

EXPANDING EMPLOYMENT FOR INDIA'S RURAL WOMEN

Policy Analysis Exercise

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ACRONYMS

DDU-GKY: Pandit Deen Dayal Upadhyaya Grameen Kaushalya Yojana

SLRM: State Rural Livelihoods Mission

MoRD: Ministry of Rural Development

PIA: Program Implementing Agency

RSETI: Rural Self-Employment Training Institute

BPL: Below Poverty Line

ECI: Economic Complexity Index

EXECUTIVE SUMMARY

Context

Employment opportunities beyond seasonal subsistence agriculture are limited in rural areas of India. Women face additional challenges to securing long-term regular employment, even if they move to urban centers. This is due to both cultural barriers that expect women to stay out of the public eye, as well as expectations and pressure from women's families to be responsible for their households.

The Ministry of Rural Development (MoRD) established Pandit Deen Dayal Upadhyaya Grameen Kaushalya Yojana, known as DDU-GKY, to help rural youth, and especially women, gain access to and succeed in regular wage employment. This program provides training and linkages to wage employment in urban centers. Launched in 2013 and building upon previous initiatives, DDU-GKY promotes rural to urban migration as a solution to a lack of opportunities in rural areas.

The Problem

Despite reported positive impacts, DDU-GKY's program does not ensure stable employment for female graduates. Even with DDU-GKY's newly added migration support, job retention is poor in urban areas, especially for women. Rural areas, on the other hand, offer few skilled job opportunities. Thus, women are left with few viable options to earn a stable income utilizing their newly-learned skills. In partnership with Evidence for Policy Design (EPoD), and based on the MoRD's interest in alternative employment options, we explore the

ways that DDU-GKY can support the self-employment of female graduates in rural areas.

Key Research Questions

- How can the MoRD best support self-employment for female DDU-GKY graduates in rural areas?
- How can rural self-employment foster long-term inclusive macroeconomic growth?
- How can EPoD best support the MoRD in these endeavors?

Our Recommendations

Based on our review of MoRD documents, analysis of existing research, and conversations with key stakeholders, we recommend that the MoRD and EPoD implement interventions in three policy categories:

Key Policy Recommendations

1. Improve the Efficacy of Entrepreneurial Interventions
2. Incentivize Independent Contracting Opportunities
3. Create Long Term Strategic Industry Development through Self-Employment

METHODOLOGY

Literature Review

- We conducted an extensive literature review to better understand the rural Indian context, the challenges that rural Indian women face, and best-case practices of rural job creation. This included an exhaustive review of high-quality econometric studies on the efficacy of entrepreneurial interventions, and a review of case studies on independent contracting and producer cooperatives. Finally, we researched innovative tools for strategic industry development.

Qualitative Interviews

- We spent three weeks in New Delhi, India, in January 2016 to engage with stakeholders and observe the context in which DDU-GKY operates firsthand. We conducted ten interviews with PIA managers and MoRD officials during this time. We also conducted email and phone conversations with individuals working in the women's skills training space. We also held informational interviews with technical experts at the Harvard Kennedy School and the Center for International Development.

Review of Ministry of Rural Development Documents

- We reviewed the most recent DDU-GKY official guidelines, as well as the official guidelines on self-employment initiatives, including the RSETI guidelines, and Start Up Entrepreneurship Village guidelines. We also reviewed recent annual reports, where available.

CONTEXT

I. India's Economic Growth is Leaving Women Behind

Key Points

- Despite India's rapid economic development, many rural BPL women remain disempowered in terms of employment opportunities. Especially in rural areas, female labor force participation has recently decreased overall, and women are increasingly overrepresented as unskilled agricultural laborers.
- Rural female employment is often dictated by cleavages of caste, religion, and education, and by traditional gender norms. As a result, we see that rural BPL women generally work only out of economic necessity, and are pushed toward low-growth sectors. These trends have profound social and economic implications, and programmatic responses have tended to encourage rural women to migrate to urban areas in search of better economic opportunities. However, developing the rural economy in lieu of this migration makes ethical and pragmatic sense.
- This analysis presents a contextual lens through which to better understand the DDU-GKY program and alternative interventions we examine.

India's rural economy has increasingly shifted from agriculture to more productive, non-agricultural work in recent decades. In 2012, agriculture value

added (total output minus intermediate inputs) comprised only 17.4% of GDP, compared to 28.3% in 1994.¹ As shown by a recent analysis of NSS data, non-farm rural employment is associated with increased household consumption and a lower probability of being below the poverty line, relative to agricultural jobs.² This is true for both high and low-skilled non-agricultural jobs.³ These non-farming jobs are often physically less demanding than farm work, less vulnerable to weather-related disasters, and are more productive, thus increasing overall productivity and driving up the wage rate in a community.⁴

However, women have benefitted less than men from the country's increasing transition towards non-agricultural work. In 1970, 10.3% of Indian women worked in non-agricultural employment, doubling to 20.7% by 2009-2010. In contrast, men saw a more dramatic increase, from 16.8% to 37.2%.⁵ Several factors elucidate why this widening gender gap in non-farm work has emerged. First, increased agricultural

¹ Kapsos, Steven, Silberman, Andrea, and Bourmpoula, Evangelia. "Why is Female Labor Force Participation Declining So Sharply in India?" ILO Research Paper No. 10, August 2014. International Labour Office.

<http://193.134.194.19/wcmsp5/groups/public/---dgreports/--inst/documents/publication/wcms_250977.pdf>

² Imai, Katsushi, Gaiha, Raghav, and Thapa, Ganesh. "Does Non-Farm Sector Employment Reduce Rural Poverty and Vulnerability? Evidence from Vietnam and India" *Journal of Asian Economics*. Elsevier, February 2015. Accessed 27 Feb. 2016 doi:10.1016/j.asieco.2015.01.001, 57

³ Imai

⁴ Imai

⁵ Kumar, Alok and Shergill, Kam. "The Dynamics of Rural Non-farm Employment in India: Gender, Agricultural Productivity, and Literacy," University of Victoria Department of Economics, July 2014. <<http://www.uvic.ca/socialsciences/economics/assets/docs/discussion/ddp1403.pdf>>

productivity is tied to the mechanization of casual farm jobs, which are often completed by women. As their jobs become obsolete, women increasingly become unemployed.⁶ Second, as social norms enable men to be more mobile, they increasingly migrate or commute to urban areas for work.⁷ Women then replace these men in the remaining, less productive farm jobs.⁸ The trend of increasing feminization of agricultural work as men migrate to urban areas has been well-documented since at least the early 1980s.⁹ However, these agricultural jobs are low-skilled, less productive jobs.

Compounding the widening gender gap in non-agricultural work, women's labor participation has stagnated and declined in the past twenty years. Women's labor force participation peaked in the 1990's, reaching 49% in 1994.¹⁰ This metric dropped to 35.8% by 2012.¹¹ Rural areas have been especially affected. Women's labor force participation fell by 11.5 percentage points, compared to a decrease of 3.3 percentage points in urban areas from 1994-

2012.¹² In contrast, men's rural labor force participation fell by only 6.3 percentage points from 1994-2012, compared to 3.7 percentage points in urban areas.¹³ Surprisingly, this trend occurred during a time of high economic growth and decreasing fertility rates, both of which are normally associated with increased job opportunities.¹⁴ Even when controlling for the fact that more young women are out of the workforce due to increased educational participation, we see reductions in female workforce participation across age brackets.¹⁵

The combination of traditional gender norms, reduced economic distress, and fewer jobs in agriculture can help explain this decline in women's workforce participation. As rural Indians earn higher incomes than before, many families prefer, and now have the ability, to keep their daughters and wives at home, as their labor is no longer an economic necessity for the family. This is further illustrated by the fact that more rural women from disadvantaged scheduled tribes and castes work than do women from privileged castes.¹⁶ Similarly, women from higher-consumption households are less likely to work than women from lower-consumption households.¹⁷ It has also been shown that in districts suffering from agricultural failures, leading to economic distress, more women take on farming jobs, and women's self-employment increases more for poorer households.¹⁸

This relationship between economic necessity and employment is further

⁶ Kumar, Alok and Shergill, Kam. "The Dynamics of Rural Non-farm Employment in India: Gender, Agricultural Productivity, and Literacy," University of Victoria Department of Economics, July 2014. <<http://www.uvic.ca/socialsciences/economics/assets/docs/discussion/ddp1403.pdf>

⁷ Kumar

⁸ Kumar

⁹ Klasen, Stephan and Pieters, Janneke. "Push or Pull? Drivers of Female Labor Force Participation during India's Economic Boom.. Discussion paper no. 6395, IZA, February 2012. <<http://www.econstor.eu/bitstream/10419/58491/1/715663313.pdf>>

¹⁰ Kapsos, Steven, Silberman, Andrea, and Bourmpoula, Evangelia. "Why is Female Labor Force Participation Declining So Sharply in India?" ILO Research Paper No. 10, August 2014. International Labour Office. http://193.134.194.19/wcmsp5/groups/public/dgreports/inst/documents/publication/wcms_250977.pdf

¹¹ Kapsos

¹² Kapsos

¹³ Kapsos

¹⁴ Kapsos

¹⁵ Kapsos

¹⁶ Kapsos

¹⁷ Kapsos

¹⁸ Klasen

illustrated by the relationship between education and employment: rural women whose families can afford to pay for their post-secondary education are less likely to be employed than illiterate women, at 25% versus 39%.¹⁹ In contrast, men follow the expected pattern: as they become more educated, they are increasingly more employed. 51% of illiterate men are employed, while 71% of those who have a secondary education are employed.²⁰ This pattern does not hold true in urban areas, where the gender gap has narrowed and education yields higher employment for both genders, likely due to more progressive attitudes and greater numbers of highly skilled jobs.²¹ Women's ability to access employment is also limited by traditional gender norms. Male relatives and husbands frequently prohibit their female relatives from pursuing employment outside their homes, even after conducting relevant job training, in order to safeguard their reputations.²² Women may also impose mobility constraints on themselves. Traditional gender norms place women as the locus of the family, so rural women are often hesitant to leave their families for jobs that primarily exist in urban areas.²³ In contrast, men can more easily move to urban centers for better opportunities. Men's migration has downstream effects on

female farm workers, who are often only hired in conjunction with their husbands. Now that many husbands commute or migrate to urban areas for work, some wives are unable to commute to the jobs they previously held.²⁴

A woman's religion and caste also affect her employment levels. This contrasts with men, whose employment is little affected by their social status. Muslim women are the least employed, at levels less than half the rate of the average population.²⁵ Hindu women of lower castes have traditionally worked outside the home at higher rates than more privileged castes, due to economic distress.²⁶ Since incomes have been rising and poverty decreasing since the 1980s, some rural disadvantaged castes have been adopting the patriarchal and restrictive gender norms of more privileged castes, leading to a decline in women's workforce participation.²⁷

A 2014 ILO report states that women's "occupational segregation" is a major driver of this stagnation, decline in workforce participation, and decline in agricultural work.²⁸ Traditional social norms

¹⁹ Srivastava, Nisha and Srivastava, Ravi. "Women, Work, and Employment Outcomes in Rural India" *Economic and Political Weekly*, July 10th, 2010. Volume XLV no. 28. Accessed 20 Mar 2016. <<http://sa.indiaenvironmentportal.org.in/files/Women%20Work%20and%20Employment%20Outcomes.pdf>>, 50-51

²⁰ Srivastava

²¹ Srivastava

²² Pande, Rohini and Troyer-Moore, Charity. "Why Aren't India's Women Working?" *New York Times Opinion Page*. 23 August 2015.

