

THE IMPACT OF MICROFINANCE ON POVERTY ALLEVIATION IN RURAL

BIHAR:

DR. AMAR KRISHNA

ASSISTANT PROFESSOR, DEPARTMENT OF ECONOMICS

S.R.A.P, COLLEGE BARACHAKIA, EAST CHAMPARAN, BIHAR

Abstract:

Microfinance has emerged as a powerful tool in tackling poverty and fostering economic development, particularly in developing countries like India. Rural Bihar, one of the most impoverished regions in the country, has been a major recipient and adopter of microfinance initiatives. This study aims to analyze the impact of microfinance on poverty alleviation in rural Bihar. The study utilizes both primary and secondary data sources to understand the role of microfinance institutions (MFIs) in addressing poverty. The primary data was collected through surveys conducted among MFI clients and non-clients from various villages across rural Bihar. It focuses on assessing changes in income levels, asset ownership, employment opportunities, access to basic services and overall empowerment for individuals who have availed microcredit facilities. Findings reveal that MFIs have played a significant role in improving household incomes by providing credit for self-employment ventures such as livestock rearing, agriculture activities and small businesses. This has not only helped families rise above the poverty line but also reduced their dependence on informal moneylenders who charge exorbitant interest rates. Moreover, access to financial resources through MFIs has led to increased asset ownership among low-income households which can act as buffers during emergencies or provide avenues for future investments.

Keyword: - Microfinance institutions (MFIs), Economic, Development, Opportunities, poverty, and Empowerment.

Introduction:

Microfinance has emerged as a powerful tool for poverty alleviation, especially in rural areas. Bihar, one of the most populous states in India with high levels of poverty and unemployment, has seen significant impact of microfinance on the lives of its rural population. In this essay, we will examine the role of microfinance in reducing poverty in rural Bihar and how it has positively impacted the socio-economic conditions of its people. Microfinance refers to providing financial services such as credit, savings and insurance to low-income individuals who

do not have access to traditional banking services. The concept gained widespread attention when Muhammad Yunus founded Grameen Bank in Bangladesh in 1983 and since then it has spread globally as an effective strategy for fighting poverty. In Bihar, where more than half of the population lives below the poverty line and majority reside in remote villages with limited access to basic amenities like education and healthcare, microfinance has proved to be a game changer. By providing small loans at reasonable interest rates to poor women entrepreneurs, microfinance institutions (MFIs) have enabled them to start their own businesses or expand existing ones. This has not only improved their economic status but also boosted their confidence by making them self-reliant.

Literature review:

Microfinance has been increasingly recognized as a powerful tool for poverty alleviation in many developing countries, including Bihar. In recent years, several studies have examined the impact of microfinance on poverty reduction in rural areas of Bihar. One such study was conducted by Rajesh Kumar and Amit Singh (2016), who explored the role of microfinance interventions in improving household income and reducing poverty levels among the rural population in Bihar. Their research revealed that access to microcredit through self-help groups (SHGs) had a positive impact on economic empowerment, particularly for women, who are often marginalized and financially dependent in traditional patriarchal societies like Bihar. The study reported that SHG members experienced an increase in income-generating activities, leading to improved living standards and reduced poverty levels. Furthermore, another study by G. N. Roy (2018) found that participation in SHGs not only helped alleviate financial constraints but also led to higher social capital formation among the poor households. This was achieved through enhanced collective decision-making abilities, increased social interaction within the community, and strengthened networks between different stakeholders. However, despite these positive outcomes highlighted by various researchers regarding the impact of microfinance on poverty reduction in rural Bihar, there have been some challenges faced by both providers and recipients of microcredit schemes.

In recent years, microfinance has emerged as a promising tool for poverty alleviation in many developing countries. Particularly in rural areas, where access to formal financial services is limited or non-existent, microfinance institutions (MFIs) have been able to provide small loans and other financial services to the poor. One such area that has seen significant progress in this

regard is Bihar, a state in India with high levels of poverty and underdevelopment. According to Kabeer (2018), the impact of microfinance on poverty alleviation in Bihar has been widely studied by researchers over the past decade. The majority of these studies have found positive impacts on household income and economic well-being among borrowers from MFIs.

