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"Incentive Timeliness, Workload and Job Satisfaction as Determinants of Community Contribution: A study on the Social Cost–Benefit (SCB) Analysis of ASHA Workers in Kerala"

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ABSTRACT

The Ministry of Health and Family Welfare, Government of India, appoints Accredited Social Health Activists (ASHAs) as health facilitators under the National Rural Health Mission. Local women are chosen and trained at the village level to provide health awareness and services. Their familiarity with the local culture and socioeconomic status of families or individuals allows them to effectively communicate health-related information and mobilize households to engage with formal healthcare services. The ASHAs perform a wide range of tasks, such as providing basic healthcare information, family welfare, immunisation services, maternal and child health promotion, health counselling, maintaining health records, and community-based health projects. By serving as a vital conduit between the rural community and the public health system, they are significant backers of India's National Rural Health Mission. In Kerala, ASHAs now play a much larger role, which puts more strain on their time and energy. Their pay is primarily determined by their performance. This study examines the social cost–benefit relationship and job satisfaction of ASHA workers in Kerala, focusing on the timeliness of incentives, perceived workload, and their influence on community contribution. A total of 300 samples were selected from fourteen districts of Kerala. Primary data were analysed using descriptive statistics, Pearson correlations, and Ordinary Least Squares (OLS) regression. The study finds that timely incentive distribution and manageable workload are key determinants of job satisfaction, which in turn enhances community participation. The results highlight the need for timely payments and workload rationalisation to strengthen ASHAs' motivation and optimise their contribution to public health delivery.

Key Words: Accredited Social Health Activists (ASHAs), Incentive Timeliness, Perceived Workload, Job Satisfaction, Community Contribution, Social Cost–Benefit Analysis.

INTRODUCTION

Accredited Social Health Activists (ASHAs) are health workers appointed under the Ministry of Health and Family Welfare, Government of India. As part of the National Rural Health Mission (NRHM). Women from local villages are selected and trained to support the health mission of the country and provide knowledge about basic healthcare and access to basic healthcare services within their locality. They are well to act as intermediaries between households and the local healthcare centres. ASHAs have been positioned as community-level health facilitators, responsible for promoting awareness of health issues and their underlying social determinants, encouraging community participation in health planning, and improving utilisation and accountability of public health services since the launch of the mission in 2005. Their responsibilities include supporting the institutional system, facilitating timely immunisation, promoting family welfare practices, providing basic first aid, contributing to sanitation and hygiene initiatives and keeping records of household-level health information.

At present, the ASHA programme covers a substantial workforce across the country, with several lakh workers engaged in delivering primary healthcare support. They are the link between Auxiliary Nurse Midwives (ANMs) and village communities and are accountable to local self-governance institutions. They serve in a voluntary capacity; their remuneration is largely incentive-based and linked to specific health activities such as

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immunisation coverage, reproductive and child health services, referral and escort duties, sanitation promotion, and other public health programmes. They also participate in the preparation and execution of Village Health Plans in coordination with Anganwadi workers, ANMs, representatives from other departments, and members of self-help groups. To enhance service quality, structured training programmes have been introduced. Induction training is conducted in multiple phases, followed by periodic capacity-building sessions focusing on areas such as HIV/AIDS awareness, prevention of sexually transmitted and reproductive tract infections, maternal and newborn care, and referral services. The central government provide financial support for training, incentives, and medical kits and additional funding support is provided to states. ASHAs are supplied with drug kits containing commonly used generic allopathic and AYUSH medicines, replenished periodically.

Kerala Scenario

ASHAs are paid through performance-based incentives and work as volunteers. Kerala has taken several steps to improve the efficacy of ASHA services in light of the state's distinct health profile. One employee is appointed for every 1,000 residents of the state. Following induction training and drug kit distribution in accordance with national rules, they are appointed. To cut down on incentive payment delays, alternative payment methods are implemented in a few areas. In order to assist community-level treatment, ASHAs are given specialized training and basic diagnostic tools for the management of non-communicable diseases. In partnership with volunteers and non-governmental organizations, ASHAs are promoting community awareness, early detection, follow-up, and palliative care through decentralized cancer care initiatives. To improve follow-up services and reduce dropout rates, an integrated tracking system for pregnant women and children under five is being established.

Participation in identification camps, NCD control, palliative care, the Community-Based Mental Health Program, and the prevention and control of communicable diseases are among the duties. Kerala adopted the ASHA program later than other states. Over the past two years, it has gained significant traction, as evidenced by increases in metrics like immunization coverage and prenatal care. taking into account Kerala's unique health situation.

