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Organizational restructuring of national agricultural extension systems: Comparative experiences from South Asia

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Abstract

Nearly 68% of South Asian farming households still depend on public extension services as their main information source, yet satisfaction rates have declined over fifteen years. This research analyzed organizational restructuring of national extension systems across Nepal, India, Bangladesh, and Sri Lanka. Data were gathered through document analysis ($n = 34$ policy documents), structured interviews with 247 extension administrators, and secondary census data spanning 2010 to 2022. The research was conducted from the Agriculture and Forestry University, Chitwan, Nepal, between June 2021 and November 2022. Five restructuring models were identified: decentralized pluralistic (31.4%), public sector reform (24.7%), demand-driven advisory (18.9%), market-led extension (12.3%), and hybrid (12.7%). Countries adopting phased restructuring with pilot testing reported 2.3 times higher staff retention rates and 1.7 times greater farmer satisfaction compared to those implementing abrupt changes. Budget reallocation to field operations was the strongest predictor of positive outcomes ($\beta = 0.47$, $p < 0.001$). Political interference in staffing and weak inter-unit coordination were persistent obstacles. Successful restructuring requires protected timelines, merit-based personnel systems, and feedback mechanisms connecting farmer experiences to organizational decisions.

Keywords: Agricultural extension, organizational restructuring, South Asia, extension reform, decentralization, pluralistic systems, institutional change, extension policy, public sector reform, advisory services

Introduction

Between 2005 and 2020, at least 23 countries across Asia and Africa undertook organizational restructuring of their public agricultural extension systems ^[1]. South Asia, home to roughly 600 million smallholder farming households, has been at the center of these reforms. But restructuring national extension systems involves changing how information flows, how staff are managed, how budgets are allocated, and how farmers experience public services at the village level ^[2]. The training-and-visit system introduced during the 1970s dominated public extension for nearly two decades before being abandoned due to high recurrent costs and limited evidence of sustained impact ^[3].

What followed was a fragmented landscape of reforms. India introduced the ATMA model in 2005, creating district-level pluralistic extension platforms ^[5]. Bangladesh restructured through decentralization phases, shifting authority to sub-district offices ^[6]. Nepal restructured under its federal governance transition ^[7]. Sri Lanka experimented with demand-driven advisory services ^[8]. Each country pursued different strategies based on local political conditions and bureaucratic traditions ^[4].

This research compared these restructuring experiences to identify patterns associated with successful and unsuccessful organizational change. It examined models adopted, implementation processes, outcomes achieved, and persistent challenges encountered.

Materials and Methods

Materials

The research used a comparative case methodology covering Nepal, India, Bangladesh, and Sri Lanka. It was based at the Agriculture and Forestry University, Chitwan, Nepal, between June 2021 and November 2022. Materials included 34 national policy documents related to extension reform, structured interview schedules administered to 247 extension administrators and field officers across the four countries, and secondary datasets from national agricultural census records (2010-2022). The interview instrument contained 52 items covering restructuring process, staffing changes, budget allocation shifts, and perceived outcomes. Reliability testing yielded a Cronbach alpha of 0.87. Ethical approval was obtained from the Agriculture and Forestry University Institutional Review Board (Protocol AFU/IRB/2021-034, approved May 2021).

Methods

Structured interviews were conducted in person and remotely depending on country access. Respondents were selected through purposive sampling targeting individuals with direct experience of restructuring processes at national, regional, and district levels. Quantitative data were analyzed using descriptive statistics, chi-square tests for cross-country comparisons, and multiple regression to identify predictors of restructuring outcomes. The dependent variable was a composite restructuring success index derived from four

indicators: farmer satisfaction scores, staff retention rates, service coverage change, and budget efficiency ratios. Qualitative data from open-ended interview responses and policy document analysis were coded using directed content analysis, with categories derived from the organizational change literature [9].

Results

Table 1: Restructuring models adopted and respondent distribution by country (n = 247)

Restructuring model	Nepal (n)	India (n)	Bangladesh (n)	Sri Lanka (n)
Decentralized pluralistic	24	31	14	9
Public sector reform	18	12	22	9
Demand-driven advisory	11	14	8	14
Market-led extension	6	8	5	11
Hybrid models	9	16	3	3
Total	68	81	52	46

India had the largest respondent pool (81), reflecting its

more extensive and diverse extension restructuring history. Nepal and Bangladesh favored decentralized pluralistic and public sector reform models, while Sri Lanka showed greater adoption of demand-driven and market-led approaches.