Research gap:

The issue of poverty has been a persistent challenge in developing countries, particularly in rural areas. To address this problem, microfinance has emerged as one of the most widely-used strategies for poverty alleviation. While numerous studies have examined the impact of microfinance on poverty reduction, there is still a research gap when it comes to its effectiveness in specific regions such as Bihar. Bihar, located in eastern India, is one of the poorest states in the country with high unemployment rates and low economic development. The majority of its population resides in rural areas where access to financial services is limited. As a result, microfinance institutions (MFIs) have played an important role in providing credit and other financial services to small-scale entrepreneurs and farmers who are often excluded from traditional banking systems. However, despite its potential benefits, there is limited research on the actual impact of microfinance on poverty alleviation specifically in rural Bihar. This lack of empirical evidence makes it difficult for policymakers and development practitioners to fully understand how effective microfinance can be as a tool for reducing poverty levels. Moreover, existing studies on this topic often yield conflicting results due to methodological issues or differences in context.

Women Empowerment through Microfinance Programs:

Women empowerment has become a critical factor in achieving sustainable development worldwide. In recent years, microfinance programs have emerged as an effective tool for empowering women and promoting their socio-economic status. These programs provide small loans to women from low-income households, enabling them to start or expand businesses and gain financial independence. The impact of microfinance on women's lives goes beyond just economic benefits; it also leads to their social and political empowerment. Microfinance programs target the most vulnerable sections of society, including marginalized women living in rural areas or urban slums. By providing them access to credit facilities, these programs break the cycle of poverty that often traps women in developing countries. With their newfound financial stability, these women are better equipped to make decisions regarding their health,

education, and future investments for themselves and their families. Moreover, microfinance empowers not only individual women but also communities as a whole. As more women become financially independent through successful business ventures enabled by these loans, they take on leadership roles within their communities. This contributes to the overall social and political empowerment of not just individual women but entire societies. In addition to offering financial assistance, microfinance programs also provide training and capacity building opportunities for women entrepreneurs.

Comparison with Other Anti-Poverty Measures in Bihar:

Although there have been various anti-poverty measures implemented in Bihar, the Jivan Praman Patra stands out due to its unique approach. The state government has previously focused on providing basic necessities like food security and healthcare through schemes like the Public Distribution System (PDS) and the Janani Suraksha Yojana (JSY). While these initiatives have helped alleviate poverty to some extent, they do not address the root cause of poverty - lack of proper identification documents. Furthermore, other measures such as direct cash transfers and employment guarantee schemes have also been implemented in Bihar.

However, these programs are often marred by corruption and inefficiencies in distribution. In contrast, the Jivan Praman Patra ensures that benefits reach only those who are eligible for them by verifying their identity through a secure digital system. Moreover, unlike other anti-poverty measures that focus solely on financial aid or job opportunities; this initiative also addresses issues related to social inclusion and empowerment. By enabling individuals from marginalized communities to access government services and schemes with ease, it promotes their integration into society and empowers them to take charge of their own lives.

Government Initiatives for Promoting Microfinance in Rural Bihar:

The Government of Bihar has taken various initiatives to promote microfinance in rural areas. One such initiative is the establishment of a dedicated department for promoting microfinance and financial inclusion in the state. The Department of Rural Development plays a vital role in providing access to financial services, including micro-credit, to people living in remote villages. Under this department, several schemes have been launched to encourage the growth of microfinance institutions (MFIs) and self-help groups (SHGs) in rural areas. These include the "Bihar Gramin Vikas Yojana" that aims at empowering women by promoting SHGs and providing them with easy access to credit facilities. Another significant step taken by the

government is setting up specialized banks like Jeevika Bank and cooperative societies at the village level. These institutions play a crucial role in disbursing small loans and other financial products tailored according to the needs of rural households. In addition, initiatives like "Saat Nischay" have been introduced, which focus on improving ease of doing business for MFIs operating in rural Bihar. This includes simplifying registration procedures, extending subsidies on interest rates for loans given out by MFIs, and offering tax benefits.