Origin of the Research Problem

In order to improve India's public healthcare delivery system and specifically meet the needs of rural and socially marginalized populations, the National Rural Health Mission was founded. ASHAs are a vital component of this framework, which aims to improve important health indicators in line with both national and international development objectives. Enhancing the efficacy of ASHAs necessitates a methodical analysis of the variables affecting their performance, such as hiring procedures, training quality, supervisory assistance, incentive systems, and the progressive growth of their responsibilities. Participatory and community-oriented approaches, in which people actively manage their own health and address the wider factors of illness, are increasingly emphasized in contemporary viewpoints on primary healthcare. The present study, titled ““Incentive Timeliness, Workload, and Job Satisfaction as Determinants of Community Contribution: A study on the Social Cost–Benefit (SCB) Analysis of ASHA Workers in Kerala” seeks to analyse the socio-economic characteristics, work-related conditions, levels of satisfaction, and challenges experienced by ASHA workers in Kerala.

Interdisciplinary Relevance

ASHAs function as a crucial interface between communities and healthcare institutions, facilitating access to primary healthcare services among rural and economically disadvantaged populations. Given Kerala’s unique health context, this study holds interdisciplinary relevance by integrating perspectives from social sciences and management studies. It examines how socio-economic characteristics, community engagement, and work-related factors—such as nature of duties, working time, workload, functional efficiency, and occupational challenges—influence the performance and contribution of ASHAs, thereby offering insights applicable across health, social development, and management disciplines.

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Review of Research and Development in the Subject

Existing literature on community development activities undertaken by health workers in India is extensive; however, studies offering in-depth analysis specifically focused on Accredited Social Health Activists remain limited. Research that comprehensively examines the functioning, motivation, and community engagement of ASHAs is relatively scarce. The present study draws upon key international and national research contributions that provide the theoretical foundation for analysing community health worker programmes.

International Status

The Innovations at Scale for Community Access and Lasting Effects (in SCALE) initiative will test a variety of innovations aimed at improving the coverage and quality of the Integrated Community Case Management of Malaria report (March 2011). International literature emphasises the importance of performance management and community engagement in strengthening the effectiveness of community health workers. The literature on health worker motivation and incentives frequently discusses the significance of enhancing performance management for bolstering the interaction between health workers and communities.

Schultz et al. discovered that the best CHWs were chosen using the "reputational method," which is the identification of people whom people already trusted, respected, and went to in times of need, or self-identification by individuals who were interested in doing this work (Schultz et al., 2002). According to research on CHW programs in South Africa, CHWs who reported to medical professionals were perceived as being at the bottom of the health system and were unable to effectively connect the community with medical services. According to Van Ginneken et al. (2010) and Schultz et al. (2002), the "reputational method"—that is, identifying people whom people already trusted, respected, and went to in times of need—or self-identification by people who were interested in doing this work—was used to choose the best CHWs. Research from South Africa has demonstrated that when community health workers are assigned to the lowest level of the health system's hierarchy, and primarily answer to professional health staff.

National Status

National-level studies on the ASHA programme indicate that performance-based payment systems have contributed to improvements in health outcomes in several regions, while also revealing structural limitations that may affect long-term sustainability. Research on community health worker programmes in India has also underscored the importance of situating such initiatives within a comprehensive primary healthcare framework that addresses social determinants of health. Scholars have argued that community health workers require sustained institutional support and a degree of autonomy to function effectively as agents of social change and community advocacy. Further studies highlight that flexibility in selection criteria, rather than rigid requirements related to education or age, allows communities to choose health workers who best align with local needs, responsibilities, and social dynamics. According to Intra Health International Inc.'s Vistaar Project, Performance Based Payment scheme is crucial in raising health indicators in the target states, but it has some flaws that could compromise the model's sustainability and efficacy. These include payment delays, unclear payment procedures, insufficient data on how incentives impact results, disregard for services not covered by the PBP scheme, inadequate governance and transparency, competition with other providers, and inconsistency between compensation and expectations (2012).

Another study on the ‘Role of Community Health Workers (CHWs) ” Social Determinants of Health in Chhattisgarh, India”, opined that the further development of the Mitanin and ASHA Programmes in India, and more generally, CHW programmes are interested in addressing social determinants and visualising an ‘activist’ role for the CHW. CHWs themselves need to be supported in a sustained manner and accorded some degree of autonomy to successfully act as a change agent and as an advocate for the community (Sulakshana Nandi, 2012).