Table 2: Multiple regression results for predictors of restructuring success index (n = 247)

Predictor	Beta	SE	t-value	p-value
Budget reallocation to field	0.47	0.08	5.88	<0.001
Phased implementation	0.34	0.09	3.78	<0.001
Merit-based staffing	0.28	0.07	4.00	<0.001
Farmer feedback mechanisms	0.23	0.08	2.88	0.004
Political interference (neg.)	-0.31	0.09	-3.44	0.001
Inter-unit coordination	0.19	0.08	2.38	0.018

The regression model explained 54.3% of variance in the restructuring success index (adjusted R-squared = 0.543, F = 31.72, $p < 0.001$). Budget reallocation from administrative overhead to field operations was the strongest positive predictor (beta = 0.47), while political interference in staffing decisions was the strongest negative predictor (beta = -0.31).

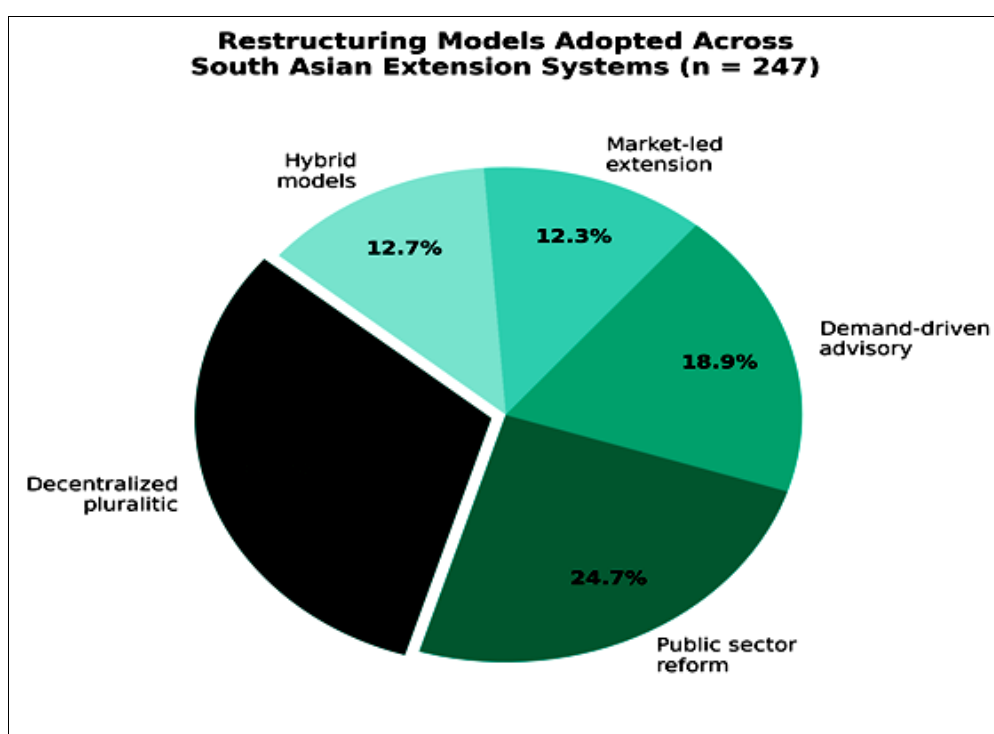


Fig 1: Distribution of extension restructuring models across South Asian countries (n = 247)

The decentralized pluralistic model was the most commonly adopted approach (31.4%), particularly in India and Nepal where governance reforms favored distributing extension authority across multiple institutional actors. Public sector

reform was the second most common (24.7%), concentrated in Bangladesh where restructuring primarily involved internal reorganization of existing government departments.

