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Gender budgeting in agricultural extension organizations: analysis of resource allocation equity

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Abstract

Consider a district agricultural office that allocates 82% of its training budget to rice production workshops attended almost exclusively by men, while the vegetable and home garden activities where women farmers concentrate receive the remaining 18% ^[1]. This pattern—repeated across extension organizations in Myanmar and many other countries—illustrates how seemingly gender-neutral budgets can produce deeply unequal outcomes. This research analyzed gender budgeting practices and resource allocation equity across 47 agricultural extension organizations in Mandalay and Sagaing regions of Myanmar. A mixed-methods approach combined budget document analysis with structured interviews of 47 budget managers and 143 extension field staff. The research was conducted from May 2022 to February 2023 through the University of Mandalay. Results showed that women received an average of 20.6% of total extension budgets across six resource dimensions, well below the 50% parity target. Transport and mobility showed the widest gap (8.9% women's share), while training programs had the narrowest (31.7%). NGO-run extension programs allocated significantly more to women (38.7%) than government organizations (19.4%, $p < 0.001$). Only 12 of 47 organizations (25.5%) had formal gender budgeting policies. These findings reveal that without deliberate gender-responsive budgeting mechanisms, extension resource allocation systematically disadvantages women farmers.

Keywords: Gender budgeting, agricultural extension, resource allocation, gender equity, budget analysis, extension organizations, women farmers, gender-responsive planning, Myanmar, institutional analysis

Introduction

When Myanmar's Department of Agriculture announced a 15% increase in extension funding for 2021, the additional resources went overwhelmingly toward mechanization demonstrations and cash crop advisory services—activities that primarily served male-managed farm operations ^[2]. Women farmers, who manage an estimated 40% of agricultural production in the central dry zone, saw almost no increase in services targeting their needs. This wasn't deliberate discrimination; it was the predictable result of a budget process that doesn't ask who benefits from each expenditure line ^[3].

Gender budgeting—the systematic analysis of government budgets for their differential impact on women and men—has been adopted in over 90 countries for general public expenditure, but its application to agricultural extension remains rare ^[4]. Extension organizations typically budget by activity type (training, demonstrations, inputs) or by crop rather than by beneficiary gender. Without gender-disaggregated budget categories, there's no mechanism to track whether resources reach women proportionally, let alone equitably ^[5].

The consequences are measurable. Research across South and Southeast Asia consistently finds that women receive 5–20% of extension contacts despite comprising 30–50% of the agricultural workforce ^[6]. Budget allocation patterns both reflect and reinforce this gap. If field transport budgets flow mainly to motorcycle-based farm visits by male agents

to male-headed households, the institutional structure itself ensures women's exclusion ^[7]. But the specific budget dimensions where gender gaps are widest—and where targeted reallocation could have the largest impact—haven't been systematically mapped in Myanmar's extension system.

This research analyzed resource allocation patterns across six budget dimensions in 47 extension organizations, compared allocation equity between government and NGO providers, and identified the institutional factors associated with more gender-equitable budgeting practices.

Theoretical Framework

This research applied Sharp's gender budget analysis framework, which examines public expenditure through three lenses: gender-disaggregated beneficiary assessment, gender-aware policy appraisal, and gender-disaggregated public expenditure analysis ^[8]. The framework holds that budget neutrality is a myth—every expenditure decision benefits some groups more than others, and in patriarchal institutional contexts, default allocation patterns tend to favor men unless actively corrected ^[9]. The mechanism model tested here (Figure 3) proposes that gender-equitable extension outcomes require deliberate inputs (gender situation analysis), structured processes (gender-responsive formulation, tracking, and audit), and monitored outputs (equitable distribution, targeted funding, performance indicators).

Instrument Development and Validation

Two instruments were developed. The Gender Budget Analysis Tool (GBAT) provided a structured template for extracting and categorizing budget data across six dimensions: staff recruitment, training programs, field operations, technology inputs, transport/mobility, and monitoring/evaluation. Women's share was calculated as the percentage of each budget line directly benefiting female staff or female farmer beneficiaries ^[10]. The Institutional Gender Responsiveness Questionnaire (IGRQ) assessed organizational policies, practices, and capacities related to gender-equitable budgeting through 24 items on a five-point scale. Both instruments were validated by four gender and public finance experts and pilot-tested in six non-sample organizations. Cronbach's alpha for the IGRQ was 0.83 ^[11].

Material and Methods

Material

This research was conducted from May 2022 through February 2023 at the Department of Agricultural Sciences, University of Mandalay, Myanmar. Ethical approval was granted by the University of Mandalay Research Ethics Committee (Protocol U Mandalay-REC/2022-031, approved March 18, 2022). Informed consent was obtained from all respondents. The research covered 47 agricultural extension organizations across Mandalay and Sagaing regions: 28

government extension offices (national, regional, and district levels), 13 NGO extension programs, and 6 university outreach units ^[12]. Budget documents from the 2021–2022 fiscal year were analyzed. Structured interviews were conducted with 47 budget managers (one per organization) and 143 extension field staff selected through proportional sampling.