<http://nyti.ms/1LpAPRg>

²³ Kumbhar, Vijay. "Some Critical Issues of Women Entrepreneurship in Rural India." *European Academic Research*. 1(2), 21 May 2013.

²⁴ Lanjouw, Peter and Shariff, Abusaleh. "Rural Nonfarm Employment in India: Access, Incomes and Poverty Impact." *National Council of Applied Economic Research*, New Delhi, India. December 2000.

<http://www.econ.yale.edu/~cru2/data/explore/Niraj/non-farmlandia.pdf>

²⁵ Srivastava, Nisha and Srivastava, Ravi. "Women, Work, and Employment Outcomes in Rural India" *Economic and Political Weekly*, July 10th, 2010. Volume XLV no. 28. Accessed 20 Mar 2016.

<<http://sa.indiaenvironmentportal.org.in/files/Women%20Work%20and%20Employment%20Outcomes.pdf>>

²⁶ Srivastava

²⁷ Lanjouw

²⁸ Kapsos, Steven, Silberman, Andrea, and Bourmpoula, Evangelia. "Why is Female Labor Force Participation Declining So Sharply in India?" ILO Research Paper No. 10, August 2014. International Labour Office.

<http://193.134.194.19/wcmsp5/groups/public/--->

dictate that certain types of work are unsuitable for women. As a result, women are excluded from high-potential employment and have remained in low-growth sectors. The authors contend that women took up only 19 percent of jobs in India's ten fastest-growing job sectors.²⁹ Women's participation increased in only three out of the ten sectors, while declining in the other seven.³⁰ The sectors where women have seen gains, such as in teaching and customer service jobs, have not grown substantially over this period, while jobs that are traditionally held by men, such as construction workers and drivers, have grown dramatically.³¹ In fact, researchers estimate that 20.7 million more women would have entered the labor force, compared to the 8.7 million that actually did, had they been part of these faster growing job sectors.³²

Implications:

Indian women's declining workforce participation has both negative economic and social implications. Researchers estimate that if the workforce gender gap were reduced by half, per capita income could be 10% higher by 2020.³³ Additionally, data demonstrates that when women enter the labor force in larger numbers, domestic violence rates fall and women have an

increased ability to make their own decisions.³⁴ Though the reasons for women's declining employment are varied, the Indian government acknowledges this trend as a social and economic concern and has numerous programs in place to encourage more women into the workforce. These programs frequently encourage women to migrate from rural to urban areas, where more jobs are available. Unfortunately, this policy is not ideal for several reasons.

II. Developing the Rural Economy

Encouraging rural to urban migration presents both ethical and pragmatic challenges. First, there is a need to distinguish between forced, reluctant, and voluntary migration. Forced migrants are compelled to relocate, generally on the basis of ethnicity or religion.³⁵ Reluctant migrants are either encouraged or prompted to relocate due to factors including warfare or lack of economic opportunities.³⁶ Finally, voluntary migrants move freely and of their own volition.³⁷ Forced migration is a clear rights violation, and facilitating reluctant migration falls on shaky ethical ground. DDU-GKY graduates fall into the "reluctant" and "voluntary" categories. Normatively, a woman deserves the right to freely choose where to live. She should not feel compelled to leave her family, social networks, and home village in search of employment. Unfortunately, the notion of a world where urban migration is purely voluntary is unrealistic. Nonetheless, it is imperative to acknowledge the ethical

dgreports/---
inst/documents/publication/wcms_250977.pdf
²⁹ Kapsos, Steven, Silberman, Andrea, and Bourmpoula, Evangelia. "Why is Female Labor Force Participation Declining So Sharply in India?" ILO Research Paper No. 10, August 2014. International Labour Office.
http://193.134.194.19/wcmsp5/groups/public/---dgreports/---inst/documents/publication/wcms_250977.pdf

³⁰ Kapsos

³¹ Kapsos

³² Kapsos

³³ Kapsos

³⁴ Pande

³⁵ "Human Migration Guide." National Geographic Expeditions, 2005. Accessed 26 Mar 2016.
<http://www.nationalgeographic.com/xpeditions/lessons/09/g68/migrationguidestudent.pdf>

³⁶ Human Migration Guide

³⁷ Human Migration Guide

quandary that reluctant migration poses and seek to provide alternatives.

Rural to urban migration also puts women at risk. Internal migrants often face language and cultural barriers, especially in a nation as diverse as India.³⁸ This frequently escalates into hostility toward migrants.³⁹ Moreover, internal migrants often lack access to basic services, including financing, health care, housing, and identity documentation.⁴⁰ Finally, female migrants are especially vulnerable to rights abuses, including exploitation and trafficking.⁴¹ Ameliorating these risks and deficits is warranted, but certainly idealistic. Developing more rural employment opportunities presents a normatively justified alternative.

Rural economic development makes pragmatic sense. India's population is rapidly urbanizing. India claims one quarter of the world's fastest growing cities, and India's rate of urbanization, at 1.1%, is higher than the global average of .9%.⁴² This growth is largely attributed to rural to urban migration.⁴³ As migrants pour into cities, public utilities and facilities,

including electricity, water, sanitation, and public transportation, are increasingly strained.⁴⁴ This population pressure on cities is not expected to subside - India's urban population is expected to double by 2050.⁴⁵

Thus, although encouraging migration to cities may make sense in the short-term context of DDU-GKY's operations, mass urban migration is unsustainable. In light of these challenges, facilitating rural to urban migration is a short-term solution at best. Developing rural economic opportunities can help alleviate this escalating pressure on cities and urban resources. We next turn to an examination DDU-GKY program using this contextual analysis as a springboard.

³⁸ "Moving out of poverty – making migration work better for poor people." Department for International Development (DFiD) Report, March 2007. Accessed 26 Mar 2016.

<http://www.migrationdrc.org/publications/other_publications/Moving_Out_of_Poverty.pdf>

³⁹ Bhagat, Ram. "World Migration Report 2015: Urban Migration Trends, Challenges, and Opportunities in India." Background Paper, International Organization for Migration, 2015. Accessed 26 Mar 2016.

<<http://www.solutionexchange-un-gen-gym.net/wp-content/uploads/2016/01/WMR-2015-Background-Paper-RBhagat.pdf>>

⁴⁰ Abbas, Rameez, and Varma, Divya. "Internal Labor Migration in India Raises Integration Challenges for Migrants." Migration Policy Institute. 3 Mar 2014. Accessed 26 Mar 2016.

<<http://www.migrationpolicy.org/article/internal-labor-migration-india-raises-integration-challenges-migrants>>

⁴¹ DfiD Report

⁴² Abbas and Varma

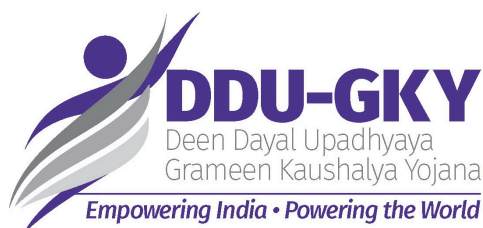
⁴³ Abbas and Varma

⁴⁴ Krishnamurthi, M. "Problems of Urban India." Fair Observer, 3 September 2012. Accessed 26 Mar 2016.

<http://www.fairobserver.com/region/central_south_asia/problems-urban-india/>

⁴⁵ Bhagat

DDU-GKY: A GOVERNMENT INITIATIVE TO ADDRESS RURAL YOUTH UNEMPLOYMENT



I. Background

To address the lack of employment opportunities in rural areas, The Ministry of Rural Development enables rural men and women to secure regular wage employment through its skilling and job placement scheme, DDU-GKY. Started in 2013, DDU-GKY builds on the MoRD's previous experiences with providing skills training to rural populations. It is designed to "not only provide high quality skills training opportunities to the rural poor, but also to establish a larger ecosystem that supports trained candidates to secure a better future."⁶

To this end, DDU-GKY funds private Program Implementing Agencies (PIAs), which provide skills training, job placement, and an ongoing support network for employed graduates⁷, the majority of whom work in urban centers.⁸ Funds are administered through State-level Rural Livelihood Missions (SLRMs). PIAs

are required to train at least 33% women, as well as varied numbers of special caste and minority groups, depending on the state.

Current guidelines require PIAs to place 75% of graduates in formal wage jobs and track each graduate's placement for one year. However, PIAs receive reimbursement for training costs after graduates are successfully placed for just three months. In order for PIAs to receive reimbursement from the MoRD for successfully placing a trainee, they must demonstrate that the trainee is employed for three months, typically through salary slips from employers that each trainee submits. (In order to improve both transparency and accuracy, DDU-GKY officials expressed that they are in the process of automating this reporting by gaining access to graduates' bank account data).

Graduate tracking and job retention have been identified as barriers to the program's widespread success. In response, DDU-GKY has refined its model over the past three years. DDU-GKY guidelines now include provisions for PIAs to administer longer-term support. This includes post-placement "support" for six months, and "tracking, facilitation, and support" for one year instead of the three months previously required.⁹ This "support" often includes migration support and longer-term counseling, as recommended by DDU-GKY staff and through their own trial and error.¹⁰ PIAs are assisted by SLRMs, which have a better sense of the local context and needs. SLRMs provide capacity building programs for PIA managers and help them avoid common pitfalls.¹¹

⁶ "Programme Guidelines: DDU-GKY" Ministry of Rural Development, Government of India. Accessed 02/08/2016.

<http://ddugky.gov.in/ddugky/DocumentsForDownload/DDU-GKY%20Guidelines%20Eng.pdf>

⁷ Programme Guidelines: DDU-GKY

⁸ Programme Guidelines: DDU-GKY

⁹ Programme Guidelines: DDU-GKY

¹⁰ Saluja, Rajendra. CEO of RISE India. Personal Interview. New Delhi, India, 12 Jan 2016.