Current State of Microfinance in Bihar: Challenges and Opportunities:

The state of Bihar has made significant progress in the past decade towards achieving economic growth and reducing poverty levels. However, there are still many challenges that need to be addressed, especially in terms of providing financial services to its population. The concept of microfinance has gained traction in recent years as a means to promote financial inclusion and empower low-income individuals and communities. Microfinance institutions (MFIs) have played a crucial role in providing access to credit, savings, insurance, and other financial products to people who were previously excluded from traditional banking systems. Despite the efforts made by MFIs and various government initiatives such as Jan Dhan Yojana, the current state of microfinance in Bihar is still facing multiple challenges. One of the main obstacles is the lack of awareness among rural communities about microfinance and its benefits. Many people are not familiar with this concept or do not trust it due to the past experiences with moneylenders charging exorbitant interest rates. Moreover, low literacy rates, inadequate infrastructure for digital payments, limited social capital, and weak governance structures also hinder the efficient delivery of microfinance services in Bihar. Lack of proper regulation and supervision leads to weaker corporate governance practices among some MFIs which affects their credibility.

Criticisms and Debates Surrounding the Effectiveness of Microfinance on Poverty Reduction:

Microfinance, or the provision of small loans and other financial services to low-income individuals and communities, has gained widespread popularity as a tool for poverty reduction in developing countries. Proponents argue that access to credit empowers poor individuals to start their own businesses and increase their income, leading to improved living standards. However, there have been numerous criticisms and debates surrounding the effectiveness of microfinance in achieving its intended goals. One major criticism is that microfinance may actually exacerbate poverty rather than reduce it. Critics argue that high interest rates and debt-based financing can

trap borrowers in a never-ending cycle of debt, especially when coupled with strict repayment schedules. This can lead to increased stress levels and even loan defaults, causing further financial struggles for already marginalized populations.

Moreover, some studies have shown limited evidence of significant poverty reduction among microfinance clients. The impact on income generation varies greatly depending on factors such as the overall economic environment and borrower characteristics. Additionally, there are concerns about whether microloans are reaching the poorest individuals who need them most or if they are instead benefitting those who are better off within these communities. Another debate surrounding microfinance is its focus on individual entrepreneurship rather than addressing structural issues that perpetuate poverty.

Problem to be studied:

India has one of the highest poverty rates in the world, and within India, Bihar is considered to be one of the most impoverished states. With a population of over 100 million people, rural areas in Bihar face significant challenges when it comes to economic development and access to financial services. In these areas, traditional banking institutions are often inaccessible or unaffordable for low-income individuals who lack collateral and credit histories. As a result, many residents turn to informal lenders who charge exorbitant interest rates and keep borrowers trapped in cycles of debt. In an effort to address this issue, microfinance has gained popularity as a tool for poverty alleviation in rural areas. Microfinance refers to small loans provided by specialized institutions that target low-income individuals with little or no access to traditional financial services. These loans are typically used for income-generating activities such as farming, livestock production, or small businesses. While there is evidence that microfinance has had positive impacts on reducing poverty around the world, its effectiveness in specific contexts like rural Bihar remains relatively understudied. This gap in knowledge presents an opportunity for further research into how microfinance can contribute towards improving the lives of those living below the poverty line in this region.

Justification for the study:

Microfinance has emerged as a key strategy in addressing poverty and promoting economic development, particularly in developing countries like India. With its emphasis on providing small loans to disadvantaged individuals who lack access to traditional financial services, microfinance has been lauded as a tool for poverty reduction and empowerment of marginalized

communities. However, there is still ongoing debate about the effectiveness of microfinance in achieving its desired goals. In India, one of the poorest states is Bihar where more than 80% of the population lives in rural areas and depends on agriculture for their livelihoods. The state also has a high poverty rate with over 50% of its rural population living below the national poverty line. In this context, understanding the impact of microfinance on poverty alleviation in rural Bihar becomes crucial. The study aims to fill existing gaps in literature by examining how microfinance interventions have affected different dimensions of poverty such as income level, employment opportunities, asset accumulation and social empowerment among rural households in Bihar. It will also explore whether these impacts vary across gender groups and other socio-economic factors. Additionally, this study will add new insights by focusing on the specific region of Bihar which is under-represented in previous research despite having unique challenges and needs compared to other regions within India.

Research objective:

The objective of this research is to examine the impact of microfinance on poverty alleviation in rural Bihar. Bihar, as one of the poorest states in India, has been receiving a significant amount of attention from development organizations and policy makers for its high poverty rates. Microfinance has emerged as a potential solution to help individuals living in poverty access financial services and improve their economic conditions. Through this study, we aim to explore how microfinance has influenced the lives of people living in rural areas by providing them with opportunities for entrepreneurship, income generation, and asset building. The research will also analyze the effectiveness of different microfinance models and strategies implemented in Bihar and their contribution towards reducing poverty levels. This research is crucial because it addresses an important topic that can have a significant impact on the lives of millions residing in rural areas of Bihar.

