

Teachers Are Present, but Unequally Distributed: Teacher Allocation and Educational Justice in the Mentawai Islands

Francois Xavier Edo Alfonso*^{}

Universitas Kristen Mentawai Muarasiberut, Mentawai, Indonesia

edoalfonso@gmail.com

DOI: <https://doi.org/10.65815/08b9zp25>

Submitted: 03-01-2026

Revised: 22-04-2026, 30-05-2026

Accepted: 08-06-2026

*Corresponding Author

Abstract

Equal access to qualified teachers is fundamental to educational justice, yet teacher distribution remains highly uneven across geographically fragmented regions. This study examines teacher allocation in primary schools across the Mentawai Islands, West Sumatra, focusing on the gap between formal teacher availability and equitable access to qualified teaching personnel. The research investigates how geographical isolation, employment status, school size, transportation barriers, and professional incentives influence the distribution of teachers across island communities. A qualitative case study methodology is employed through policy analysis and interviews with teachers, school leaders, local education officials, and community representatives. The study adopts a distributive justice perspective to assess whether teacher resources are allocated according to educational need rather than administrative convenience. It argues that aggregate teacher-student ratios can conceal significant intra-regional inequalities, particularly when teachers are concentrated in relatively accessible settlements while remote schools face persistent shortages. The findings are expected to demonstrate that teacher equity requires differentiated allocation formulas that account for geographic difficulty, school remoteness, and instructional workload. The study recommends combining targeted recruitment, special allowances, housing support, transportation assistance, and professional development with stronger local monitoring mechanisms to ensure that teacher distribution contributes to substantive equality in educational opportunity.

[Akses yang setara terhadap guru yang berkualitas merupakan hal mendasar bagi keadilan pendidikan, namun distribusi guru masih sangat tidak merata di wilayah-wilayah yang terfragmentasi secara geografis. Studi ini meneliti alokasi guru di sekolah-sekolah dasar di Kepulauan Mentawai, Sumatera Barat, dengan fokus pada kesenjangan antara ketersediaan guru formal dan akses yang adil terhadap tenaga pengajar yang berkualitas. Penelitian ini menyelidiki bagaimana isolasi geografis, status pekerjaan, ukuran sekolah, hambatan transportasi, dan insentif profesional memengaruhi distribusi guru di seluruh komunitas pulau. Metodologi studi kasus kualitatif digunakan



melalui analisis kebijakan dan wawancara dengan guru, kepala sekolah, pejabat pendidikan setempat, dan perwakilan masyarakat. Studi ini mengadopsi perspektif keadilan distributif untuk menilai apakah sumber daya guru dialokasikan sesuai dengan kebutuhan pendidikan daripada kemudahan administratif. Studi ini berpendapat bahwa rasio guru-siswa agregat dapat menyembunyikan ketidaksetaraan intra-regional yang signifikan, terutama ketika guru terkonsentrasi di pemukiman yang relatif mudah diakses sementara sekolah-sekolah terpencil menghadapi kekurangan yang terus-menerus. Temuan diharapkan dapat menunjukkan bahwa kesetaraan guru membutuhkan formula alokasi yang berbeda yang memperhitungkan kesulitan geografis, keterpencilan sekolah, dan beban kerja pengajaran. Studi ini merekomendasikan penggabungan perekrutan yang ditargetkan, tunjangan khusus, dukungan perumahan, bantuan transportasi, dan pengembangan profesional dengan mekanisme pemantauan lokal yang lebih kuat untuk memastikan bahwa distribusi guru berkontribusi pada kesetaraan substantif dalam kesempatan pendidikan.]

Keywords: teacher distribution, distributive justice, teacher inequality, rural education, Mentawai Islands

Introduction

Teachers constitute one of the most consequential resources within the education system because the availability, quality, and effective deployment of teachers directly condition students' opportunities to learn. Educational systems can construct schools, provide curricula, and establish national standards, but these institutional arrangements cannot be translated into meaningful learning without teachers who are present, adequately prepared, and sufficiently supported. The distribution of teachers is therefore not merely an administrative concern. It is an issue of educational justice. When qualified teachers are concentrated in locations that are easier to access while schools in geographically isolated communities remain understaffed, the state effectively distributes educational opportunity unequally according to where students live. This problem is particularly significant in archipelagic regions, where physical distance, transportation costs, settlement patterns, and infrastructure interact to shape the practical accessibility of public services.

The Mentawai Islands provide an important context for examining this problem. Kabupaten Kepulauan Mentawai consists of geographically dispersed islands and communities whose relationships with administrative centers and public infrastructure differ considerably. Official statistics show that educational institutions and teachers are distributed across ten subdistricts, but the existence of schools and teachers across the administrative territory should not be interpreted

automatically as evidence of equitable provision. The *Kepulauan Mentawai Regency in Figures 2024*, for example, compiles education information from the Ministry of Education's Dapodik system and local education authorities, demonstrating that education provision varies across districts and that school-level conditions remain geographically differentiated (BPS Kabupaten Kepulauan Mentawai 2024). The central analytical problem is therefore not whether Mentawai has teachers, but whether students in different communities have comparable access to teachers with regard to quantity, qualification, continuity, and instructional availability (See Table 1).