¹¹ Programme Guidelines: DDU-GKY

DDU-GKY's current tracking and retention efforts comprise three strategies. First, they encourage personal contact with families throughout the training and placement process. DDU-GKY encourages PIA trainers to work closely with local community leaders (at the gram panchayat level) to recruit trainees, meet with families to convince them of training benefits, and guarantee their daughters' safety.⁵² Second, they encourage migration support centers to assist rural to urban migrants by helping them find accommodation, securing alternative jobs if needed, interacting with local government, and securing access to a counselor.⁵³ Third, DDU-GKY offers post-placement support funds to help trainees adjust to life in an urban area.⁵⁴

DDU-GKY also seeks to improve alumni retention rates and performance. DDU-GKY plans to disburse an additional 1.5% of a PIA's annual funding for alumni support measures, including networking events and job posting databases. The scheme also provides SLRMs with funds to implement complementary programming, including jobs fairs for rural BPL youth who have not participated in DDU-GKY.⁵⁵ Finally, the MoRD gives PIAs a bonus of Rs. 5000 per graduate if they successfully help him or her attain wages above Rs. 15,000 per month, which the MoRD envisions will be possible only if the PIAs provide additional training and support to the graduate.⁵⁶

II. Persistent retention issues in DDU-GKY

DDU-GKY struggles to keep female graduates formally employed. PIA managers suggested that many women drop out of the program after working in their largely urban placements for just three months. This is largely due to pressure from the women's families or a personal preference to live in a rural area.⁵⁷ This is especially true in more conservative parts of the country, including the north and northeast. Although the MoRD would consider women who abandon their placements to be less successful graduates of the program, MoRD officials emphasized that the women return home with a newfound sense of confidence and a taste of life outside of their villages.⁵⁸ However, not all women return to their villages. PIA managers highlighted programmatic successes, including stories of female graduates who remained in urban centers, married, and continued to work, thereby increasing their incomes and living standards.⁵⁹

The current system provides little incentive for PIAs to continue alumni support beyond one or possibly two years. PIAs receive reimbursement for training costs after a graduate is placed for three months. Though DDU-GKY guidelines now allocate some funding for alumni support activities, the vast number of women in need of support to remain in urban centers may be beyond the scope of an individual PIA. Additionally, PIAs are paid much more per new trainee than they are for

⁵² "Programme Guidelines: DDU-GKY" Ministry of Rural Development, Government of India. Accessed 02/08/2016.

<http://ddugky.gov.in/ddugky/DocumentsForDownload/DDU-GKY%20Guidelines%20Eng.pdf>

⁵³ Programme Guidelines: DDU-GKY

⁵⁴ Programme Guidelines: DDU-GKY

⁵⁵ Programme Guidelines: DDU-GKY

⁵⁶ Saluja, Rajendra. CEO of RISE India. Personal Interview. New Delhi, India, 12 Jan 2016.

⁵⁷ Krishna, Vineel. Project Director of DDU-GKY, National Institute of Rural Development, Personal Interview, 18 Jan 2016.

⁵⁸ Saluja Interview

supporting a long-term placed employee. Thus, PIAs are incentivized to continue training new students, even if an evaluation of long-term outcomes showed it would be more beneficial to support fewer women over the long term rather than more women over the short term.

A lack of data makes it difficult to determine the scale of this retention loss. It is not possible to determine retention rates beyond one year, as this data is not collected. It is also difficult to determine how the experience of urban independence affects female graduates in the long term, even if they choose to return home after three months or a year. In addition, there is little evidence to support the statement in DDU-GKY's current guidelines that for graduates who remain in their initial job placements for more than one year, "they are successful in making the transition and very rarely slip back into unemployment."⁶⁰

Tracking self-employment is similarly challenging. MoRD officials stressed that the PIA program is best positioned to focus solely on placement-linked formal employment. They articulated that it would be difficult to track and measure the success of self-employment and highlighted the risks involved, such as accumulating high debt levels. For these reasons, the MoRD has chosen not to recognize self-employment as a viable outcome of the DDU-GKY program.

III. Recent Self-Employment Options

The MoRD is hesitant to create pathways for DDU-GKY graduates to

⁶⁰"Programme Guidelines: DDU-GKY" Ministry of Rural Development, Government of India. Accessed 02/08/2016. <http://ddugky.gov.in/ddugky/DocumentsForDownload/DDU-GKY%20Guidelines%20Eng.pdf>

become self-employed in rural areas. However, the Ministry recognizes the value of rural self-employment as a way for women to earn extra income when other options are limited. Thus, the Ministry has established the following programs in recent years for rural populations.

The government established Rural Self-Employment Training Institutes in 2009, which continue to the present. These institutes are run by local banks and MFIs and are modeled on institutes in Karnataka in the early 1980s. In this iteration, the government provides grants to banks to build and run training institutes. The banks then sponsor training programs, which include room and board and guarantees for microloans to graduates. The banks are required to track the participants for two years after the program.⁶¹ The MoRD then collects this data to determine whether the candidates have successfully become "settled" through self-financing or wage employment, and/or become linked with credit from the bank.⁶² However, it is not clear how banks track employment, nor which subgroups, including by gender, caste, religion, and so forth, benefit most from the program. It is also unclear how RSETIs use these data to generate program improvements.

As an addition to the RSETIs, the MoRD launched the Start Up Enterprise Institute in 2015. This program provides skills, loans, and other support for rural

⁶¹"Guidelines for Rural Self-Employment Training Institutes (RSETIs)" Government of India, Ministry of Rural Development, Department of Rural Development. July 7th, 2009. Accessed 02/08/2016. http://nird.org.in/rseti/documents/RSETI_sgsgy_Guidelines1.pdf

⁶²"Annual Activities Report 2014-2015" Monitoring Cell for RSETIs, Ministry of Rural Development, Government of India. Bengaluru. Accessed 03/26/2016. <http://www.rsetmonitoringcell.org/docs/Annual%20Activity%20Report%202014-15.pdf>

BPL entrepreneurs in various sectors for six months. Under this scheme, designated PIAs identify potential entrepreneurs. Those deemed eligible are trained in entrepreneurial skills either by PIAs, RSETIs, SHGs, or other agencies under the National Resource Livelihood Mission. The MoRD provides these agencies with financing and conducts value chain studies, especially for entrepreneurs working in agriculture.⁶⁵ Because this program is so new, it is currently not possible to evaluate its impacts.

IV. Exploring Alternatives

Based on the current economic and social conditions of many DDU-GKY program graduates, the MoRD should support female DDU-GKY graduates to find stable employment in rural areas. Innovative alternatives to urban wage employment would allow women to earn sustained incomes independent of their husbands, employ skills gained during their DDU-GKY experience, and continue to live in their home communities. We thus examine several possible job-creation mechanisms.

In the following sections, we:

1. Demonstrate the limited utility of traditional approaches to supporting female entrepreneurship and present a new framework for designing higher-impact entrepreneurial interventions.

2. Explore the viability of subcontracting and cooperatives as self-employment opportunities for DDU-GKY graduates.
3. Explore the possibility of connecting employment interventions to strategic industry development as a means to fuel inclusive and sustained macroeconomic growth.
4. Evaluate policy options and provide recommendations for evidence-based MoRD support of women's rural self-employment.

⁶⁵ "Guidelines for Start-Up Village Entrepreneur Programme." National Rural Livelihoods Mission, Ministry of Rural Development, Government of India. 2015. Accessed 02/08/2016. <http://www.aajeevika.gov.in/sites/default/files/SV EP%20Guidelines.pdf>

EMPOWERING WOMEN THROUGH ENTREPRENEURIAL INTERVENTIONS

Key Points

- Both business training and microfinance may independently help women launch new businesses more quickly, but will not help women launch better performing or more stable businesses. More evidence is needed to assess the efficacy of these interventions in tandem in India.
- Training coupled with individualized, industry-specific technical support may improve the business outcomes of new ventures. Further research is needed.
- Grants alone have no impacts on female-led ventures. Training and grants in tandem may expedite the launch of a microenterprise, but will not change the trajectory of the enterprise. More evidence from the Indian context is needed.
- Entrepreneurial interventions impact women from varied backgrounds differently.
- Interventions could be more effective by identifying and alleviating the binding constraint facing a particular group of women. This can be accomplished through a women-centered design approach.

The challenges of migration and lack of rural employment options that many DDU-GKY female graduates face suggest that the MoRD should consider supporting rural employment opportunities. Microenterprise development for rural BPL women is one avenue to do so. Commonly utilized interventions for microenterprise support, including business training and microfinance, are often hailed as panaceas for microenterprise growth. Indeed, individual success stories abound to bolster these accolades. But large-scale interventions should be rooted in evidence rather than hearsay. Here, we examine the quantitative impacts of commonly-touted entrepreneurial interventions. We argue that in broad strokes, **the empirical record demonstrates that business training and finance have limited impacts on female-led ventures.** Although these interventions expedite the rate of female-led firm entry, they do not improve the performance of these firms. A deeper analysis of these results illuminates that these impacts vary depending on the specific population in question. With these differential impacts in mind, we proffer a new framework for the design of entrepreneurial interventions: the theory of binding constraints. By adjusting the way we design interventions, personal accounts and rigorous impact evaluations may begin to tell a similar story.

A quick caveat is warranted prior to a deep analytical dive. Many entrepreneurship evaluations are methodologically unsound. First, few are fully randomized, have a control group, and

use robust significance testing.⁶⁴ In fact, a meta-analytical review by the World Bank asserts that a majority of studies suffer from small sample sizes, and thus fall below the industry threshold of 80% power.⁶⁵ Second, almost all published studies exclusively examine short-term impacts of business trainings. However, both short and long-term impacts are essential to gauge the efficacy of an intervention.⁶⁶ Third, trainees often self-report many business outcomes, such as profit and revenue.⁶⁷ These individuals lack objectivity and may not clearly understand the parameters of these measures.⁶⁸ Finally, there is a great deal of variability across studies in terms of population demographics and the duration and content of training, making it difficult to extrapolate comprehensive results.⁶⁹ These methodological limitations warrant a skeptical eye, and in some cases, a reexamination of frequently-lauded interventions. In light of these challenges, we have chosen to more closely examine studies on the basis of their robust statistical methodology and external validity to rural Indian women.

I. Training

Skills-based entrepreneurship training is a popular intervention to foster entrepreneurship in developing contexts. According to the empirical record, these trainings may expedite the rate of firm entry. In a field experiment in urban Sri Lanka, De Mel et al (2014) assess the impact of the International Labor Organization's Start and Improve Your Business program on the creation of new enterprises. They find that for women with ambitions of launching ventures, training significantly increased the rate of firm entry relative to the control group in the short term.⁷⁰ In another Sri Lankan study, Del Mel et al (2012) find that training increased the rate of business ownership for women who had been out of the labor force by nine percentage points.⁷¹ However, 16 to 25 months after training, the control group matched the treatment group in terms of business ownership.⁷² Thus, although there is evidence to suggest that training helps women launch businesses more quickly, it is unclear whether training permanently improves the rate of entrepreneurship, or simply expedites it.⁷³ If the latter is true, it is likely that these same firms would have eventually launched even without training.⁷⁴ Results are even less optimistic with regard to the impact of training on firm longevity.

There is little evidence to suggest that training helps stabilize firms. In a meta-analytical review of entrepreneurship

⁶⁴Glaub, Matthias, and Michael Frese. "A critical review of the effects of entrepreneurship training in developing countries." *Enterprise Development and Microfinance* 22, no. 4 (2011): 335-353.

⁶⁵ McKenzie, David, and Christopher Woodruff. "What are we learning from business training and entrepreneurship evaluations around the developing world?." *The World Bank Research Observer* (2013): lkt007.