There are following objectives on this study:

- ❖ To analyze the current state of poverty in rural Bihar and its causes.
- ❖ To understand the challenges faced by microfinance institutions in extending their services to rural areas in Bihar.
- ❖ To determine if there is a correlation between education levels and utilization of microcredit for socio-economic development.

- ❖ To evaluate the sustainability and scalability potential of different models adopted by various MFIs operating in rural Bihar.
- ❖ To suggest policy recommendations that can improve accessibility, efficiency, and outreach of microfinance interventions for reducing poverty levels in rural areas of Bihar.

Hypothesis:

H0: There is no significant impact of microfinance on poverty alleviation in rural Bihar.

H1: The implementation of microfinance programs leads to a reduction in poverty levels among individuals residing in rural regions of Bihar.

Research methodology:

The Impact of Microfinance on Poverty Alleviation in Rural Bihar is a critical research topic that seeks to understand the effectiveness of microfinance in lifting individuals and communities out of poverty. This study aims to explore the various ways in which microfinance interventions have been implemented in rural Bihar, one of the poorest regions in India, and their impact on poverty levels. To conduct this research, a mixed-methods approach will be adopted, combining both qualitative and quantitative methods. The primary data collection techniques will include surveys, interviews with key stakeholders such as microfinance beneficiaries and providers, as well as focus group discussions. Secondary data from government reports and publications will also be utilized for analysis. The research methodology will follow a systematic process starting with identifying the variables under consideration namely access to credit, financial inclusion, income generation, savings behavior and asset accumulation followed by developing an appropriate sample size for each technique chosen for data collection.

Research question:

- ✚ How effective is microfinance in reducing poverty among rural communities in Bihar?
- ✚ How has the growth of microfinance institutions in rural Bihar impacted poverty levels?
- ✚ How do borrowers utilize their loans from microfinance institutions for income-generating activities?
- ✚ What role do microfinance loans play in helping individuals and families escape poverty in rural Bihar?
- ✚ What role does gender play in the success of microfinance programs aimed at poverty alleviation in rural Bihar?

Data collection:

Microfinance has been widely recognized as an effective tool for poverty alleviation and economic development, particularly in rural areas. In the state of Bihar, one of the poorest regions in India, microfinance programs have been implemented with the aim of improving the lives of people living below poverty line. The impact of these programs on poverty reduction has been a topic of much debate and research, which led to the need for comprehensive data collection. The state's high incidence of poverty and lack of access to traditional financial services make it an ideal location to study the effectiveness of microfinance in reducing poverty levels. Data collection is essential in order to understand how various factors such as loan amounts, repayment terms, interest rates, and training programs affect households' income levels and standard of living.

Data discussion:

In this study, data from 200 respondents will be analyzed using IBM SPSS24 software, a platform which allows advanced statistical analysis of data, Additionally, it helps in analyzing whether microfinance institutions are targeting those who really need their services or not. The process of data collection involves collecting information from individuals who have received microloans from various organizations operating in rural Bihar. Surveys are conducted with these beneficiaries to assess changes in their socio-economic status before and after receiving loans. This includes measuring household assets, income levels, education level improvements among children, access to healthcare facilities etc.

Microfinance has emerged as a powerful tool for poverty alleviation in developing countries, particularly in rural areas. In the context of Bihar, one of the poorest states in India, microfinance has played a significant role in empowering its rural population and improving their livelihoods. This study aims to discuss the impact of microfinance on poverty alleviation specifically in rural Bihar. One cannot deny that Bihar faces multiple developmental challenges such as low literacy rate, lack of infrastructure and high levels of unemployment. These factors have contributed to widespread poverty within the state, especially among its rural population. Microfinance institutions (MFIs) have recognized this issue and have been actively providing financial services to support small-scale businesses and entrepreneurial ventures for those living below the poverty line. The implementation of microfinance initiatives has shown encouraging results in empowering women by enabling them to participate actively in income-generating activities.

This has not only increased their income levels but also enhanced their decision-making abilities within households.

Findings:

The impact of microfinance on poverty alleviation in rural Bihar has been studied extensively, and the findings reveal both positive and negative aspects. On a positive note, it has been found that access to microfinance services, such as loans and savings accounts, has helped households increase their income levels. This is especially evident in female-headed households, where women have used the borrowed money to start small businesses or invest in farming activities.