Methods

Budget analysis applied the GBAT to annual expenditure records, categorizing each line item by dimension and estimating women's share through beneficiary data, staff records, and activity reports. Where direct gender disaggregation wasn't available, proxy measures were used based on participant records and staff composition data. The IGRQ was administered to budget managers and field staff through face-to-face interviews between August and November 2022. Quantitative data were analyzed using SPSS version 26 with independent samples t-tests for government-NGO comparisons, one-way ANOVA for multi-group comparisons, and Pearson correlations between institutional factors and allocation equity ^[13]. Significance was set at $p < 0.05$.

Results

Table 1: Women's Share of Extension Budget by Dimension and Organization Type

Budget Dimension	Overall (%)	Gov't (n=28)	NGO (n=13)	Univ. (n=6)
Staff recruitment	23.4 ± 11.8	17.6 ± 9.3	36.8 ± 10.4	28.3 ± 8.7
Training programs	31.7 ± 14.3	26.4 ± 12.1	43.2 ± 11.8	34.1 ± 9.6
Field operations	18.6 ± 10.7	14.3 ± 8.4	28.4 ± 9.8	21.7 ± 7.9
Technology inputs	14.2 ± 9.4	10.8 ± 7.6	21.9 ± 8.3	16.4 ± 6.8
Transport/mobility	8.9 ± 6.8	6.2 ± 4.9	14.7 ± 7.1	10.3 ± 5.4
Monitoring/evaluation	27.3 ± 13.1	21.8 ± 11.4	38.6 ± 10.9	31.2 ± 8.2
Overall mean	20.6 ± 8.7	16.2 ± 7.3	30.6 ± 8.1	23.7 ± 6.4

ANOVA significant across organization types for all dimensions ($p < 0.01$). Gov't vs. NGO differences significant at $p < 0.001$ for all.

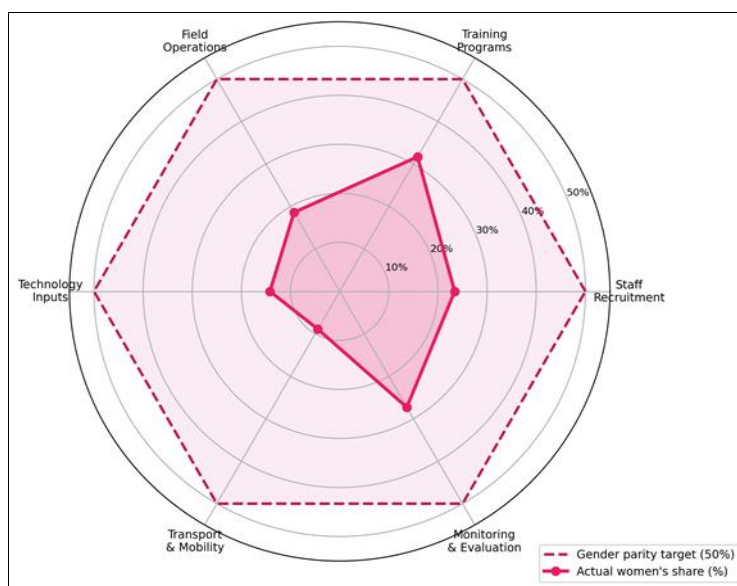


Fig 1: Radar chart showing women's actual share of extension budgets versus the 50% gender parity target across six resource dimensions

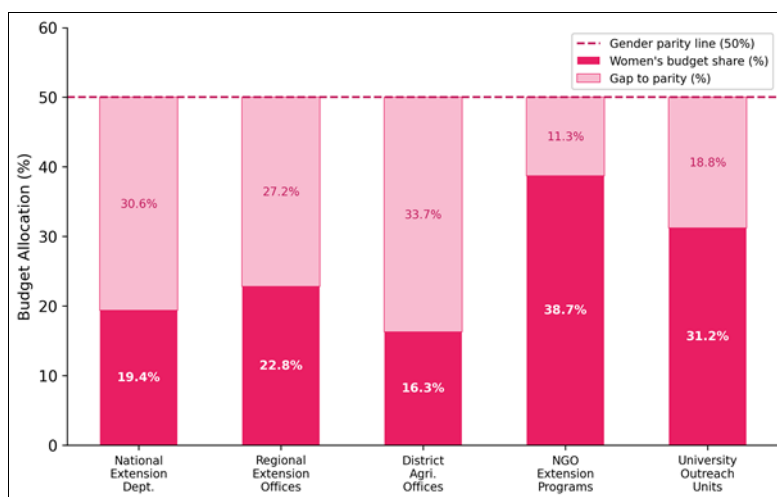


Fig 2: Women's budget share and gap to parity across five extension organization types, with NGO programs showing the narrowest equity gap