⁶⁶ McKenzie and Woodruff 2013

⁶⁷ McKenzie and Woodruff 2013

⁶⁸ McKenzie and Woodruff 2013

⁶⁹ McKenzie and Woodruff 2013

⁷⁰ De Mel, Suresh, David McKenzie, and Christopher Woodruff. "Business training and female enterprise start-up, growth, and dynamics: Experimental evidence from Sri Lanka." *Journal of Development Economics* 106 (2014): 199-210.

⁷¹ De Mel et al 2014

⁷² De Mel et al 2014

⁷³ De Mel et al 2014

⁷⁴ De Mel et al 2014

evaluations compiled by the World Bank, only one study demonstrated positive results of training on firm survivorship.⁷⁵ Mano et al's (2012) field experiment in Ghana measured a 9-percentage point increase in firm survivorship among the treatment group.⁷⁶ However, this study included only men.⁷⁷ Studies that include women categorically demonstrate lackluster results. Gine and Mansuri's experiment in rural Pakistan (2011) finds that training has a marginally significant impact on the survivorship of male-led firms 18 to 22 months after training, but finds zero impact on women-led firms.⁷⁸ Valdivia (2012) finds that training even results in a marginal reduction in the likelihood of survivorship of women-led firms in Peru.⁷⁹ Other studies demonstrate similar results. In light of these findings, it is clear that training has minimal impacts on business outcomes.

Business training could be a justifiable intervention if it prompted the launch of more profitable ventures. In order to assess whether training does in fact have this impact, researchers would need to construct a field experiment comparing a large sample of newly created, female-led, trained ventures to newly created, female-led, non-trained ventures. Unfortunately, there are few experiments which have done

so, Del Mel et al (2014) being one exception. They find that treated firms witnessed a significant increase in profits in the medium term, relative to control group firms.⁸⁰ Trained women also exhibited a higher level of business knowledge.⁸¹ However, treated firms witnessed no significant increase in total work income or sales.⁸² Moreover, with approximately 200 firms in the treatment and control groups, this study has only a moderate amount of statistical power.⁸³ More evidence is needed to draw conclusions.

As an alternative but less precise measure, we can assess the impact of training on pre-existing firms. Results across the board exhibit spotty evidence that training increases the business outcomes of pre-existing female-led ventures.⁸⁴ In the same study by Del Mel et al, the researchers find that while trained women demonstrated higher levels of business knowledge, this knowledge did not translate to firm impacts-- the authors found no significant impacts on any measured business outcome, namely profits, sales, capital stock, and number of hours worked.⁸⁵ These results are consistent in both the short and medium terms and are robust to two statistical models.⁸⁶ Similarly, Karlan and Valdivia (2011) assessed the impact of business training on preexisting female microfinance clients in Peru. Although trainings improved women's business knowledge, they had no significant

⁷⁵ McKenzie and Woodruff 2013

⁷⁶ McKenzie and Woodruff 2013

⁷⁷ Mano, Y., Iddrisu A., Yoshino Y., Sonobe T. "How Can Micro and Small Enterprises in Sub-Saharan Africa Become More Productive? The Impacts of Experimental Basic Managerial Training." *World Development*. 40(3):458-68, 2012.

⁷⁸ McKenzie, David, and Christopher Woodruff. "What are we learning from business training and entrepreneurship evaluations around the developing world?." *The World Bank Research Observer* (2013): lkt007.

⁷⁹ Valdivia, Martin. "Training or technical assistance? A field experiment to learn what works to increase managerial capital for female microentrepreneurs." (2011).

⁸⁰ De Mel, Suresh, David McKenzie, and Christopher Woodruff. "Business training and female enterprise start-up, growth, and dynamics: Experimental evidence from Sri Lanka." *Journal of Development Economics* 106 (2014): 199-210.

⁸¹ De Mel et al 2014

⁸² De Mel et al 2014

⁸³ De Mel et al 2014

⁸⁴ McKenzie and Woodruff 2013

⁸⁵ De Mel et al 2014

⁸⁶ De Mel et al 2014

impact on business revenues, profits, or the employment of others.⁸⁷ These results are consistent with the conclusions of the World Bank meta-analytical review.⁸⁸

The empirical record is highly skeptical of business training, a finding with several implications for the Ministry of Rural Development. As shown above, training may help women launch new businesses more quickly than they otherwise would have. However, training is unlikely to help women launch better performing or more stable businesses. This is not necessarily unwelcome news for DDU-GKY. It may be beneficial for unemployed women to start businesses sooner than they may have otherwise, bringing them up to speed with their entrepreneurial peers and generating more household income sooner. It is unclear why we see these trends -- training may expedite the learning curve or build confidence in women. In the next section, we explore whether individualized follow-up trainings can improve upon these outcomes.

II. Hand-Holding/Targeted Trainings

The lackluster results demonstrated by standard business training have prompted development professionals to ponder whether more individualized coaching can help women improve their businesses. There is some evidence to suggest that business training, combined with individualized follow-up sessions, can

improve the business outcomes of female entrepreneurs. However, content and depth matter. Interventions that merely reinforce concepts learned during training elicit no impacts. However, personalized and industry-specific coaching sessions show promising, if preliminary, results.

The majority of impact evaluations assessing the efficacy of follow-up sessions after initial business training demonstrate inconsequential results. In a field experiment in the Dominican Republic, Drexler et al (2012) provided half of their treatment group, which consisted of 90% women, with follow-up sessions from financial trainers. The trainers visited the entrepreneurs' businesses eight times over the course of five months to review course lessons, answer questions, and review accounts.⁸⁹ The study found that these additional sessions had no significant impact on business outcomes, relative to those who received trainings, but no follow up sessions.⁹⁰ Similarly, Gine and Mansuri (2011) provided one-on-one "hand-holding" sessions to half of their treatment firms in rural Pakistan.⁹¹ Firms received one to two visits a month for four months, where entrepreneurs could ask questions and review training concepts.⁹² This intervention had no impact on any outcome variables for both men and women.⁹³ It appears that

⁸⁷ Karlan, Dean, and Martin Valdivia. "Teaching entrepreneurship: Impact of business training on microfinance clients and institutions." *Review of Economics and Statistics* 93, no. 2 (2011): 510-527.

⁸⁸ McKenzie, David, and Christopher Woodruff. "What are we learning from business training and entrepreneurship evaluations around the developing world?." *The World Bank Research Observer* (2013): lkt007.

⁸⁹ Drexler, Alejandro, Greg Fischer, and Antoinette Schoar. "Keeping it simple: Financial literacy and rules of thumb." *American Economic Journal: Applied Economics* 6, no. 2 (2014): 1-31.

⁹⁰ Drexler et al 2014

⁹¹ Giné, Xavier, and Ghazala Mansuri. "Money or ideas? A field experiment on constraints to entrepreneurship in rural Pakistan." *A Field Experiment on Constraints to Entrepreneurship in Rural Pakistan* (June 1, 2014). World Bank Policy Research Working Paper 6959 (2014).

⁹² Giné and Mansuri

⁹³ Giné and Mansuri

merely reinforcing training concepts does very little to assist female entrepreneurs.

One impact evaluation has shown positive impacts of more substantial and individualized follow-up sessions. Valdivia analyzed the impact of more intensive individualized coaching on female microentrepreneurs in Peru.⁴⁴ After receiving business training, half of the researchers' sample received individualized support, or technical assistance, over an additional three months. This technical assistance was specific to the needs and industries of the women's businesses, and included both individual and group sessions with businesses in similar industries. These group sessions identified the strengths and weaknesses of the women's businesses, suggested ways to iterate and adapt, and provided an avenue for women to form investment groups. This intensive intervention elicited surprising results. General training plus technical assistance resulted in higher sales and increased use of informal credit. Women were also more likely to associate with business-related affiliations. These results were all significant compared to the control group. Moreover, the group that received training alone did not experience significant results in any of these categories. Finally, women who received both training and technical assistance were much more likely than women who received training alone to incorporate innovations in their businesses. These results just barely miss the cutoff for significance at the 10% level compared to the control group.⁴⁵ Although Valdivia's

study is the first and only study to assess the impact of more intensive follow-up sessions, his results merit optimistic but tempered curiosity in its potential external validity to India.

Valdivia's study presents preliminary evidence that regular and specific business advice may help female entrepreneurs improve the business outcomes of their firms. However, further research is imperative to substantiate Valdivia's findings. It is presently unclear whether such an intervention can have a permanent impact on sales and other outcomes. Therefore, we highlight intensive, industry-specific follow-up sessions as a potentially beneficial intervention that would help female DDU-GKY trainees improve the performance of start-up ventures they launch. However, the feasibility of this intensive support is contingent upon the intersection of numerous factors, including the availability and quality of coaches, budgetary constraints, and the industries that women are entering.

We next analyze another frequently touted intervention-- access to finance-- and explore whether it has the ability to more effectively spur entrepreneurial development.

III. Capital

The development community has frequently lauded access to capital as a panacea for microenterprise development and poverty reduction. However, the empirical record is less congratulatory. Here we examine the efficacy of two commonly-utilized financial tools: microfinance and grants.

Microfinance

Microfinance has emerged in recent years as a supposed developmental necessity. In the model of Grameen Bank,

⁴⁴ Valdivia, Martin. "Training or technical assistance? A field experiment to learn what works to increase managerial capital for female microentrepreneurs." (2011).

⁴⁵ Valdivia 2011

women are frequently encouraged to take out group loans, for which they share the responsibility of repayment.⁹⁶ However, research demonstrates that group loans and entrepreneurial training may have similar impacts: they expedite firm entry, but have no impact on firm performance or longevity. Attanasio et al (2011) find that providing poor women in rural Mongolia access to group loans had a significant impact on the launch of new ventures, relative to the control group.⁹⁷ However, these loans had no impact on the profits of these newly launched firms.⁹⁸ Unfortunately, due to the fact that the experiment spanned just 1.5 years, longer-term impacts were not collected.⁹⁹ Banerjee et al. (2011) generate similar, albeit more nuanced findings in urban India. Although women who received access to group loans were not more likely to launch one new business relative to the control group, they were more likely to launch multiple new businesses.¹⁰⁰ These entrepreneurs also invested more capital in these businesses. However, treatment had no significant impact on firm revenues, profits, or assets, on average. Moreover, after three to four years, women in treatment groups were no more likely than women in control groups to own a business.¹⁰¹ These results suggest that this is due to the fact that the control group caught up to the treatment group over time. Although they employ somewhat

different research designs, studies by Augsburg et al. (2012) in Bosnia and by Crepon et al (2011) in Morocco demonstrate similar results.¹⁰²

Some development professionals argue that combining business training and access to microfinance is imperative. Unfortunately, there are very few field experiments that test the efficacy of these interventions in tandem. Swain and Varghese use observational data from five Indian states to assess the impact of training and microfinance on business outcomes.¹⁰³ Their very preliminary evidence suggests that the combination of the two has a positive impact on assets, but not on income.¹⁰⁴ In a more robust study, Karlan and Valdivia (2011) assessed the impact of business training on preexisting female microfinance clients in Peru. Although trainings improved women's business knowledge, they had no significant impact on business revenues, profits, or the employment of others.¹⁰⁵ Additionally, the study measured negative, though insignificant, impacts on starting a new business.¹⁰⁶ Indicators of firm stability, such as the proportion of entrepreneurs who reported experiencing business problems or the likelihood of recording payments to employees, were all insignificant.¹⁰⁷ Although these initial findings are not promising, more evidence is needed to

⁹⁶ Banerjee, Abhijit V., Esther Duflo, Rachel Glennerster, and Cynthia Kinnan. "The miracle of microfinance? Evidence from a randomized evaluation" (2013)

⁹⁷ Attanasio, Orazio, Britta Augsburg, Ralph De Haas, Emla Fitzsimons, and Heike Harngart. "Group lending or individual lending? Evidence from a randomised field experiment in Mongolia" (2011)

⁹⁸ Attansio et al 2011

⁹⁹ Attansio et all 2011

¹⁰⁰ Banerjee et al 2013

¹⁰¹ Banerjee et al 2013

¹⁰² Banerjee et al 2013

¹⁰³ Swain, Ranjula Bali and Varghese, Adel.