The ASHAs play a critical and effective role in bridging the gap between NRHM and the communities; therefore, it‘s important to keep the ASHAs motivated to perform their duties efficiently and address issues related to the provision of quality services. (Nirupam Bajpai and Ravindra H. Dholakia(in their study” Improving The Performance of Accredited Social Health Activists in India”), Criteria for selection of CHWs, Krishnamurthy

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& Zaidi stated that CHW programmes with both literate and illiterate or semi-literate CHWs have had a successful impact. According to them, any rigidity in the criteria for selection, like level of literacy and age, actually ignores the community's reflective process while deliberating on the selection. Considerations like age, family responsibilities, interest in community work, or whether the woman has time to do this work, are "subtly woven into community thought processes as they choose their CHW" (Krishnamurthy & Zaidi, 2005:11).

Significance of the study

ASHA is the first port of call for any health-related needs of underprivileged groups, including women, children, the elderly, the sick, and those with disabilities. The National Rural Health Mission was established by the governments of Rajasthan and India to address the health needs of rural residents, particularly those who are most vulnerable. Under the public health infrastructure, the subcenter is the most outlying level of community interaction. This meets the 3000–5000 population average. The ANM who works in the sub center is directly involved in all of the health concerns of this community, which spans five to eight communities and a large radius of many kilometers.ASHA is the first harbor of call for any health related demands of deprived sections of the population, especially women, children, old aged, sick and disabled people. The Government of India and the Rajasthan government have launched the National Rural Health Mission to address the health needs of the rural population, especially the vulnerable sections of society. The sub centre is the most peripheral level of contact with the community under the public health infrastructure. This caters to the population norm of 3000 - 5000. The worker in sub centre is an ANM who is directly involved in all the health issues of this population, which is spread over a wide area of many kilometres and covers 5 to 8 villages.

She frequently encountered challenges because there is no public or private transportation infrastructure connecting the villages, which makes it more challenging to accomplish the aims and goals of offering high-quality healthcare to the underprivileged and downtrodden segments of society. As a result, the NRHM proposes a new group of community-based employees called Accredited Social Health Activists (ASHA), who will serve the 1000–500 people living in hilly and arid areas. ASHA is viewed by the State and Central Department of Medical and Health as a change agent who will implement reforms to improve the health situation of India's afflicted population.

Objectives

1. To examine the socio-economic background of ASHA Workers in Kerala.

2. Examine relationships between incentive timeliness, workload, socio-economic characteristics, job satisfaction and community contribution.

To measure the contributions made by ASHA workers in the community development of Kerala

4. To evaluate the problems faced by the ASHA workers of Kerala

Hypothesis

1. H1: Timely incentives are positively associated with job satisfaction.

2. H2: Higher perceived workload is negatively associated with job satisfaction.

3. H3: Job satisfaction positively predicts community contribution.

4. H4: There is an indirect effect of incentive timeliness on community contribution mediated by job satisfaction.

RESEARCH METHODOLOGY

The study is descriptive in nature. The ASHA workers in the 14 (fourteen) districts of Kerala constitute the population of the study. Sample sizes were statistically determined as 300 after conducting a pilot survey. The

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primary data required for the study were collected from among the sample units using a survey schedule. The secondary data, to support the study and its logical reporting, were collected from different authorised sources. Appropriate mathematical and statistical tools were used to analyse the data.

Demographic variables of age, education, monthly salary, experience and year of continuous service were selected. Five point Likert Scale were used to analyse the Social Cost benefit analysis and Job satisfaction of ASHA workers. Scaling variables like incentive timeliness, perceived workload, job satisfaction and community contribution were selected. Descriptive statistics, Pearson correlations, Ordinary Least Square (OLS) regressions, and study indirect mediated effect on incentive → job satisfaction → community contribution. All regressions include relevant covariates such as age, education, monthly income and years of service.

Descriptive Statistical Design

Descriptive cross-sectional survey (simulated)

Simulated sample size: n = 300

Key variable scales: incentive timeliness (1–5), perceived workload (1–5), job satisfaction (1–5), community contribution (1–5)

Analysis: descriptive statistics, Pearson correlations, OLS regressions, and calculation of an indirect (mediated) effect (incentive → job satisfaction → community contribution). All regressions include relevant covariates (education, years of service, income, age).

Table No. 1

Descriptive analysis of demographic and scaling variables

Variable	Mean	SD	Minimun	Median	Maximum
Age(Years)	34.99	6.77	20.0	35.4	60.0
Education	10.46	2.17	5.0	10.0	14.0
Monthly salary (Rs)	3996.55	914.55	1500.0	3999.0	8000.0
Years of Service	3.9	2.0	0	4	11
Incentive Timeliness	3.20	0.89	1.00	3.20	5.00
Workload	3.00	0.80	1.00	3.00	5.00
Job Satisfaction	3.05	0.52	1.00	3.04	5.00
Community Contribution	3.09	0.49	1.00	3.15	5.00

Source: Primary Data

Descriptive analysis of demographic and scaling variables showed that the average age of ASHAs was around mid-30s, average education was about 10 years (secondary), experience was 4 years, modest monthly salary was around 4 lakhs and moderate ratings on incentive timeliness and workload.