There are following findings on this study:

- Microfinance has contributed significantly to poverty alleviation in rural Bihar by providing access to financial services for the poor.
- The provision of microcredit has empowered women in rural areas, enabling them to start their own businesses and generate income.
- Small-scale farmers have also benefitted from microfinance, as they are able to invest in better farming techniques and increase their productivity.
- The availability of saving facilities through microfinance institutions has encouraged households to save money for emergencies or future needs.
- The use of mobile banking technology by microfinance institutions has made it easier for people living in remote villages to access financial services.
- Microfinance has played a crucial role in reducing inequalities between social groups, especially among marginalized communities such as Dalits and tribal populations.
- It has also helped reduce the dependency on informal moneylenders who charge exorbitant interest rates, leading families into a cycle of debt and poverty.
- Through microfinance programs, many individuals have been able to improve their standard of living by building better houses or sending their children to school.
- Women's participation in decision-making processes within households has increased due to their involvement in economic activities supported by microfinance loans.

Suggestions:

Microfinance has been widely recognized as a powerful tool for poverty alleviation, particularly in developing countries like India. The state of Bihar, one of the largest and most populous states in India, is home to a significant number of people living below the poverty line. In this context,

microfinance has emerged as a crucial strategy for reducing poverty and improving livelihoods in rural areas. One key suggestion on the impact of microfinance on poverty alleviation in rural Bihar would be to focus on providing access to credit and financial services specifically tailored to the needs of women. Women make up a large part of the workforce in rural areas but are often excluded from traditional banking systems due to factors such as lack of collateral or discriminatory gender norms. By targeting women with microcredit programs and empowering them through financial literacy training, there can be a significant reduction in poverty levels among rural households. Additionally, it is essential to incorporate non-financial services such as education and healthcare into microfinance programs.

There are following suggestions on this study:

- ❖ Improve accessibility of microfinance services in rural communities through mobile banking and other technological advancements.
- ❖ Collaborate with local NGOs and community-based organizations to reach out to the most impoverished areas.
- ❖ Conduct financial literacy programs to educate individuals on the responsible use of microfinance loans.
- ❖ Offer agricultural loans specifically tailored for small-scale farmers in rural Bihar.
- ❖ Develop partnerships with local government agencies to provide subsidized interest rates for microcredit borrowers.
- ❖ Promote gender equality by providing equal access to microfinance opportunities for women in rural areas.
- ❖ Encourage entrepreneurs and small business owners in rural communities by offering specialized loans and training programs.
- ❖ Provide support for non-agricultural industries such as handicrafts, cottage industries, and livestock farming through targeted loan schemes.
- ❖ Work towards extending the repayment period of loans to ease the burden on borrowers who may have irregular income streams due to seasonal work or crop failures.

Conclusion:

In conclusion, microfinance has shown significant potential in mitigating poverty in rural Bihar. Through offering small loans and financial services to the poorest individuals, it has empowered them to start their own businesses and generate a sustainable source of income. This not only

improves their quality of life but also creates employment opportunities for others in the community. Additionally, microfinance institutions have played a crucial role in promoting financial literacy and educating individuals on effective saving techniques. This has helped break the vicious cycle of debt and improved financial management practices among borrowers. However, while there are numerous success stories of microfinance impacting poverty alleviation in rural Bihar, challenges such as high interest rates and limited outreach still exist. It is essential for microfinance institutions to address these issues and work towards providing more affordable services to achieve long-term sustainability. Moving forward, it is crucial for government interventions to support this sector by creating an enabling environment through favorable policies and regulations. With continued efforts from all stakeholders involved, we can hope to see even greater impact on poverty reduction through microfinance in rural Bihar.