This distinction is particularly important because aggregate indicators can create an appearance of equality. A district may report an apparently acceptable student-teacher ratio while individual schools remain seriously understaffed. The national literature has repeatedly documented this phenomenon in Indonesia. The World Bank's analysis of teacher employment and deployment found that teacher distribution across Indonesian schools was highly unequal, with substantial numbers of schools simultaneously experiencing overstaffing and understaffing (World Bank 2010). Earlier policy analysis likewise found that urban schools could have teacher surpluses while rural and isolated schools experienced shortages, creating inefficiencies while penalizing marginalized communities (Heyward and Hadiwijaya 2014). The implication is straightforward: a national or district-level teacher ratio cannot adequately represent the spatial distribution of educational resources.

In Mentawai, the problem of distribution must also be considered in relation to the structure of the school system itself. The 2023 statistical publication records 34 junior secondary schools across the regency and 13 senior secondary schools, while teacher numbers vary substantially between subdistricts (BPS Kabupaten Kepulauan Mentawai 2023). The variation is not necessarily evidence of administrative failure because school populations and settlement patterns differ (See Table 2 and Table 3). Nevertheless, it demonstrates why equal allocation cannot simply mean giving every district the same number of teachers. A small school located on a remote island may require a higher per-student resource allocation than a larger school in a relatively accessible settlement because the costs of staffing and sustaining educational services are fundamentally different.

The problem becomes more complex when employment status is incorporated into the analysis. Teacher availability is not equivalent to teacher stability. A school may have a sufficient number of nominal teachers but rely heavily on temporary or non-permanent personnel whose employment conditions, professional opportunities, and long-term retention prospects differ from those of permanent civil servants. National research has shown that teacher distribution in Indonesia has been shaped by the expansion of non-permanent teachers as well as by uneven deployment of permanent personnel (McKenzie et al. 2014). The resulting inequality is not only numerical but institutional: two schools with the same teacher-student ratio may provide different levels of continuity and

professional capacity if one depends substantially on teachers whose employment is more precarious.

Table 1. Number of Schools in Primary Schools Under The Ministry of Education, Culture, Research, and Technology by District in Kepulauan Mentawai Regency, 2022/2023 and 2023/2024

Kecamatan District	Sekolah/Schools					
	Negeri/Public		Swasta/Private		Jumlah/Total	
	2022/2023	2023/2024	2022/2023	2023/2024	2022/2023	2023/2024
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Pagai Selatan	20	20	–	–	20	20
Sikakap	12	9	1	4	13	13
Pagai Utara	11	10	–	1	11	11
Sipora Selatan	14	14	1	1	15	15
Sipora Utara	13	14	2	1	15	15
Siberut Selatan	10	9	2	4	12	13
Seberut Barat Daya	12	11	–	1	12	12
Siberut Tengah	8	7	–	1	8	8
Siberut Utara	12	11	1	2	13	13
Siberut Barat	15	11	–	4	15	15
Kepulauan Mentawai	127	116	7	19	134	135

Source: BPS Kabupaten Kepulauan Mentawai 2024

Table 2. Number of Teachers in Primary Schools Under The Ministry of Education, Culture, Research, and Technology by District in Kepulauan Mentawai Regency, 2022/2023 and 2023/2024

Kecamatan District	Guru ¹ /Teachers ¹					
	Negeri/Public		Swasta/Private		Jumlah/Total	
	2022/2023	2023/2024	2022/2023	2023/2024	2022/2023	2023/2024
(1)	(8)	(9)	(10)	(11)	(12)	(13)
Pagai Selatan	192	199	–	–	192	199
Sikakap	147	109	17	49	164	158
Pagai Utara	125	109	–	11	125	120
Sipora Selatan	152	145	7	14	159	159
Sipora Utara	167	170	17	11	184	181
Siberut Selatan	115	94	18	38	133	132
Seberut Barat Daya	125	113	–	12	125	125
Siberut Tengah	95	81	–	11	95	92
Siberut Utara	138	116	8	26	146	142
Siberut Barat	129	109	–	36	129	145
Kepulauan Mentawai	1.385	1.245	67	208	1.452	1.453

Source: BPS Kabupaten Kepulauan Mentawai 2024

Table 3. Number of Pupils in Primary Schools Under The Ministry of Education, Culture, Research, and Technology by District in Kepulauan Mentawai Regency, 2022/2023 and 2023/2024

Kecamatan District	Murid/Pupils					
	Negeri/Public		Swasta/Private		Jumlah/Total	
	2022/2023	2023/2024	2022/2023	2023/2024	2022/2023	2023/2024
(1)	(14)	(15)	(16)	(17)	(18)	(19)
Pagai Selatan	1.251	1.152	–	–	1.251	1.152
Sikakap	1.044	771	156	370	1.200	1.141
Pagai Utara	856	698	–	146	856	844
Sipora Selatan	878	842	105	127	983	969
Sipora Utara	1.387	1.679	344	72	1.731	1.751
Siberut Selatan	1.299	954	215	500	1.514	1.454
Seberut Barat Daya	1.153	973	–	106	1.153	1.079
Siberut Tengah	1.051	855	–	109	1.051	964
Siberut Utara	813	821	278	172	1.091	993
Siberut Barat	1.332	961	–	318	1.332	1.279
Kepulauan Mentawai	11.064	9.706	1.098	1.920	12.162	11.626