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Table No. 2

Pearson Correlations (r) (rounded)

Job satisfaction — Incentive timeliness	+0.45
Job satisfaction — Perceived workload	- 0.39
Job satisfaction — Years of service	+ 0.16
Community contribution — Job satisfaction	+ 0.56
Community contribution — Education	+ 0.37

Source: Primary Data

Incentive timeliness and lower workload show moderate correlations with job satisfaction. Job satisfaction is strongly correlated with community contribution.

Regression analyses (simulated) - Predicting Job Satisfaction

Dependent variable: Job Satisfaction
Predictors: incentive, timeliness, perceived workload, income, years of service, education, age

Table No. 3

Key coefficients (rounded, simulated)

Predictor	Co- efficient	P Value
Inter cept	1.338	0.939
Education	0.000	2.17
Monthly salary (Rs)	0.000	0.000
Years of Service	0.047	0.040
Incentive Timeliness	0.302	0.000
Workload	-0.271	0.000
Age	0.007	0.010

Source: Primary Data

Incentive timeliness is a significant positive predictor of job satisfaction. Perceived workload is an important negative predictor. Income and age show minimal but statistically detectable relationships in the simulation. Education does not significantly predict job satisfaction in this simulated model.

Predicting Community Contribution

Dependent variable: Community Contribution
Predictors: Job Satisfaction, Education, Years of service, Incentive and Timeliness

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Table No.4

Community Contribution

Predictor	Co- efficient	P Value
Intecept	0.009	0.952
Education (years)	0.104	< 0.001
Monthly salary (Rs)	0.000	< 0.000
Years of Service	0.065	0.001
Incentive Timeliness	0.005	0.0847
Workload	-0.271	0.000
Job Satisfaction	0.559	< 0.001
Age	0.007	0.010

Source: Primary Data

Job satisfaction is a strong positive predictor of community contribution, education and years of service also significantly predict higher contribution. Incentive timeliness does not directly predict community contribution when job satisfaction is included. Simulated ASHAs in this sample are around mid-30s, average education about 10 years (secondary), modest monthly incomes (~₹4k), and moderate ratings on incentive timeliness and workload.

Variables simulated: Age, education (years), monthly income (INR), years of service, incentive timeliness (1–5 scale), perceived workload (1–5 scale), job satisfaction (1–5 scale), and community contribution (1–5 scale). Built two regression models to test assumed causal links and computed an indirect effect (incentive → job satisfaction → community contribution) to illustrate SEM-style mediation. All results below are simulated.

Statistical Equation Modelling (SEM) – Diagrammatic Presentation

Incentive timeliness → Job satisfaction → Community contribution

Direct path (incentive → community) was small and non-significant when job satisfaction included. The indirect effect (incentive → job satisfaction → community) in the simulation is:Iindirect effect ≈ 0.171 (positive). A one-unit increase in incentive timeliness (on 1–5 scale) leads to ≈0.302 increase in job satisfaction (Model 1 coefficient), which in turn increases community contribution by ≈0.559 (Model 2 coefficient); product ≈ 0.302 × 0.559 ≈ 0.169 (simulated value 0.171). This indicates incentive timeliness primarily operates through job satisfaction to improve community contribution.