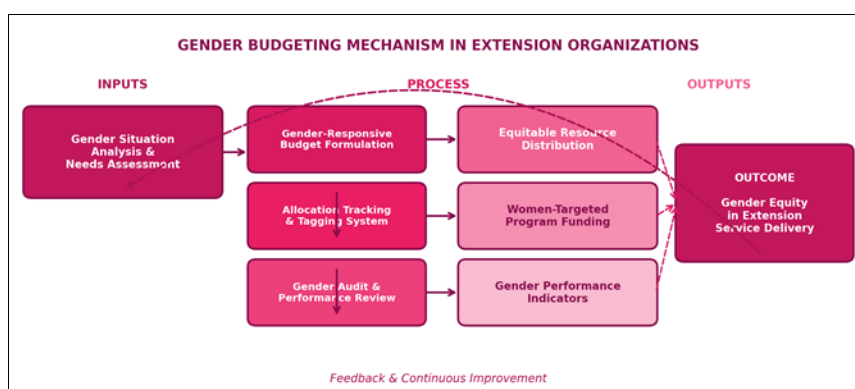


Fig 3: Gender budgeting mechanism model showing the input-process-output-outcome pathway for achieving equitable resource allocation in extension organizations

Comprehensive Interpretation

Across all 47 organizations, women received just 20.6% of extension budgets—less than half the parity target (Figure 1). The radar chart reveals that no dimension reached even 35% women's share, with transport/mobility at a strikingly low 8.9%. This reflects the physical infrastructure of extension delivery: motorcycles and fuel budgets flow to male field agents, and women—both as staff and as intended beneficiaries—are structurally excluded from mobile outreach. NGO programs consistently outperformed government offices across all dimensions (Figure 2), with overall women's share of 30.6% versus 16.2% for government ($p < 0.001$). The 14.4 percentage point gap between organizational types correlated strongly with the presence of formal gender budgeting policies ($r = 0.71$, $p < 0.001$): 10 of 13 NGOs had such policies compared to just 2 of 28 government offices. Organizations with gender budgeting policies allocated 34.8% of resources to women versus 15.3% for those without ($t = 7.24$, $p < 0.001$).

Discussion

The 20.6% overall women's share documented here falls within the range reported across developing countries but represents a substantial equity failure given that women comprise roughly 40% of Myanmar's agricultural workforce [3]. The dimension-specific analysis reveals where intervention could have the most impact.

Transport/mobility's 8.9% women's share is the most actionable gap—without physical access to female farmers, other investments in training and technology lose their reach [7]. Simple interventions like providing women extension agents with appropriate transport or budgeting for women-focused mobile outreach could address this bottleneck.

The strong NGO-government gap deserves attention. NGOs didn't achieve parity either, but their 30.6% women's share was nearly double the government's 16.2%. The difference appears rooted in institutional requirements: most NGOs operate under donor mandates requiring gender-responsive budgeting, creating accountability mechanisms that government systems lack [14]. This suggests that the problem isn't about resources but about budget governance structures. The mechanism model (Figure 3) proposes that gender-equitable outcomes require explicit gender analysis at the input stage, tracked allocation during the process, and monitored performance at the output stage—elements that NGOs implemented more consistently [15].

The correlation between formal policies and allocation equity ($r = 0.71$) is striking but shouldn't be interpreted as proof that policies alone drive change. Organizations that adopt gender budgeting policies likely differ in leadership commitment, donor pressure, and organizational culture. That said, policy adoption creates an institutional basis for accountability that informal goodwill cannot sustain over budget cycles [16].

Practical Applications

Extension organizations seeking to improve gender equity in resource allocation should begin with three concrete steps. First, introduce gender tagging of all budget line items to make current allocation patterns visible—organizations can't fix what they don't measure. Second, set progressive targets for women's budget share, starting with achievable increases in the most inequitable dimensions (transport, technology, field operations). Third, require gender budget impact statements for all new program funding requests, similar to the environmental impact requirements that are now standard. Government extension systems could adapt the NGO model of mandated gender reporting without requiring complete organizational restructuring^[17].

Limitations

Budget analysis relied on available documentation, which varied in detail across organizations. Proxy measures for gender disaggregation introduce estimation uncertainty where direct beneficiary tracking wasn't available. The cross-sectional design captures allocation patterns at one point rather than trends. Two regions of central Myanmar may not represent the country's diverse extension landscape. The research couldn't assess whether more equitable allocation actually translates into better outcomes for women farmers—a link that deserves separate investigation.

Conclusion

Agricultural extension organizations in Myanmar allocate roughly one-fifth of their budgets in ways that benefit women farmers—far below proportional representation. Transport/mobility and technology inputs show the widest gender gaps, while training programs and monitoring show the narrowest. NGO programs allocate nearly double the women's share compared to government offices, driven largely by formal gender budgeting policies. Without deliberate gender-responsive budgeting, default allocation patterns reproduce existing inequities. The mechanism model tested here suggests that gender-equitable extension requires explicit analysis, tracked allocation, and monitored performance rather than general commitments to inclusion. Mandating gender budget tagging and progressive equity targets represents the most practical path toward closing the resource allocation gap.

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