Catatan/Note: ¹ Jumlah guru termasuk kepala sekolah dan guru/The total of teachers including headmaster and teacher

Source: BPS Kabupaten Kepulauan Mentawai 2024

The justice dimension becomes clearer when teacher allocation is understood as a distribution of opportunities rather than merely a distribution of employees. Rawls's theory of justice emphasizes that social and economic inequalities may be justified only when institutional arrangements are structured to benefit those who are least advantaged (Rawls 1971). Sen (2009), meanwhile, argues that justice should be concerned with people's substantive capabilities rather than merely the formal distribution of resources. Applied to teacher allocation, these perspectives imply that the same number of teachers per student does not necessarily represent the same educational opportunity. A teacher assigned to an isolated school may require additional support to provide an equivalent educational service because the conditions under which teaching takes place are more difficult.

This argument also challenges the assumption that geographical remoteness is an external factor for which education policy should not compensate. Geography is not merely a natural characteristic of a location. Its consequences are mediated by transportation systems, government investment, school organization, teacher recruitment, housing provision, and administrative decisions. As Soja (2010) argues in his formulation of spatial justice, social inequality is frequently produced through the organization and distribution of resources across space. In education, the location of teachers is therefore a spatial distribution of opportunity. When remote communities consistently receive fewer qualified teachers or experience greater

teacher instability, geography becomes a mechanism through which educational inequality is reproduced.

The central question of this article is therefore: To what extent does the existing distribution of teachers in the Mentawai Islands reflect educational need, and what would a distributively just teacher allocation system require? The article argues that teacher equity cannot be achieved by relying exclusively on aggregate ratios or uniform administrative formulas. A more just allocation model must account for remoteness, transportation difficulty, school size, instructional workload, employment status, and the actual costs of recruiting and retaining teachers in isolated communities. Such a model should combine targeted deployment with affirmative measures that make remote service professionally and materially sustainable.

The first major body of research concerns the general problem of teacher distribution in Indonesia. The World Bank's *Teacher Employment and Deployment in Indonesia* identified substantial opportunities to improve equity, efficiency, and educational quality through better teacher allocation (World Bank 2008). The subsequent analysis of public education spending demonstrated that teacher distribution remained highly unequal even after decentralization and teacher-management reforms. Using school-level staffing standards, the World Bank reported that a substantial proportion of Indonesian primary schools remained either overstaffed or understaffed, demonstrating that national teacher abundance could coexist with localized shortages (World Bank 2013). Heyward and Hadiwijaya (2014) similarly argued that teacher shortages in rural and isolated schools existed alongside surpluses in urban schools. Their work is particularly relevant to the Mentawai case because it shows that teacher inequality is fundamentally a problem of spatial allocation rather than simply a shortage of teachers at the national level.

The second body of research focuses on teacher absence, working conditions, and the sustainability of teacher deployment in remote areas. McKenzie et al. (2014) conducted a large-scale study covering 880 primary and junior secondary schools across Indonesia and found that teacher absence remained an important problem affecting education service delivery. The study also highlighted difficulties faced by schools in arranging appropriate substitutes when teachers were absent. Werang, Leba, and Pure (2017), focusing specifically on remote elementary schools in southern Papua, found that teacher absenteeism was influenced by demographic characteristics, working conditions, and local policies concerning teacher assignment and school leadership. These findings are important because they indicate that teacher allocation cannot be evaluated solely by counting teachers assigned to schools. Presence, continuity, working conditions, and institutional support are equally important dimensions of effective teacher provision.

The third body of literature examines incentives and community accountability as instruments for improving teacher service in remote schools. Gaduh et al. (2020) examined the KIAT Guru program, which combined

community-based monitoring with special allowances for teachers in remote areas. The intervention demonstrated that institutional mechanisms linking teacher incentives to verified presence or service performance could improve learning outcomes, although the effects varied according to the design of the accountability mechanism. A later peer-reviewed study by Gaduh et al. (2023) similarly found that community participation could improve teacher behavior and student outcomes when communities were given meaningful authority to monitor school personnel. These studies suggest that the justice of teacher allocation involves not only where teachers are placed but also whether institutions are capable of supporting and monitoring their service.

Despite these important contributions, there remains a need to examine teacher allocation through the specific lens of distributive justice in archipelagic regions such as Mentawai. Much of the Indonesian literature examines teacher shortages, absenteeism, incentives, or administrative distribution at national or provincial levels. Such approaches are valuable but can obscure the distinctive relationship between island geography and educational resource allocation. The Mentawai case requires an analysis that recognizes that equal teacher numbers may not generate equal educational opportunities when schools differ dramatically in accessibility and operational costs. This article contributes to that discussion by placing teacher distribution within a broader framework of spatial and distributive justice.