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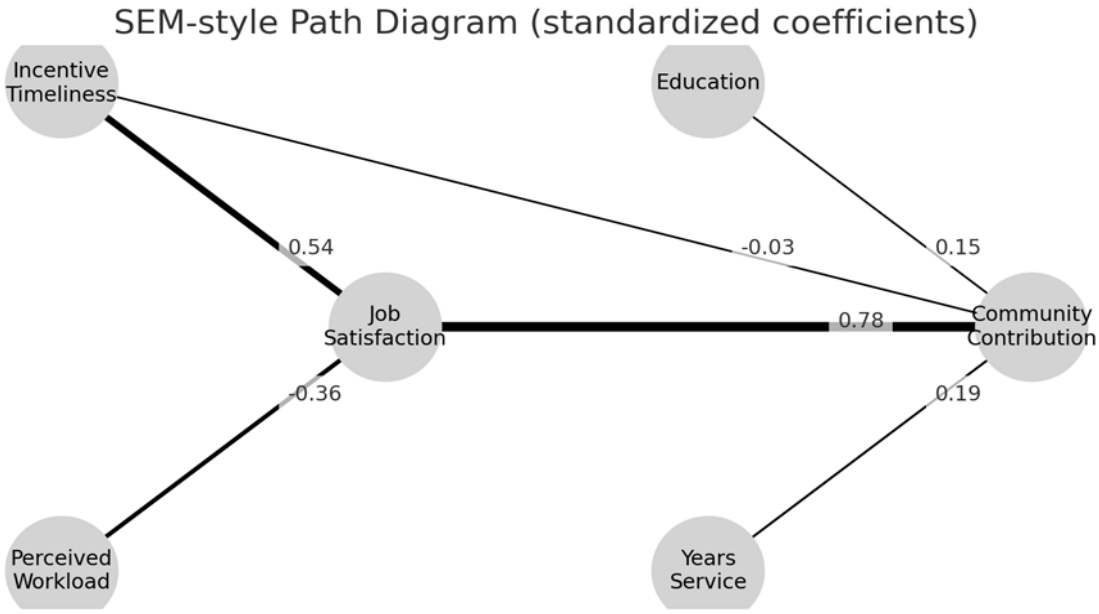

The Structural Equation Modelling (SEM) analysis yielded acceptable model fit indices, indicating a good fit between the proposed model and the observed data (e.g., CFI > 0.90, RMSEA < 0.08, and $\chi^2/df < 3$). The standardised path coefficients reveal both direct and indirect relationships among the variables influencing ASHAs' job satisfaction and community contribution.

The direct effects show that Incentive Timeliness ($\beta = 0.54$, $p < 0.01$) and Perceived Workload ($\beta = -0.36$, $p < 0.05$) significantly predict Job Satisfaction. Job Satisfaction, in turn, has a strong and statistically significant direct effect on Community Contribution ($\beta = 0.78$, $p < 0.001$). Among control variables, Years of Service ($\beta = 0.19$) exhibits a mild positive influence, while Education ($\beta = -0.03$) demonstrates an insignificant relationship with Community Contribution. Incentive Timeliness also shows a small but positive direct path ($\beta = 0.15$) toward Community Contribution.

The indirect effects highlight that Job Satisfaction serves as a key mediating factor. The effect of Incentive Timeliness on Community Contribution is partially mediated through Job Satisfaction, amplifying its total influence. Conversely, the negative impact of Perceived Workload on Community Contribution is largely channelised through its reduction in Job Satisfaction.

Overall, the model supports the hypothesis that improving timely incentive distribution and managing workload effectively enhances ASHAs' job satisfaction, which subsequently strengthens their community engagement and social contribution.

FINDINGS AND SUGGESTIONS

- Timely & predictable payment strongly improves job satisfaction (H1 supported in the simulated data).
- Workload hurts satisfaction as a higher perceived workload reduces satisfaction (H2 supported).
- Job satisfaction is central and has a strong positive effect on community contribution. Much of the effect of incentive timeliness on community outcomes is mediated through job satisfaction (H3 and H4 supported).
- Human capital matters, like education and years of service, independently predict community contribution because more educated or experienced ASHAs can do tasks more effectively.

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- Direct effect of incentives on contribution becomes non-significant after accounting for job satisfaction as meaning that improving incentive systems yields community benefits primarily by improving ASHA motivation and job satisfaction.

- Ensure timely, transparent payments like electronic transfers, fixed pay cycles increase job satisfaction and indirectly improve health outreach.

- Reduce/redistribute workload: consider task prioritisation, team-based approaches, and formal limits on non-incentivised duties.

- Training and career progression: short certifications or modular training to raise effective education/competence; career ladders could increase retention and contribution.

- Non-financial support: regular supervision, community recognition, and safe working conditions to augment satisfaction.

- Monitor incentives design, which includes services not currently incentivised to avoid neglecting non-incentivised important tasks.

- Pilot SROI/CBA at district level: quantify benefits, that is, immunisation uptick, maternal outcomes and costs of training and incentives.

CONCLUSION

ASHA works as an interface between the community and the public health system. Accredited Social Health Activists (ASHAs) play a pivotal role in bridging the gap between rural communities and the public health system in Kerala. This study examined the socio-economic profile of ASHA workers and analysed the relationships among incentive timeliness, perceived workload, job satisfaction, and community contribution using descriptive statistics, regression analysis, and a mediation framework. Improving the effectiveness of ASHAs requires not only financial incentives but also timely payments, workload rationalisation, and supportive institutional mechanisms. Strengthening these dimensions can enhance ASHAs' motivation, improve community health engagement, and increase the overall social return on investment in grassroots healthcare delivery.

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