"Microfinance 'Plus': The Impact of Business Training on Indian Self Help Groups." Uppsala University Department of Economics Working Paper 2010:24 (2010).

¹⁰⁴ Swain and Varghese 2010

¹⁰⁵ Karlan, Dean, and Martin Valdivia. "Teaching entrepreneurship: Impact of business training on microfinance clients and institutions." *Review of Economics and Statistics* 93, no. 2 (2011): 510-527.

¹⁰⁶ Karlan and Valdivia 2011

¹⁰⁷ Karlan and Valdivia 2011

definitively assess the impact of both training and microfinance, especially in rural India.

Grants

Grants are another frequently touted intervention aimed to alleviate the supposed constraint of finance. Again, the empirical record does not support this supposition. However, it does illuminate the fact that financial interventions can impact men and women differently. De Mel et al (2008) find that while business returns to grants among male-led microenterprises in Sri Lanka are positive and significant, returns to female-led microenterprises are zero.¹⁰⁸ Similarly, De Mel et al (2012) find that although one-time cash transfers generate significant long-term profits among male-led microenterprises, grants to female-owned enterprises showed no short or long-term effects.¹⁰⁹ Additionally, although these grants reduced the closure rate of male-owned firms across a nearly 6 year time period, a trend which was significant at the 1% level, impacts for women were negative and insignificant.¹¹⁰ The authors posit two explanations for these gender-divergent results. First, women frequently invested capital in household uses, rather than in their businesses.¹¹¹ Second, women tended to work in industries with poor returns to capital.¹¹² Positive returns to grants amongst

men suggest that capital may in fact be one constraint to firm performance. Moreover, these results suggest that women face more critical constraints that impede their ability to use capital effectively.

Providing training and grants in tandem produces slightly more advantageous results than single interventions. To test this, De Mel et al (2014) provided a sub-sample of prospective female entrepreneurs with cash grants upon completion of business training.¹¹³ This dual intervention prompted better business practices than receipt of training alone. However, this knowledge once again failed to translate to business outcomes. Impacts on profits, sales, and capital stock were all insignificant. However, the combined intervention prompted more rapid firm entry than training alone. These results are significant at the 1% level, relative to the control group, but these results vanished in the medium term. Moreover, women who received this treatment are significantly more likely to have opened and then closed a business during the time of the study, relative to the control group. Ultimately these two effects negated each other, and the interventions resulted in no long-term impact on firm ownership rates.¹¹⁴ These results suggest that although the combination of training and grants may help fast track the launch of a microenterprise, they will not change the trajectory of the enterprise.¹¹⁵ Again, additional evidence is needed in this area to draw more conclusive interpretations.

¹⁰⁸ De Mel, Suresh, David McKenzie, and Christopher Woodruff. "Business training and female enterprise start-up, growth, and dynamics: Experimental evidence from Sri Lanka." *Journal of Development Economics* 106 (2014): 199-210.

¹⁰⁹ De Mel, Suresh, David McKenzie, and Christopher Woodruff. "One-time transfers of cash or capital have long-lasting effects on microenterprises in Sri Lanka." *Science* 335, no. 6071 (2012): 962-966

¹¹⁰ De Mel et al 2014

¹¹¹ De Mel et al 2014

¹¹² De Mel et al 2014

¹¹³ De Mel, Suresh, David McKenzie, and Christopher Woodruff. "Business training and female enterprise start-up, growth, and dynamics: Experimental evidence from Sri Lanka." *Journal of Development Economics* 106 (2014): 199-210.

¹¹⁴ De Mel et al 2014

¹¹⁵ De Mel et al 2014

In sum, the empirical record is lacking in regard to the impacts of finance on female-led enterprises. First, among women, microfinance may help expedite firm entry, but it does not minimize firm exit or improve business performance, and there is not enough evidence to determine whether microfinance and training in tandem improve these results. Second, it is unclear whether grants expedite firm entry for women, but no impacts are found for firm performance or longevity. These results starkly contrast with those for men. Results are more positive for training and grants, but only in terms of firm entry.

These findings on the impacts of capital pose several implications for DDU-GKY. Despite the fact that providing capital to women entrepreneurs is not a panacea for poverty reduction, these interventions are not without their merits. Providing grants, especially in tandem with training, may help a great number of women launch microenterprises in a timely fashion. This would enable women to generate income locally when the best alternatives are home-based domestic activities or migrating to an urban location for formal employment. These interventions should not be expected to improve firm performance or longevity, however. Given that the impacts of capital are greatly divergent between men and women, further investigation is essential to determine what prevents women from harnessing the potential of capital in the same way as men. We explore this idea next.

IV. Differential impacts

The broad impacts of providing training and capital to female entrepreneurs below the poverty line are underwhelming. We could expect the results of a one-size-fits all entrepreneurial intervention in rural India to elicit similar results *en masse*.

However, an analysis of the differential impacts of entrepreneurial programs illuminates that specific populations of women benefit more from these interventions than others. These results beg a deeper understanding of the context different women face.

Entrepreneurial trainings are unlikely to impact all women below the poverty line equally. De Mel et al (2014) find that business training resulted in greater numbers of less analytically skilled women, as measured by a nonverbal IQ test, running businesses.¹¹⁶ The combination of training plus a grant also resulted in greater numbers of less analytically skilled and poorer women running businesses.¹¹⁷ These results are consistent with those of Attanasio et al (2011),¹¹⁸ who find that providing access to loans resulted in less educated women operating a business, relative to the control group. These trends indicate that training and financial support may have a greater impact on women who are more in need. More importantly, these results emphasize the importance of analyzing the impacts of interventions in finer grain, as they will undoubtedly vary for different subpopulations of women.

Interventions are also likely to impact women of varying religious and cultural backgrounds differently. In a field experiment with poor Indian women, Field et al. assess the impact of trainings on women with varying degrees of social

¹¹⁶ De Mel, Suresh, David McKenzie, and Christopher Woodruff. "Business training and female enterprise start-up, growth, and dynamics: Experimental evidence from Sri Lanka." *Journal of Development Economics* 106 (2014): 199-210.

¹¹⁷ De Mel et al 2014

¹¹⁸ Attanasio, Orazio, Britta Augsburg, Ralph De Haas, Emla Fitzsimons, and Heike Harmgart. "Group lending or individual lending? Evidence from a randomised field experiment in Mongolia." (2011).

restriction.¹¹⁹ In this study, social restriction primarily refers to restraints regarding women's mobility outside the home, contact with men, and for upper caste Hindu women, contact with scheduled castes.¹²⁰ The researchers designed a training experiment in partnership with SEWA Bank.¹²¹ The business training program provided financial literacy and business skills training to randomly selected existing SEWA bank customers.¹²² This intervention significantly increased the likelihood that upper caste Hindu women, with moderate levels of social restriction, took out a business loan, engaged in market activities, and spoke with family about a business plan.¹²³ However, no significant outcomes were found for scheduled caste and Muslim women.¹²⁴ The authors posit that the Hindu women, with moderate levels of social restriction, were able to act on their training.¹²⁵ However, Muslim women with extreme restrictions had too little agency to engage in entrepreneurial activities.¹²⁶ Conversely, scheduled caste women, who faced fewer social restrictions, benefitted less from the trainings.¹²⁷ This study demonstrates that a one-size-fits-all approach to fostering entrepreneurship among Indian female entrepreneurs would be foolhardy. Fortunately, it may be possible to preemptively identify

interventions likely to benefit certain subpopulations of women.

V. Binding Constraints

Female entrepreneurs may be best supported by identifying the binding constraints preventing them from launching and maintaining successful enterprises, followed by a tailored intervention to alleviate these constraints. The concept of binding constraints is rooted in Harvard Professor Ricardo Hausmann's methodology of growth diagnostics. This methodology was developed to help economists determine what kinds of industries nations are best positioned to develop, as well as the factors preventing their economic growth.

As part of this methodology, Hausmann posits that a binding constraint is the factor most severely impeding an economy's ability to grow.¹²⁸ Although multiple problems may exist in a particular context, this does not make all of these issues binding impediments to growth (Hausmann et al). A binding constraint can only be identified by examining its shadow price (Hausmann et al). For example, if electricity infrastructure is a binding constraint in a particular context, then we should observe high returns to businesses that have unfettered access to electricity. Attempts to maneuver around this impediment can also hint at a binding constraint (Hausmann et al). For example, high rates of generator ownership further suggest that electricity infrastructure is a binding constraint to growth. We posit that

¹¹⁹ Field, Erica, Seema Jayachandran, and Rohini Pande. "Do traditional institutions constrain female entrepreneurship? A field experiment on business training in India." *The American Economic Review* 100, no. 2 (2010): 125-129.

¹²⁰ Field 2010

¹²¹ Field 2010

¹²² Field 2010

¹²³ Field 2010

¹²⁴ Field 2010

¹²⁵ Field 2010

¹²⁶ Field 2010

¹²⁷ Field 2010

¹²⁸ Hausmann, R., Rodrik, D., & Velasco, A. (2005). *Growth Diagnostics*. Boston, MA: Harvard University.

<<http://www6.iadb.org/WMSFiles/products/research/files/pubS-852.pdf>>

this same methodology can be applied to understand the binding constraints that rural female entrepreneurs face, whether these constraints are social or market-based.

The study by Field et al on business training is an excellent example of varying binding constraints. We posit that upper caste Hindu women face different binding constraints than do scheduled caste and Muslim women. The fact that business outcomes of upper caste Hindu women improved post-training suggests that the trainings did alleviate a constraint, likely a lack of business skills or financial knowledge. However, we cannot be positive that this constraint was in fact binding. According to the theory of growth diagnostics, a more thorough investigation of possible factors is imperative to determine which is the *most* binding.¹²⁹ On the other hand, the fact that both scheduled caste and Muslim women did *not* benefit from the intervention tells us that a lack of business or financial knowledge was not a binding constraint for them -- a more critical barrier must have impeded their ability to benefit from the intervention. We can infer that for scheduled caste women, this barrier was not social restrictions, as they were the least constrained group of women in the sample. We cannot rule out this possibility for Muslim women, however, as they were the most constrained group in the sample. What then, could be constraining these two groups of women more than a lack of business knowledge?