This study employs a qualitative descriptive-analytic case-study approach focusing on teacher allocation in primary education across the Mentawai Islands. Rather than treating teacher distribution as a purely numerical phenomenon, the analysis examines the institutional and geographical conditions through which teachers are allocated and retained. The primary evidence consists of official statistical publications from Statistics Indonesia, education-related government documents, Indonesian laws and regulations, and empirical academic research concerning teacher deployment, absenteeism, rural education, incentives, and educational equity. The official *Kepulauan Mentawai Regency in Figures 2024* is particularly important because it compiles data from government administrative sources, including the local education authority and Dapodik, thereby providing a documented basis for understanding the territorial distribution of educational institutions and personnel. The analysis is organized around four interconnected dimensions of distributive justice: availability, referring to whether schools possess sufficient teachers; equity, referring to whether teacher resources correspond to differences in educational need; stability, referring to whether teachers can remain consistently available at schools; and capability, referring to whether teachers possess the professional resources necessary to provide meaningful educational opportunities. The study does not infer that every numerical difference in teacher allocation constitutes injustice. Instead, inequality is considered unjust when resource allocation fails to recognize differences in educational need or when

remote communities systematically bear higher costs for obtaining equivalent educational services.

Teacher Presence Is Not the Same as Teacher Equity

The central analytical distinction of this study is between teacher presence and teacher equity. Teacher presence asks whether a teacher is officially assigned to a school or physically available during the school day. Teacher equity asks a more demanding question: whether students across different communities have reasonably comparable access to sufficient, qualified, and continuously available teachers. The distinction matters because the former can be satisfied while the latter remains absent.

The Mentawai education system illustrates why aggregate statistics should be interpreted cautiously. The existence of teachers across all or most administrative areas can create an impression of universal coverage, but administrative coverage does not reveal whether particular schools have sufficient teachers for all grades and subjects. The official statistical system itself demonstrates substantial variation between subdistricts in school and teacher numbers. The 2024 *Kepulauan Mentawai in Figures* provides district-level educational data and indicates that education provision is distributed unevenly across the regency's geographically dispersed administrative units (BPS Kabupaten Kepulauan Mentawai 2024).

Such differences should not automatically be interpreted as failures of policy. A district with a larger student population will naturally require more teachers than a sparsely populated island. The justice problem emerges when allocation formulas fail to account for the actual cost of delivering education to smaller and more isolated communities. If a school serving twenty students requires a teacher for each grade level but receives resources according to a simple student-based formula, the school may appear inefficient because its teacher-student ratio is numerically high. Yet from the perspective of educational justice, the high ratio may be necessary to guarantee basic access. This is why the principle of equal expenditure per student can become problematic in remote areas. Equal per-student allocation assumes that the cost of providing equivalent educational services is approximately constant across locations. In geographically fragmented regions, that assumption is unrealistic. Transportation, teacher accommodation, logistics, maintenance, and professional support may all be more expensive in remote schools. Consequently, equal funding can produce unequal educational capacity.

The same reasoning applies to teacher workload. A teacher in a small remote school may teach multiple grades or subjects because the school cannot recruit separate specialists for each instructional area. Such a teacher is numerically counted as one teacher, but the instructional responsibility carried by that individual may be considerably greater than that of a teacher working in a larger school with specialized personnel. Teacher allocation must therefore account for workload, not merely headcount.

Geography as a Mechanism of Teacher Inequality

Geography becomes an educational justice problem when it affects who can obtain and retain teachers. In Mentawai, island fragmentation and transportation constraints mean that schools are not equally connected to administrative centers, teacher-training institutions, housing markets, health facilities, and other public services. This creates different costs for teachers depending on their location. The problem has two dimensions. The first is the cost of deployment. Recruiting a teacher to a remote school can require transportation across sea routes and difficult terrestrial terrain. The second is the cost of retention. Even when a teacher accepts a remote position, maintaining that assignment may be difficult if housing is inadequate, transport is unreliable, family separation is substantial, and professional opportunities are limited.

Research from other remote Indonesian regions demonstrates that these conditions affect teacher attendance and stability. Werang, Leba, and Pure (2017) found that teacher absenteeism in southern Papua was influenced not only by individual characteristics but also by working conditions and assignment policies. The finding is relevant to Mentawai because it challenges explanations that attribute teacher shortages or absenteeism primarily to individual commitment. Institutional conditions can shape teacher behavior.

The broader national evidence reinforces this point. The 2014 Indonesian teacher absenteeism study found that schools experienced serious difficulties in managing teacher absence and substitutes, while improvements in teacher distribution could help reduce the consequences of absence (McKenzie et al. 2014). Thus, the question of whether a school "has" a teacher should be followed by questions concerning whether the teacher is consistently present, whether the school can replace an absent teacher, and whether the teacher has sufficient support to perform the expected workload. This has an important implication for Mentawai. A teacher allocation policy based solely on formal assignment may classify a remote school as adequately staffed even when effective instructional capacity remains weak. A more meaningful indicator would combine teacher headcount with attendance, qualification, workload, subject coverage, and continuity. Such an approach would shift the policy objective from staffing schools to ensuring instructional capacity.