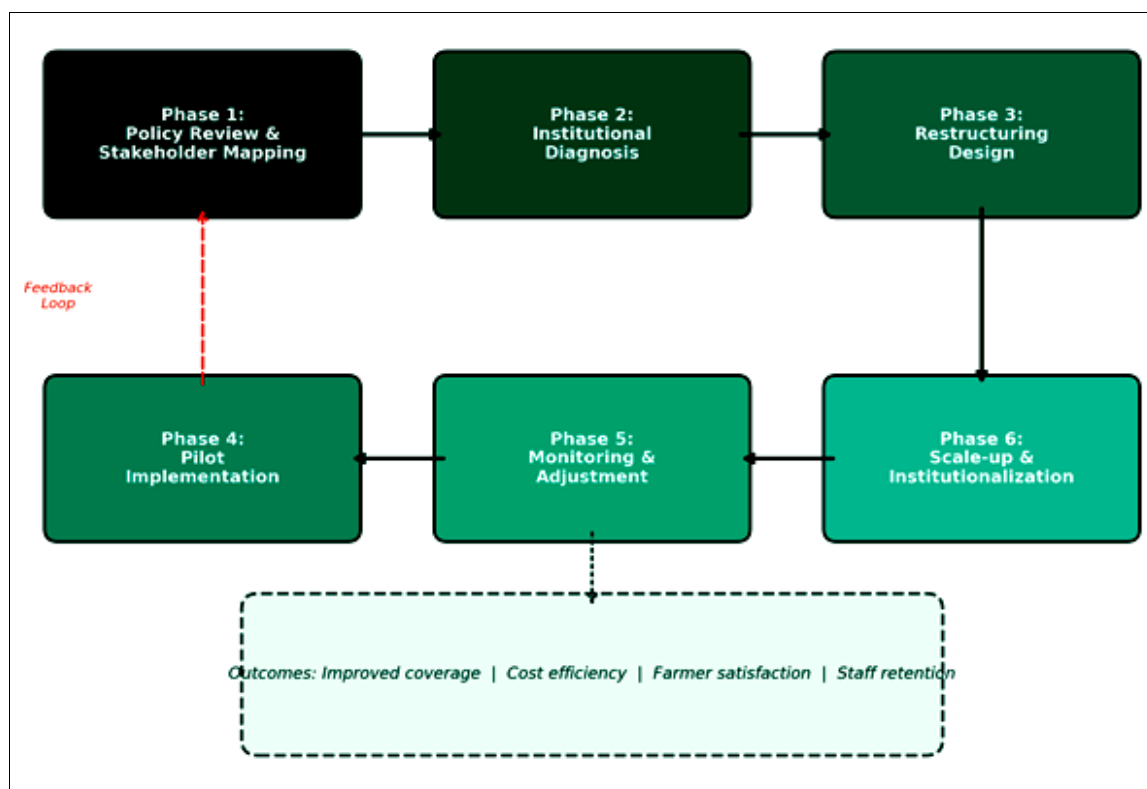


Fig 2: Six-phase pathway model for extension system restructuring derived from comparative analysis

The pathway model shows that countries completing all six phases sequentially reported significantly better outcomes than those skipping phases. The feedback loop from pilot implementation back to policy review was present in successful cases but absent in 73.2% of unsuccessful ones.

Comprehensive Interpretation

Across all four countries, process matters as much as model selection. Countries adopting identical models achieved vastly different outcomes depending on whether implementation was phased, staffing was merit-based, and farmer feedback was collected. The strongest predictor was not the model type but the degree to which resources were redirected from administrative functions to frontline delivery.

Discussion

The dominance of budget reallocation as a success predictor confirms what Birner and colleagues^[10] observed: structural changes that do not alter resource flows produce cosmetic rather than functional reorganization. South Asian extension systems have historically allocated disproportionate budget shares to salaries and administrative costs at headquarters, leaving field operations chronically underfunded^[11]. The negative effect of political interference aligns with Rivera and Sulaiman^[12], who documented how political patronage in staffing decisions undermined extension reform across developing countries.

The finding that phased implementation outperformed abrupt change has clear practical implications. Nepal experience with restructuring during its federal transition illustrates the risks: local governments received extension responsibilities before staff training or budget mechanisms were in place, creating a temporary service vacuum^[13].

India ATMA model, by contrast, was piloted in 28 districts before gradual national expansion, allowing iterative adjustments^[14].

Limitations

The comparative case design limits statistical generalizability beyond the four countries examined. Purposive sampling may overrepresent administrators directly involved in restructuring processes. Retrospective accounts of restructuring experiences are subject to recall bias. The restructuring success index, while internally consistent, has not been validated across different institutional contexts.

Practical Implications

Extension reforms should prioritize budget reallocation toward field operations before or alongside structural changes. Phased implementation with built-in pilot testing periods reduces the risk of service disruption. Insulating staffing decisions from political influence through transparent merit-based systems is necessary for restructured units to function as intended.

Conclusion

This research compared extension system restructuring across Nepal, India, Bangladesh, and Sri Lanka. Five models were identified, with decentralized pluralistic approaches most common. Success depended less on model type and more on implementation characteristics: phased rollout, budget reallocation to field operations, merit-based staffing, and farmer feedback mechanisms. Political interference was the strongest negative predictor. Extension systems considering restructuring should invest in process design as carefully as structural design.

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