Unfortunately, scheduled caste and Muslim women in India face many more barriers than merely a lack of training. Flagrant discrimination may be the binding

constraint for scheduled caste women. Although these women technically face fewer restrictions of mobility and interaction than upper caste women, the scheduled castes face systemic discrimination that inhibits their ability to conduct business. For example, upper caste merchants frequently impose heavy restrictions on the distribution of goods and services to the scheduled castes.¹³⁰ This discrimination restricts their access to essential inputs, a constraint that cannot be alleviated with any type of business training. A more thorough investigation, namely analysis of the returns when this constraint is alleviated, could confirm or reject this hypothesis

¹²⁹ Hausmann, R., Rodrik, D., & Velasco, A. (2005). *Growth Diagnostics*. Boston, MA: Harvard University.
<http://www6.iadb.org/WMSFiles/products/research/files/pubS-852.pdf>

¹³⁰ Thorat, Sukhdeo, and Joel Lee. "Caste discrimination and food security programmes." *Economic and Political Weekly* (2005): 4198-4201.

Exhibit I: Hypothesized Binding and Non-Binding Constraints Among Groups of Indian Women in the Study by Field, Jayachandran, and Pande

Group/Constraint	Lack of Training	Mobility/Social Restrictions	Other
Upper Caste Hindus	Quite possibly: we see positive returns to training	No: women benefitted from training in spite of moderate restrictions	Another factor may be more binding- further investigation needed
Scheduled Caste Hindus	No: no returns to training	No: these were the least restricted group of women in the sample	Systemic discrimination
Muslims	No: no returns to training	Maybe: no returns to training indicates that another factor is binding, and this group was the most restricted in the sample	Systemic discrimination, religious restrictions

The binding constraint for Muslim women, on the other hand, is more nebulous. Social restrictions may indeed be a binding constraint. Muslim women are frequently restricted from interacting with men outside the household, significantly restraining their business prospects.¹³¹ This hypothesis could be probed if we examined the data in even finer grain. In theory we could plot Muslim women on a spectrum of restrictedness, as Field et al do in their study. Our hypothesis would be supported if Muslim women with the lowest levels of restriction were seen to experience much higher returns to training. In addition, two other explanations are plausible.

First, similar to scheduled caste women, Muslim women face extreme discrimination in the marketplace, especially in Ahmedabad, the site of the

experiment.¹³² In fact, the government-appointed Sachar Commission found in 2005 that the socio-economic conditions of Muslims are just as bad as those for Dalits.¹³³ We see Muslim women attempting to maneuver around this constraint by frequently dressing as Hindu women in the marketplace.¹³⁴

Second, religious restrictions, such as Sharia prohibitions against interest-bearing loans, or the paucity of Islamic banks in a given context, may constrain Muslim women.¹³⁵ Similarly, we can test this hypothesis by examining shadow prices and searching for attempts to maneuver around this constraint. This methodology can be applied in any context to identify the most binding constraint facing a group of female entrepreneurs in India.

¹³¹ Field, Erica, Seema Jayachandran, and Rohini Pande. "Do traditional institutions constrain female entrepreneurship? A field experiment on business training in India." *The American Economic Review* 100, no. 2 (2010): 125-129.

¹³² Field et al 2010

¹³³ Rahman, Shaikh Azizur. "Muslims masquerade as Hindus for India jobs." *Al Jazeera*. 10 December 2013. Accessed 1 March 2016.

¹³⁴ Rahman 2016

¹³⁵ Field 2010

Regardless of the true binding constraints at play in the examples above, the take-away is the same: entrepreneurial interventions will impact groups of Indian women differently because they face different binding constraints. In many circumstances, this constraint must first be alleviated if a woman is to enjoy the full benefits of an entrepreneurial intervention. In a country as diverse as India, women's most pressing needs will undoubtedly vary across cleavages including caste, region, religion, and age.

This then begs the question of how one can identify a binding constraint in a given context. In an ideal world, we could answer this question through a diagnostic tool such as the growth diagnostic framework developed by Ricardo Hausmann. In the absence of such a tool for

social contexts, we recommend a deceptively simple approach: women-centered design. A woman from a particular village will best know the barriers that women face in that village. Thus, for each village in which DDU-GKY is considering launching an entrepreneurial intervention, a woman should first be hired as a cultural consultant. She can elucidate the various barriers that women, and perhaps subpopulations of women, face and identify the constraint that she believes is the most binding. Her feedback can then be utilized to design an intervention that alleviates this binding constraint. In this way, a female perspective on differential binding constraints may help the results of impact evaluations to keep pace with individual qualitative success stories.

EMPOWERING WOMEN THROUGH SUSTAINED RURAL EMPLOYMENT

Impact evaluations have demonstrated that common entrepreneurial interventions generate limited impacts. Therefore, we explore through case studies two alternative mechanisms for fostering rural women's employment: independent contracting and producer cooperatives. These two methods have already employed myriad rural Indian women. Here we explore the possibility of generating these two models under DDU-GKY auspices, as well the potential that these mechanisms hold to alleviate the binding constraints facing Indian women.

I. Independent Contracting

Independent contracting, or subcontracting, has successfully employed many rural Indian women. This model contracts work to individuals outside of a company. This enables businesses to reduce costs associated with formal full-time employees, such as overhead and salaries. Independent contracting has the potential to provide women with a reliable source of income while offering a flexible schedule and work location. Additionally, independent contracting may help alleviate binding constraints facing rural BPL women. We explore the potential benefits of this model through the case of Project Shakti.

Case: Project Shakti

Hindustan Unilever's Project Shakti illustrates how rural BPL women from varied backgrounds can benefit from subcontracting. Hindustan Unilever Limited (HUL), the Indian subsidiary of Unilever, launched Project Shakti in 2000 in Andhra Pradesh. The company trained and

Key Points *Independent Contracting*

- Successful subcontracting companies, such as Project Shakti, prioritize the long-term sustainability of their operations by adapting their business model to each local context and by encouraging community and familial support and involvement.
- This ability to adapt to local contexts may inadvertently alleviate binding constraints that subpopulations of women face. This model could be improved by a more intentional identification and alleviation of binding constraints.
- Subcontractors are protected from exploitation when they can form associations and/or create a welfare fund to provide social protection and fair wages.
- Subcontracting companies can stimulate employment growth through their preference to engage with modern informal enterprises providing higher-quality output.
- DDU-GKY graduates are well positioned to conduct rural subcontracting work.

hired rural women, deemed "Shakti Ammas," to sell health and hygiene products directly to other rural households. These women entrepreneurs received microcredit loans from their self-help groups (SHGs) in order to purchase stock from HUL. HUL required the women to

purchase a minimum yearly stock amount from the company in order to make the initial program costs financially feasible for HUL, and to enable the women to earn enough of a margin on sales to significantly improve their annual household income.¹³⁶ As of 2012, Shakti Ammas earned approximately \$40-60 USD per month, which is double or triple what they would have otherwise earned.¹³⁷



*A Shakti Amma*¹³⁸

As part of their community strategy, HUL worked with an implementing partner that secured the support of government officials and NGOs, as well as SHGs, which extended credit to these saleswomen. HUL

provided a number of resources to the female entrepreneurs, including accounting and skills training, staff to consult on business planning and marketing, and smartphones to help the women manage their businesses effectively.¹³⁹

HUL faced challenges in scaling the project to India's diverse states. Limitations included regional infrastructure and the presence of SHGs with which to partner.¹⁴⁰ In spite of these challenges, the program spread rapidly across the country. HUL estimates that 70,000 women have sold products in over a million villages,¹⁴¹ and according to a Harvard Business Review article, sales from Project Shakti account for 5% of HUL's overall revenue in India.¹⁴²

Project Shakti has been in operation for over 15 years, indicating financial viability. HUL does not claim this is a pure corporate social responsibility effort. Rather, HUL perceives the project as targeting customers that might normally be out of their reach while simultaneously empowering its entrepreneurs.¹⁴³ As an additional benefit, the project has helped spread awareness about the importance of maintaining health and hygiene in rural areas inaccessible by traditional media.¹⁴⁴

Project Shakti's financial success and social impact have stemmed from the

¹³⁶ V. Kasturi Rangan and Rohithari Rajan. "Unilever in India: Hindustan Lever's Project Shakti—Marketing FMCG to the Rural Consumer." Harvard Business School Case. June 27, 2007. Accessed 02/07/2016.

http://www.wiso.uni-hamburg.de/fileadmin/sozialoekonomie/bwl/marketing_innovation/15-16_south_asia/Unilever_in_India_Project_Shakti.pdf

¹³⁷ Narsalay, Raghav, Coffey, Ryan, and Sen, Aarohi.

"Hindustan Unilever: Scaling a Cost-Efficient Distribution and Sales Network in Remote Markets" Accenture, Institute for High Performance. 2012.

https://www.accenture.com/_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Dualpub_23/Accenture-Unilever-Case-Study.pdf

¹³⁸ Retrieved from:

https://www.hul.co.in/Images/Project-Shakti_tcm1255-463653_w720.jpg

¹³⁹ "Hindustan Unilever Sustainable Living Plan: India Progress 2014." Accessed 02/07/2016.

https://www.hul.co.in/Images/uslp_india-progress-2014_tcm1255-436622_1_en.pdf

¹⁴⁰ Rangan, "Unilever in India,"

¹⁴¹ "Hindustan Unilever Sustainable Living Plan: India Progress 2014." Accessed 02/07/2016.

https://www.hul.co.in/Images/uslp_india-progress-2014_tcm1255-436622_1_en.pdf

¹⁴² Porter, Michael E., and Mark R. Kramer. "Creating Shared Value." Harvard Business Review 89, no. 1/2 (January 2011): 62-77. Health Business Elite, EBSCOhost (accessed February 7, 2016).

¹⁴³ Rangan, Unilever in India

¹⁴⁴ Rangan, Unilever in India

venture's ability to adapt to the local context, gain community support, and track progress.¹⁴⁵ First, HUL employs local managers to adapt the project based on local consumer tastes. HUL also uses software to map population densities to determine how many Shakti Ammas should be employed based on current supply and demand.¹⁴⁶ Second, HUL employs many of the Ammas' husbands as distributors, which has improved the retention rate of Shakti Ammas and helped grow overall household income.¹⁴⁷ Third, HUL employs local managers to support Ammas to generate a living income by helping them access finance and additional part-time work and income streams outside of HUL. HUL then tracks and holds managers accountable to the Ammas' overall income instead of only their HUL sales numbers, which incentivizes managers to support Ammas to earn additional income.¹⁴⁸

Discussion

Project Shakti's adaptability has also enabled the program to maneuver around various constraints facing rural women. As we examined in our Entrepreneurial Interventions chapter, traditional norms impose mobility restrictions on many Indian women. By engaging husbands as distributors, Project Shakti undoubtedly helps the community's men better understand the enterprise and its goals, minimizing their fear and mistrust. This may help diminish the mobility constraints that husbands place on their wives. A lack of finance can also impose restrictions on many rural women. Project Shakti removes this barrier by helping women access financing mechanisms. It is likely that for

some subpopulations of rural women, mobility restrictions and poor access to finance impose constraints that are in fact binding. Thus, through its ability to adapt to local challenges, Project Shakti inadvertently lifts binding constraints. This model could certainly be improved with a more intentional focus on identifying and ameliorating binding constraints for specific populations of women. Nonetheless, this model holds promise for rural BPL women. Despite Project Shakti's positive results, there are downsides to subcontracting of which to be mindful.