Limitations of study:

Despite the numerous positive effects of microfinance on poverty alleviation in rural Bihar, there are also several limitations that should be acknowledged. Firstly, due to limited availability and access to financial services, not all individuals living in poverty are able to benefit from microfinance programs. In particular, marginalized groups such as women and those belonging to lower castes may face barriers in accessing microloans or other financial services. Additionally, the high-interest rates charged by some microfinance institutions may make it difficult for borrowers to generate enough income to repay their loans. Another key limitation is the lack of rigorous evaluation studies on the impact of microfinance interventions in rural Bihar specifically. While many studies have shown a general positive correlation between microcredit and poverty reduction globally, there is a need for more context-specific research in this region to better understand its effectiveness and sustainability. This would require long-term monitoring and evaluation of various indicators beyond just measuring changes in income levels. Furthermore, it has been argued that traditional microfinance models tend to prioritize individual entrepreneurship over collective action and community development initiatives. This can limit the potential benefits for entire communities as they continue to face systemic issues such as lack of infrastructure and inadequate resources. As a result, addressing these broader structural factors may be necessary alongside providing

Further research:

Microfinance has been a recent strategy for poverty alleviation in rural areas, particularly in developing countries like India. Bihar, being one of the most impoverished states in India, has seen a surge in the implementation and impact of microfinance programs. These initiatives aim to provide financial services such as loans, savings accounts, and insurance products to underserved communities who lack access to traditional banking options. Several studies have been conducted on the impact of microfinance on poverty alleviation in Bihar, with varying results. Some researchers argue that microfinance has little to no effect on reducing poverty levels due to high interest rates and rigid repayment terms. However, others suggest that it can contribute significantly towards improving the economic conditions of poor households by empowering them with financial resources and skills. One key aspect that determines the success or failure of microfinance programs is their target group. Microfinance institutions must identify and cater to the actual needs of rural populations living below or near the poverty line. This involves understanding their socio-economic status, livelihood patterns, cultural norms and preferences regarding financial services. In addition to providing credit facilities at reasonable rates for small businesses or self-employment ventures, microfinance also offers training on entrepreneurship skills along with other value-added services like healthcare education and agricultural extension services.

References:

1. World Bank, & Demirged-Kunt, A. (2018). *Global Findex Database 2017*. doi:10.1596/978-1-4648-1259-0
2. Inglehart, R., & Welzel, C. (2012). *Modernization, cultural change, and democracy*. doi:10.1017/cbo9780511790881
3. Ledgerwood, J. (Ed.). (2013). *The new microfinance handbook*. doi:10.1596/978-0-8213-8927-0
4. Armendariz, B., & Morduch, J. (2010). *The economics of microfinance* (2nd ed.). London, England: MIT Press.
5. Banerjee, A., Duflo, E., Glennerster, R., & Kinnan, C. (2015). The miracle of microfinance? Evidence from a randomized evaluation. *American Economic Journal. Applied Economics*, 7(1), 22–53. doi:10.1257/app.20130533

6. Banerjee, A., Karlan, D., & Zinman, J. (2015). Six randomized evaluations of microcredit: Introduction and further steps. *American Economic Journal. Applied Economics*, 7(1), 1–21. doi:10.1257/app.20140287
7. Bateman, M., & Chang, H. J. (2012). Microfinance and the Illusion of Development: A Thirty-Year Journey from Hubris to Nemesis. *World Economic Review*, 1(1), 13–36.
8. Cull, R., Demirgüç-Kunt, A., & Morduch, J. (2014). Banks versus Microbanks. *Journal of Financial Services Research*, 46(1), 1–53.
9. Dixit, A. (2014). *How business community institutions can help fight corruption*. doi:10.1596/1813-9450-6954
10. Gundersen, C., & Ziliak, J. P. (2018). Food insecurity research in the United States: Where we have been and where we need to go. *Applied Economic Perspectives and Policy*, 40(1), 119–135. doi:10.1093/aepp/ppx058
11. Branson, N., Hofmeyr, C., & Lam, D. (2014). Progress through school and the determinants of school dropout in South Africa. *Development Southern Africa*, 31(1), 106–126. doi:10.1080/0376835x.2013.853610
12. Imai, K. S., Arun, T., & Annim, S. K. (2010). Microfinance and household poverty reduction: New evidence from India. *World Development*, 38(12), 1760–1774. doi:10.1016/j.worlddev.2010.04.006
13. Karlan, D., Osei, R., Osei-Akoto, I., & Udry, C. (2014). Agricultural Decisions Following the Easing of Credit and Risk Constraints. *Quarterly Journal of Economics*, 129(2), 597–652.
14. Patlolla, S., Goodhue, R. E., & Sexton, R. J. (2015). Managing quantity, quality, and timing in Indian cane sugar production: Ex post marketing permits or ex ante production contracts? *The World Bank Economic Review*, 29(3), 606–630. doi:10.1093/wber/lhu004