensive rural school system.

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