Critics are quick to denigrate subcontracting, claiming that multinational corporations have the power and influence to wreak environmental and social havoc on communities,¹⁴⁹ as well as promote and sell potentially harmful or ineffective products to the uneducated poor.¹⁵⁰ It is true that rural Indian workers are vulnerable to exploitation by these companies due to excess supply of labor. Large corporations tend to offer very low rates and pay by output, leaving entrepreneurs in poverty and creating incentives for them to employ their children to maximize production.¹⁵¹ Moreover, their income is subject to demand for their products from the overseeing corporations, which may vary seasonally.¹⁵² Finally, homeworkers and self-contractors may receive limited social protections such as healthcare.

To mitigate these concerns, government bodies can provide legal protections. Such bodies can empower

¹⁴⁵ Narsalay, Accenture

¹⁴⁶ Narsalay, Accenture

¹⁴⁷ Narsalay, Accenture

¹⁴⁸ Narsalay, Accenture

¹⁴⁹ Jaiswal, Anand Kumar. "The fortune at the bottom or the middle of the pyramid?." *Innovations* 3.1 (2008): 85-100.

¹⁵⁰ Jaiswal

¹⁵¹ Mehrotra, Santosh, and Mario Biggeri. "Can industrial outwork enhance homeworkers' capabilities? Evidence from clusters in South Asia." *World Development* 33.10 (2005): 1735-1757

¹⁵² Mehrotra

women to form associations for social protection, generating collective bargaining power and creating formal channels to push for government support. The Ministry of Labor has helped support home workers successfully in Tamil Nadu since 1976 with the Bidi Welfare Fund.¹⁵³ This fund taxes the production of exports, with revenues going toward various social protections for its workers. Data from a 2002 study of home workers in India and Pakistan show that in places where such welfare funds exist, homeworkers are more likely to stop working when they feel ill, compared to places that do not have such social protections.¹⁵⁴ These associations can also help women collectively bargain for higher piece rates for their work and also present their suggestions for improving infrastructure to the government, which enables an improved supply chain infrastructure and community well-being.¹⁵⁵ As an added benefit, data demonstrate that associations improve the productivity of home workers, likely due to increased health care, sharing of strategies, and other social protections.¹⁵⁶

However, Moreno-Monroy et al refute this stagnation theory, showing that companies in fact subcontract to informal enterprises that can uphold their quality standards while driving down the company's production costs.¹⁵⁷ The researchers use an econometric analysis of Indian employment data to show that during India's rapid economic growth in the previous decade, subcontracting was

significantly associated with increased employment only in the most modern segments of the informal economy.¹⁵⁸ These modern informal enterprises used more capital, employed more skilled labor, and worked in more locations outside of the home than other informal enterprises.¹⁵⁹ This provides strong evidence that subcontractors can play an important role in economic and employment growth by partnering with modern informal enterprises.¹⁶⁰ Thus, we maintain our optimism in the subcontracting model, and assert that it may be appropriate for DDU-GKY.

Subcontracting could prove complementary to DDU-GKY's current operations. Recent graduates could be directed toward a company in need of subcontractors in rural areas, based on the type of training that the graduates received. DDU-GKY graduates are well positioned to conduct such work, given their soft skills training, knowledge of a particular domain, and introduction to modern workplace standards through their PIA.¹⁶¹ In the long-term, graduates could be directed to rural contract work in strategic industries. We explore this idea further in later sections. In summary, subcontracting holds immense potential to become an engine for self-employment for DDU-GKY graduates.

¹⁵³ Mehrotra

¹⁵⁴ Mehrotra, Santosh, and Mario Biggeri. "Can industrial outwork enhance homeworkers' capabilities? Evidence from clusters in South Asia." *World Development* 33.10 (2005): 1735-1757

¹⁵⁵ Mehrotra

¹⁵⁶ Mehrotra

¹⁵⁷ Moreno-Monroy

¹⁵⁸ Moreno-Monroy

¹⁵⁹ (Moreno-Monroy

¹⁶⁰ Moreno-Monroy

¹⁶¹ Tandon, Rajeev. Personal Interview, 11 Jan 2016.

II. Producer Cooperatives

Cooperatives managed by rural BPL women are another promising self-employment alternative. A cooperative is jointly owned and operated by its members, who share the profits or losses of the venture. Evidence demonstrates that women can create effective producer cooperatives, balancing the perks of self-employment with the advantages of larger groups, which benefit from economies of scale. Similar to independent contracting, cooperatives may help alleviate binding constraints facing rural BPL women. Several cooperatives have generated positive impacts for Indian women for decades, including Amul and Shri Mahila Griha Udyog Lijjat Papad (Jaiswal 96). Here we explore the potential benefits that cooperatives pose through the case of Lijjat Papad. We subsequently analyze the possibility of the MoRD employing a similar model to generate employment opportunities for DDU-GKY graduates.

Case: Lijjat Papad

The case of the Shri Mahila Griha Udyog Lijjat Papad, or Lijjat, illustrates the benefits of entrepreneurial cooperatives. This papad-making cooperative, founded in 1959 by seven women, is based on four principles: collective ownership, cooperation, self-reliance, and profit-sharing.¹⁶² Each cooperative member rolls papad dough according to Lijjat's

Key Points *Producer Cooperatives*

- As seen in the case of Lijjat Papad, cooperatives can employ large numbers of women and experience financial success. Successful cooperatives emphasize individual accountability and are organized at each level of the supply chain.
- Lijjat's model addresses critical binding constraints facing many rural BPL women. As a result, women report a sense of self-empowerment. This model could be improved by a more intentional identification and alleviation of binding constraints.
- Women's producer cooperatives would benefit from access to joint savings schemes, collective bargaining, and networking between producer cooperatives.
- Cooperatives will not benefit all rural BPL women equally. A cooperative can be justified when it alleviates a demonstrated binding constraint.
- Cooperatives as a DDU-GKY self-employment option would require greater MoRD support, but would also allow for greater MoRD influence.

specifications during her free time at home. Women are paid daily for their efforts, generating a steady and reliable source of income.¹⁶³ Lijjat divides all profits among its

¹⁶² Punita Bhatt Datta, Robert Gailey. "Empowering Women Through Social Entrepreneurship: Case Study of a Women's Cooperative in India." *Entrepreneurship Theory and Practice*, May, 2012. 10.1111/j. Accessed 02/07/2016. doi/10.1111/j.1540-6520.2012.00505.x/epdf

¹⁶³ Naik, Jyoti. "The Incredible Story of Lijjat Papad!" *Business section. Rediff.com*, April 2005.

members, who are also responsible for any losses that the company incurs.¹⁶⁴ If members do not meet the company's standards, they are held accountable and can be terminated.¹⁶⁵ Lijjat also illustrates that cooperatives can make good business sense and do not require significant donor or government support. Lijjat is a successful large-scale business with annual sales of around 46 million USD¹⁶⁶ and a complex papad collection and distribution system.¹⁶⁷

According to Lijjat's President, Jyoti Naik, the organization is based on a strong set of values: "Among others, the chief value that holds the institution firmly is a sense of self-dignity and respect. We discourage any kind of class distinction and do not declare ourselves as an organization for poor or needy women....There is no place for prejudice on the basis of caste or religion, and democracy in its truest form is encouraged. Following these values ensures that we are run and perceived as a serious business, not a charity organization."¹⁶⁸



Group of Lijjat Papad Members¹⁶⁹

To this end, the cooperative includes women from diverse backgrounds around the country. Lijjat's 43,000-person female workforce¹⁷⁰ hails from low and lower-middle income households, largely in urban areas. These women come from varied castes and religions.¹⁷¹ Most have little education and are expected to stay at home and complete domestic chores.

In addition to regular income, Lijjat provides women with a sense of self-empowerment. In interviews with researchers in 2012, Lijjat entrepreneurs shared that the ability to work from home according to their own schedules has enabled them to earn a sustained higher income. Women have been able to provide for their families, including financing their children's education, without having to rely on their husbands' incomes. The women interviewed felt a greater sense of empowerment and "freedom" from earning this wage independently, being in control of their own schedules, and making their own spending decisions (Datta 579). This sense of empowerment may be linked to the fact that Lijjat directly addresses barriers that many rural BPL women face.

Lijjat address constraints in a manner similar to that exhibited by Project Shakti. Lijjat maneuvers around critical barriers facing rural BPL women, some of which will likely be binding for some populations. For example, Lijjat addresses the challenges of social restriction and lack of mobility through its business model. As

<http://www.rediff.com/money/2005/apr/15spec.htm>

¹⁶⁴ Naik

¹⁶⁵ Naik

¹⁶⁶ Naik

¹⁶⁷ Naik

¹⁶⁸ Naik

¹⁶⁹ Retrieved from: <http://www.bba.co.in/story-behind-successful-lijjat-papad/487>

¹⁷⁰ "About Us" Shri Mahila Griha Udyog Lijjat Papad website. Accessed 02/08/2016.

<http://www.lijjat.com/organisation/AboutUs.aspx>

¹⁷¹ Punita Bhatt Datta, Robert Gailey. "Empowering Women Through Social Entrepreneurship: Case Study of a Women's Cooperative in India." *Entrepreneurship Theory and Practice*, May, 2012. 10.1111/j. Accessed 02/07/2016. doi/10.1111/j.1540-6520.2012.00505.x/epdf

we examined in the Entrepreneurial Interventions chapter, this may pose a binding constraint for Muslim women. By permitting women to roll papad from their homes, women can avoid commuting to a workplace or engaging with men who are not kin. Lijjat may also help Muslim and scheduled caste women maneuver around the binding constraint of systemic discrimination, as described in the Entrepreneurial Interventions section. Women communicate with the company only; they are not required to engage in the marketplace, and thus will not be subject to discrimination in the same manner as independent entrepreneurs. Furthermore, the company's stated policy of inclusion may serve to diminish discriminatory barriers that may otherwise hinder subpopulations of women. Lijjat's address of binding constraints is more direct than that exhibited by Project Shakti. Nonetheless, Lijjat may benefit from a further exploration of constraints that may bind very specific subpopulations of women. Despite the success of Lijjat and other cooperatives, critiques to the cooperative model must also be addressed.