School Size, Staffing Formula, and the Problem of Administrative Efficiency

One of the most difficult issues in remote education is the tension between administrative efficiency and educational equity. Small schools often appear expensive because they serve relatively few students while requiring teachers, principals, classrooms, and administrative infrastructure. From a narrow efficiency

perspective, governments may be encouraged to consolidate small schools or concentrate teachers in larger institutions.

Yet educational justice requires asking who bears the consequences of such efficiency measures. If school consolidation requires children in remote communities to travel significantly farther, the state may reduce its administrative costs while increasing the private costs borne by households. The apparent efficiency of the education system may therefore be achieved through the transfer of costs from government to families.

This issue has been recognized in international research on rural education. The geography of schooling matters because the closure or consolidation of small schools can increase travel distances and reduce educational participation, particularly among disadvantaged populations. In Indonesia, Heyward and Hadiwijaya (2014) identify school mergers and multi-grade teaching among the possible policy responses to teacher distribution problems, but they also emphasize that policy solutions must be adapted to local contexts.

For Mentawai, the implication is that small schools should not be evaluated solely according to student numbers. Their social function and geographical necessity must also be considered. A school serving a small population on a remote island may be the only realistic educational institution available to children in that community. Closing or understaffing it may create a form of spatial exclusion even if the policy is justified through efficiency calculations.

A more appropriate allocation formula would therefore combine student numbers with a remoteness coefficient. Schools located in highly isolated communities could receive additional staffing allocations to compensate for the higher cost of providing basic educational coverage. This would be analogous to other public-service systems in which remote facilities receive additional resources because ordinary population-based formulas do not adequately capture service-delivery costs. The concept of differentiated allocation is consistent with the broader principle of equity. Equity does not require identical resource distribution. Rather, it requires allocating resources according to the conditions necessary to produce reasonably comparable opportunities. For Mentawai, this means that a small remote school may legitimately receive more resources per student than a large accessible school.

Employment Status and the Quality of Teacher Distribution

Teacher distribution also has an institutional dimension. The distinction between permanent civil-service teachers, government contract teachers, and other non-permanent teachers affects the stability of educational provision. A school can meet a numerical staffing target while remaining vulnerable if its personnel depend heavily on temporary employment arrangements. McKenzie et al. (2014) noted that contract and honorary teachers had increased as a proportion of the teaching workforce and argued that improving the distribution of both permanent and non-

permanent teachers could contribute to more effective education service delivery. The implication is that teacher equity should not be reduced to counting all personnel as equivalent units.

Employment status can affect retention because teachers respond to differences in salary, job security, promotion, professional development, and mobility. A remote teacher who lacks secure employment may have fewer incentives to remain in the location over the long term. Conversely, permanent teachers may have stronger opportunities to seek transfers toward more accessible areas, potentially leaving remote schools dependent on temporary personnel. This creates a paradox. The communities that most need stable teachers may be the communities most likely to depend on less stable personnel. The result is a form of institutional inequality in which remote students experience not only fewer teachers but also greater uncertainty about who will teach them from one year to the next.

Teacher distribution policies should therefore include stability indicators. A school should not be considered adequately staffed simply because the number of assigned teachers meets a numerical threshold. Policymakers should also examine teacher turnover, length of service, employment status, certification, and subject specialization. The principle is particularly important for primary schools because teachers frequently perform multiple pedagogical functions. Continuity can be especially important for younger students, for whom relationships with teachers and familiarity with school routines contribute to learning and well-being. High turnover can therefore have consequences beyond administrative inconvenience.

Incentives: Necessary but Not Sufficient

Special allowances are among the most visible policy instruments for addressing teacher inequality in remote areas. The underlying logic is straightforward: teachers assigned to difficult locations should receive additional compensation because they face additional costs. Indonesian policy has long recognized this principle through special allowances for teachers working in designated special areas. However, the empirical literature suggests that incentives should not be treated as a complete solution. The KIAT Guru program provides particularly useful evidence. Gaduh et al. (2020) found that linking remote-area allowances to community-based monitoring mechanisms could improve educational outcomes. The strongest treatment combined community monitoring with a mechanism through which teacher presence was verified. The later study by Gaduh et al. (2023) confirmed that community participation could strengthen teacher accountability and improve learning outcomes in remote schools.

These findings should not be interpreted as evidence that remote teachers are inherently less committed. Rather, they demonstrate that institutional environments influence how effectively public resources are translated into educational services. In remote locations, conventional bureaucratic monitoring is costly because

supervisors must travel long distances. Community-based monitoring can therefore provide an alternative mechanism of accountability.

At the same time, incentives cannot compensate for every structural problem. A teacher may receive an allowance but still lack adequate housing, reliable transportation, health services, or professional development. The allowance may reduce financial hardship without eliminating social and professional isolation. A just policy for Mentawai should therefore combine financial and non-financial incentives. Financial support should compensate for additional costs, while housing, transportation, professional development, and career advancement should make remote service institutionally sustainable. The objective should be to transform remote teaching from a temporary sacrifice into a professionally viable career pathway.

Local Recruitment as a Long-Term Equity Strategy

One of the most promising strategies for reducing teacher inequality in remote regions is to strengthen local teacher recruitment. The logic is that teachers originating from or socially connected to remote communities may face fewer relocation costs and may possess stronger cultural and linguistic familiarity with students and families. This does not mean that external teachers are unsuitable for Mentawai. Teachers recruited from outside the region can bring valuable expertise and professional experience. However, reliance on external deployment can become fragile if teachers view remote service primarily as a temporary assignment before transferring to more accessible locations.

Local recruitment can address this problem by creating a longer-term pipeline from secondary education to teacher training and ultimately to local schools. Scholarships or bonded-service programs could support Mentawai students to obtain teacher education qualifications in exchange for a defined period of service in local schools. Such policies would convert teacher distribution from a reactive deployment problem into a workforce-development strategy.

The World Bank's work on teacher deployment in Indonesia similarly recommended strengthening local recruitment mechanisms and creating pathways through which individuals from underserved areas could enter the teaching profession (World Bank 2008; 2009). Such a strategy is consistent with distributive justice because it expands the capacity of disadvantaged communities to generate and retain their own educational resources. Local recruitment also has potential cultural benefits. In geographically and culturally distinctive communities, teachers who understand local language, traditions, and social relationships may be better positioned to build meaningful relationships with families. This is particularly relevant where national curricula must be implemented within culturally specific contexts.

Professional Development and the Meaning of Qualified Access

Teacher equity cannot stop at the question of whether teachers are physically present. Students have a right not simply to a teacher, but to meaningful access to qualified instruction. This distinction becomes especially important in remote schools where professional isolation may limit teachers' opportunities for training and collaboration.

The Mentawai case therefore requires attention to the distribution of professional development. Teachers in accessible areas can more easily participate in workshops, university courses, professional communities, and administrative meetings. Teachers in remote islands may face high travel costs and significant time away from school when participating in equivalent programs. Digital technologies offer one possible solution, but digitalization should not be treated as a universal remedy. Remote schools can themselves face limitations in connectivity, electricity, devices, and technical support. Consequently, digital professional development must be accompanied by infrastructure investment and locally accessible support.

The need for professional development is particularly important when teachers are expected to teach multiple subjects or grades. Multi-grade teaching can be an appropriate strategy in small schools, but it increases the professional demands placed on teachers. Training in multi-grade pedagogy, differentiated instruction, classroom management, and locally relevant curriculum adaptation should therefore be integrated into remote teacher development. In this respect, professional development is part of distributive justice because it concerns the distribution of teachers' professional capabilities. If remote teachers are expected to perform more diverse tasks while receiving fewer opportunities for training, the education system effectively transfers additional responsibility to those already working under difficult conditions.

Toward a Spatially Differentiated Teacher Allocation Model

The evidence supports the development of a spatially differentiated teacher allocation model for the Mentawai Islands. The first principle should be that allocation is based not merely on student numbers but on educational need multiplied by geographical difficulty. This would require a formula that incorporates student population, grade structure, instructional workload, school size, remoteness, transportation difficulty, and teacher availability.

The second principle should be that remote schools receive additional staffing flexibility. Small schools should not automatically be considered inefficient because of high teacher-student ratios. Instead, policymakers should determine the minimum staffing required to provide a complete basic curriculum under local conditions. The third principle should be that teacher allowances are combined with institutional support. A remote-service package could include additional financial compensation, subsidized transportation, housing or housing allowances,

communication support, professional-development access, and accelerated career recognition. The package should be sufficiently comprehensive to address the actual costs of remote service.

The fourth principle should be community participation. The KIAT Guru evidence demonstrates that community involvement can strengthen accountability and improve school outcomes in remote settings. In Mentawai, village governments, parent groups, customary institutions, and community representatives could contribute to monitoring teacher presence and identifying staffing needs. Such participation would also improve the sensitivity of administrative data to local realities. Finally, teacher distribution should be monitored through school-level indicators rather than only district-level aggregates. The government should publish data that allow policymakers to identify which schools experience shortages, high turnover, limited qualifications, or persistent vacancies. The objective should be to make spatial inequality visible. What cannot be seen in administrative statistics is unlikely to receive sustained policy attention.

Conclusion

Teacher distribution in the Mentawai Islands should be understood as a question of educational justice rather than merely administrative staffing. The central problem is not necessarily the absolute absence of teachers across the regency. Rather, it is the unequal distribution of qualified, stable, and adequately supported teachers between communities. Official statistics demonstrate that educational resources are distributed across the territory, but aggregate availability cannot reveal the differences in effective instructional capacity experienced by individual schools. The distinction between teacher presence and teacher equity is therefore essential. The analysis demonstrates that geographical isolation interacts with school size, transportation, employment status, professional development, and institutional support. These factors can cause a school to appear adequately staffed while students still experience limited access to qualified and continuously available instruction. A small remote school may require greater resources per student than a larger accessible school, not because remote students are more valuable than urban students, but because the cost of providing an equivalent educational opportunity is greater. A distributively just teacher policy for Mentawai should therefore reject purely uniform allocation formulas. Teacher resources should be differentiated according to educational need and geographical difficulty. The policy should combine targeted recruitment, remote-service allowances, housing and transportation support, professional development, local teacher pipelines, and community-based monitoring. Such a model would recognize that equality sometimes requires unequal allocation: where geography imposes greater burdens, justice requires greater institutional support. Ultimately, the relevant question for educational policy is not simply whether teachers are present, but whether every community has a fair opportunity to benefit from qualified teaching. If children in

remote islands systematically receive fewer or less stable educational resources because their communities are difficult to reach, then the education system reproduces geographical inequality even when formal access is universal. Teacher allocation in Mentawai should therefore be evaluated according to its capacity to transform national educational rights into substantive and geographically inclusive opportunities to learn.

References

- Baker, David P., Mark Stevenson, and Mary E. Green. 2017. "School Resources, Teacher Quality, and Student Achievement: Evidence from Developing Countries." *Educational Research Review* 22: 1–14.
- Břteille, Tara, and David K. Evans. 2019. *Successful Teachers, Successful Students: Recruiting and Retaining Teachers in Disadvantaged Schools*. Washington, DC: World Bank.
- Boyd, Donald, Pamela Grossman, Hamilton Lankford, Susanna Loeb, and James Wyckoff. 2005. "How Changes in Entry Requirements Alter the Teacher Workforce and Affect Student Achievement." *Education Finance and Policy* 1 (2): 176–216.
- BPS Kabupaten Kepulauan Mentawai. 2023. *Kabupaten Kepulauan Mentawai dalam Angka 2023*. Tuapejat: Badan Pusat Statistik Kabupaten Kepulauan Mentawai.
- BPS Kabupaten Kepulauan Mentawai. 2024. *Kabupaten Kepulauan Mentawai dalam Angka 2024*. Tuapejat: Badan Pusat Statistik Kabupaten Kepulauan Mentawai.
- BPS Kabupaten Kepulauan Mentawai. 2024. *Kecamatan Pagai Utara dalam Angka 2024*. Tuapejat: Badan Pusat Statistik Kabupaten Kepulauan Mentawai.
- BPS Kabupaten Kepulauan Mentawai. 2024. *Kecamatan Siberut Utara dalam Angka 2024*. Tuapejat: Badan Pusat Statistik Kabupaten Kepulauan Mentawai.
- BPS Kabupaten Kepulauan Mentawai. 2024. *Kecamatan Sikakap dalam Angka 2024*. Tuapejat: Badan Pusat Statistik Kabupaten Kepulauan Mentawai.
- BPS Kabupaten Kepulauan Mentawai. 2024. *Kecamatan Sipora Selatan dalam Angka 2024*. Tuapejat: Badan Pusat Statistik Kabupaten Kepulauan Mentawai.
- BPS Kabupaten Kepulauan Mentawai. 2024. *Kecamatan Sipora Utara dalam Angka 2024*. Tuapejat: Badan Pusat Statistik Kabupaten Kepulauan Mentawai.
- Boyd, Donald, Pamela Grossman, Hamilton Lankford, Susanna Loeb, and James Wyckoff. 2009. "Teacher Preparation and Student Achievement." *Educational Evaluation and Policy Analysis* 31 (4): 416–40.
- Chang, Mae Chu, Samer Al-Samarrai, Ariane Bernhard, and R. G. S. Z. Shaeffer. 2014. *Teacher Reform in Indonesia: The Role of Politics and Evidence in Policy Making*. Washington, DC: World Bank.

- Clotfelter, Charles T., Helen F. Ladd, and Jacob L. Vigdor. 2007. "Teacher Credentials and Student Achievement: Longitudinal Analysis with Student Fixed Effects." *Economics of Education Review* 26 (6): 673–82.
- Darling-Hammond, Linda. 2000. "Teacher Quality and Student Achievement: A Review of State Policy Evidence." *Education Policy Analysis Archives* 8 (1): 1–44.
- Filmer, Deon. 2007. "If You Build It, Will They Come? School Availability and School Enrolment in 21 Poor Countries." *Journal of Development Studies* 43 (5): 901–28.
- Gaduh, Arya, Menno Pradhan, Jan Priebe, and Dewi Susanti. 2020. "Scores, Camera, Action? Incentivizing Teachers in Remote Areas." RISE Working Paper 20/035. Jakarta: RISE Indonesia.
- Gaduh, Arya, Menno Pradhan, Jan Priebe, and Dewi Susanti. 2022. "Does Performance Pay Enhance Social Accountability? Evidence from Remote Schools in Indonesia." NBER Working Paper 30758. Cambridge, MA: National Bureau of Economic Research.
- Gaduh, Arya, Menno Pradhan, Jan Priebe, and Dewi Susanti. 2023. "Can Community Participation Leverage Changes in Teacher Behavior? Evidence from Remote Areas of Indonesia." *International Journal of Educational Development* 102: 102840.
- Guarino, Cassandra M., Lucrecia Santib6cez, and Glenn A. Daley. 2006. "Teacher Recruitment and Retention: A Review of the Recent Empirical Literature." *Review of Educational Research* 76 (2): 173–208.
- Hanushek, Eric A., John F. Kain, Daniel M. O'Brien, and Steven G. Rivkin. 2005. "The Market for Teacher Quality." NBER Working Paper 11154. Cambridge, MA: National Bureau of Economic Research.
- Hanushek, Eric A., John F. Kain, and Steven G. Rivkin. 2004. "Why Public Schools Lose Teachers." *Journal of Human Resources* 39 (2): 326–54.
- Heyward, Mark, and Aos Santosa Hadiwijaya. 2014. "Policy, Politics and Pendidikan: Teacher Deployment in Indonesia." Proceedings of the International Conference on Fundamentals and Implementation of Education. Yogyakarta: Universitas Negeri Yogyakarta.
- Ingersoll, Richard M. 2001. "Teacher Turnover and Teacher Shortages: An Organizational Analysis." *American Educational Research Journal* 38 (3): 499–534.
- Jacoby, Hanan G. 2000. "Access to Markets and the Benefits of Rural Roads." *The Economic Journal* 110 (465): 713–37.
- Kraft, Matthew A., and Allison F. Gilmour. 2016. "Can Principals Promote Teacher Development as Evaluators? A Case Study of Principals' Views and Experiences." *Educational Administration Quarterly* 52 (5): 711–53.
- Kristiansen, Stein, and Pratikno. 2006. "Decentralising Education in Indonesia." *International Journal of Educational Development* 26 (5): 513–31.

- Law of the Republic of Indonesia No. 14 of 2005 concerning Teachers and Lecturers.
- McKenzie, Phillip, Dita Nugroho, Clare Ozolins, Julie McMillan, Sudarno Sumarto, Nina Toyamah, Vita Febriany, Robert Justin Sodo, Luhur Bima, and Armand Arief Sim. 2014. *Study on Teacher Absenteeism in Indonesia 2014*. Jakarta: Education Sector Analytical and Capacity Development Partnership.
- Ministry of Education and Culture, Republic of Indonesia. 2014. *Study on Teacher Absenteeism in Indonesia 2014*. Jakarta: Ministry of Education and Culture.
- OECD and Asian Development Bank. 2015. *Education in Indonesia: Rising to the Challenge*. Paris: OECD Publishing.
- Rawls, John. 1971. *A Theory of Justice*. Cambridge, MA: Harvard University Press.
- Reardon, Sean F., and Ann Owens. 2014. "60 Years after Brown: Trends and Consequences of School Segregation." *Annual Review of Sociology* 40: 199–218.
- Sen, Amartya. 2009. *The Idea of Justice*. Cambridge, MA: Harvard University Press.
- Soja, Edward W. 2010. *Seeking Spatial Justice*. Minneapolis: University of Minnesota Press.
- Suprastowo, Philip. 2013. "Kajian tentang Tingkat Ketidakhadiran Guru Sekolah Dasar dan Dampaknya terhadap Siswa." *Jurnal Pendidikan dan Kebudayaan* 19 (1): 31–49. <https://doi.org/10.24832/jpnk.v19i1.106>.
- UNESCO. 2020. *Global Education Monitoring Report 2020: Inclusion and Education—All Means All*. Paris: UNESCO.
- Werang, Basilius Redan, Seli Marlina Radja Leba, and Ermelinda Agnes Gunu Pure. 2017. "Factors Influencing Teacher Absenteeism in the Remote Elementary Schools of Indonesia: Empirical Proof from Southern Papua." *International Journal of Management in Education* 11 (3): 223–47.
- World Bank. 2008. *Teacher Employment and Deployment in Indonesia: Opportunities for Equity, Efficiency, and Quality Improvement*. Washington, DC: World Bank.
- World Bank. 2009. *The Economics of Teacher Supply in Indonesia*. Washington, DC: World Bank.
- World Bank. 2010. *Transforming Indonesia's Teaching Force*. Washington, DC: World Bank.
- World Bank. 2013. *Spending More or Spending Better: Improving Education Financing in Indonesia*. Washington, DC: World Bank.
- World Bank. 2017. *Improving Education Quality in Indonesia's Poor Rural and Remote Areas*. Washington, DC: World Bank.
- World Bank. 2020. *The Promise of Education in Indonesia*. Washington, DC: World Bank.

Acknowledgment

None

Funding Information

None

Conflicting Interest Statement

The authors state that there is no conflict of interest in the publication of this article.

Publishing Ethical and Originality Statement

All authors declared that this work is original and has never been published in any form and in any media, nor is it under consideration for publication in any journal, and all sources cited in this work refer to the basic standards of scientific citation.

Generative AI Statement

Author During the preparation of this manuscript, the author(s) used generative artificial intelligence (AI) tools to assist with language editing, grammar checking, and improving the clarity and readability of the manuscript. All AI-assisted outputs were critically reviewed and revised by the author(s) to ensure their accuracy, originality, and consistency with the intended meaning of the manuscript. The author(s) remain fully responsible for the content of the manuscript, including the accuracy of the information presented, the interpretation of the results, the originality of the work, and the final version submitted for publication. Generative AI tools were not used to replace the intellectual contribution, scientific judgment, or decision-making of the author(s). **Editor** During the editorial process, the editor used generative artificial intelligence (AI) tools solely to assist with improving the language and clarity of editorial communications. No submitted manuscript or confidential manuscript content was uploaded to or processed by the AI tool. The editor reviewed and edited the AI-assisted output as needed and remains fully responsible for the content and for all editorial decisions.