Discussion

There is debate regarding the large-scale impact that cooperatives can make in rural areas and the inherent tensions present in this model. Critics argue that cooperatives have existed for decades and have made a limited impact on India's macroeconomic development, yet are still viewed as a "utopian fantasy" for sustainable development.¹⁷² Some also contend that limited accountability for each member, as well as the difficulties inherent

in operating a non-hierarchical cooperative, lead to a high failure rate. In addition, government-run cooperatives have occasionally failed, often due to members' lack of accountability and unwillingness to take risks.¹⁷³

Researcher Linda Mayoux addresses some of these concerns in her small study on ten women's producer cooperatives in India. She shows that in cooperatives where women were well-connected with the larger supply chain, had state support for their particular industry, and in sectors that had less competition from mass-produced goods were more likely to be successful.¹⁷⁴ Mayoux also suggests that the women in these cooperatives would have benefited from a joint savings and credit scheme, providing greater access to capital and thereby increasing profits and income levels.¹⁷⁵ These women would have also benefitted from networking between producer cooperatives to collectively benefit from economies of scale, collective marketing, and joint bargaining power.¹⁷⁶ These kinds of informal networks often exist in male-dominated sectors, but women are more limited in their ability to meet others and market their products due to social restrictions on their mobility.¹⁷⁷

Cooperatives are not a one-size fits all model, and may not be appropriate for every rural BPL woman. Experts emphasize that any efforts to promote cooperatives should take into account the needs of the women in a given context, who may benefit more from a labor union and joint credit scheme rather than a producer cooperative.¹⁷⁸ Sanjay Kumar, Director of the

¹⁷² Mayoux, L. (1995), Alternative vision or Utopian fantasy? Cooperation, empowerment and women's cooperative development in India. *J. Int. Dev.*, 7: 211–228. doi: 10.1002/jid.3380070203

¹⁷³ Mayoux

¹⁷⁴ Mayoux

¹⁷⁵ Mayoux

¹⁷⁶ Mayoux

¹⁷⁷ Mayoux

¹⁷⁸ Mayoux

Self-Employed Women's Association (SEWA), also emphasized that schemes to help women earn higher incomes must take into account the context and needs of individual women. In some cases, group enterprises are most successful, while in others a woman might benefit from support in launching an individual enterprise. The theory of binding constraints could help to identify when cooperatives are warranted. If a cooperative model can effectively address the binding constraint facing a particular group of women, then it may be an appropriate intervention. Otherwise, an alternative intervention may be a better choice. This limited scope should be carefully considered when weighing DDU-GKY self-employment mechanisms.

Cooperative formation could serve as a viable self-employment outcome for DDU-GKY graduates. Recent graduates could be encouraged to form new cooperatives or to join existing ventures. Given the lack of structure inherent in this model, cooperative formation would likely necessitate significant MoRD support. This support would likely include the identification of viable products, the creation of market linkages, and the provision of financing options. However, this required support could be framed positively. The MoRD is one of the few actors that can effectively help female-led cooperatives organize and collectively demand higher prices for their goods.¹⁷⁹ Moreover, the MoRD has the oversight and resources to ensure that binding constraints are both identified and addressed through cooperative business models. Eventually, graduates could be encouraged and

incentivized to form cooperatives in strategic industries to drive macroeconomic growth, an idea that we elaborate on in following sections. However, as we have analyzed, cooperatives are not appropriate for every woman. In sum, cooperative formation as a DDU-GKY self-employment option may work well in some contexts, but would necessitate significant MoRD support and direct influence.

¹⁷⁹ Kumar, Sanjay. Director, Self-Employed Women's Association. 18 Jan 2016.

MACROECONOMIC GROWTH

Key Points

- Economic growth can help alleviate poverty, and is driven by economically more complex products and industries.
- The Product Space is an innovative tool to begin to identify these products and industries.
- Kym and Jennifer are willing and able to map the product space for Tamil Nadu, Maharashtra, and/or Rajasthan and identify strategic products and industries.
- Job-creation efforts can be focused on the selected strategic products and industries. Actors can be attracted to these industries with incentive packages. This single intervention will create jobs in the near-term while addressing economic growth and development goals in the long-term.

possibility of tying together the urgent need for rural jobs for women, and the longer-term goal of lifting rural Indian women *en masse* above the poverty line, in a single intervention.

Research demonstrates that rapid and sustained economic growth is the single-most effective way to alleviate poverty, including at the base of the pyramid. According to Dani Rodrik of Harvard University, **“Historically, nothing has worked better than economic growth in enabling societies to improve the life chances of their members, including those at the very bottom.”**¹⁸⁰ Cross-country, multi-year research demonstrates that a ten percent increase in a nation’s income per capita is associated with a reduction in poverty rate of 20% - 30%.¹⁸¹ These statistics can occasionally mask increased wealth disparity, however. As we explored in our background research, rural BPL women in particular have been excluded from the benefits of India’s rapid growth. Thus, it is imperative to directly include the poor in this growth process so that they too reap the benefits.¹⁸² These findings prompt two questions: what can the MoRD do to drive this growth, and how can BPL women best be included?

Strategic Industry Development

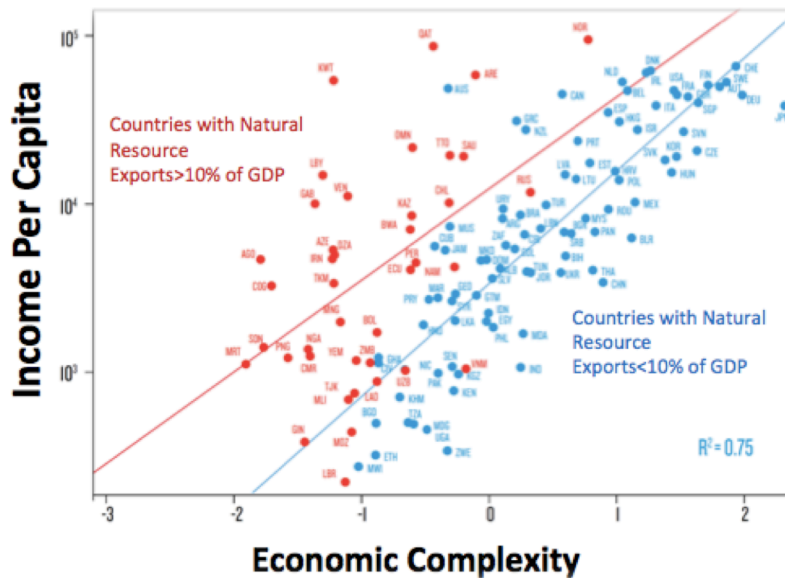
The interventions explored previously can help tackle the problem of rural women’s unemployment in India. It is important to emphasize that poverty leads to demand for the DDU-GKY program in the first place. Thus, the program tends to treat a symptom rather than the root cause of the problem. Here we explore the

¹⁸⁰ (Growth: Building Jobs and Prosperity in Developing Countries)

¹⁸¹ (Growth: Building Jobs and Prosperity in Developing Countries).

¹⁸² (Growth: Building Jobs and Prosperity in Developing Countries).

Figure I: Economic Complexity Predicts Income Per Capita¹⁸³



Economic Complexity

Harvard Professor Ricardo Hausmann has pioneered landmark models of economic growth. His models portray macroeconomic growth as a function of what we will deem “specialized industries,” or relatively more complex industries in which a country has a comparative advantage. A comparative advantage is the ability to produce goods and services at a lower opportunity cost than competitors.¹⁸⁴

Economic complexity can be thought of as a translation of a society’s knowhow into products.¹⁸⁵ The most economically complex countries export a broad variety of products as well as the most economically complex products, such as chemicals and computer parts.¹⁸⁶ The economic complexity of a country’s exports is closely correlated with income per capita and is a strong indicator of future GDP growth.¹⁸⁷ **In fact, the economic complexity of exports explains more macroeconomic growth than any other model to date.**¹⁸⁸ This model strongly

¹⁸³ Hausmann, Ricardo, Lecture 9: Economic Complexity and the Product Space, PED 130, 2015.

¹⁸⁴ Suranovic, Steve. A Lesson on Comparative Advantage. Institute for International Economic Policy. October 2007. Accessed 26 March 2016. <https://internationaleconpolicy.wordpress.com/2007/10/03/a-lesson-on-comparative-advantage/>

¹⁸⁵ Glossary. The Atlas of Economic Complexity. Center for International Development. Accessed 26 March 2016. <http://atlas.cid.harvard.edu/about/glossary/>

¹⁸⁶ Glossary

¹⁸⁷ Hidalgo, Cesar A, and Hausmann, Ricardo. “The Building Blocks of Economic Complexity.” Proceedings of the National Academy of Sciences, 106(26), 30 June 2009.

http://chidalgo.com/Papers/HidalgoHausmann_PNAS_2009_PaperAndSM.pdf

¹⁸⁸ Hausmann, Ricardo, “Lecture 9/10: Economic Complexity and the Product Space,” PED 130, Harvard Kennedy School. 5 October 2015.

supports the idea that a country's level of economic development can be driven by the economic complexity of its strategic export industries.¹⁸⁹ Thus, a country can fuel its economic growth by producing and exporting more economically complex products in which it has a comparative advantage.

The economic complexity of countries can be measured according to the economic complexity indicator (ECI).¹⁹⁰ This metric is calculated mathematically by refining a country's diversity, or the number of products a country can produce, by a country's ubiquity, or the number of different countries able to produce those same products.¹⁹¹ Figure I demonstrates the strong positive correlation between economic complexity and income per capita, with each data point representing the economic complexity indicator of a specific country.

This model raises the question of how to improve the economic complexity of a country's export basket. Mathematically, a country's ECI can be improved by producing more economically complex products. However, a region cannot simply begin producing a product without the capabilities needed to do so. Thus, it makes most sense to begin producing slightly more complex products for which a region already possesses most of the requisite technical knowledge and skills.

The Product Space

One can identify these potentially more complex products using a tool

developed by Hausmann and his colleagues at the Center for International Development at Harvard: the Product Space. This tool is a visual representation of all of the products that could theoretically be produced in an economy.¹⁹² Products are mapped relationally to each other, with closer products having more similar knowledge and skills requirements.¹⁹³ Illuminated sections show a society's current set of exports. Non-illuminated nodes nearby these exports represent products that the society does not presently have a revealed comparative advantage in, but theoretically could begin producing and exporting with relative ease due to similar knowledge requirements.

Thus, this tool can be used to identify products that a society could begin producing as a means to increase the economic complexity of its export basket. Production of these new goods will lead to additional production knowhow, which in turn can lead to the production of additional complex products nearby. In this way, the Product Space can be used to identify pathways for strategic industry development as a means to drive economic development. See Figure 2 on the next page for a sample visualization generated by the Product Space tool.

¹⁸⁹ Hidalgo and Hausmann

¹⁹⁰ Glossary. The Atlas of Economic Complexity. Center for International Development. Accessed 26 March 2016.

<http://atlas.cid.harvard.edu/about/glossary/>

¹⁹¹ Glossary

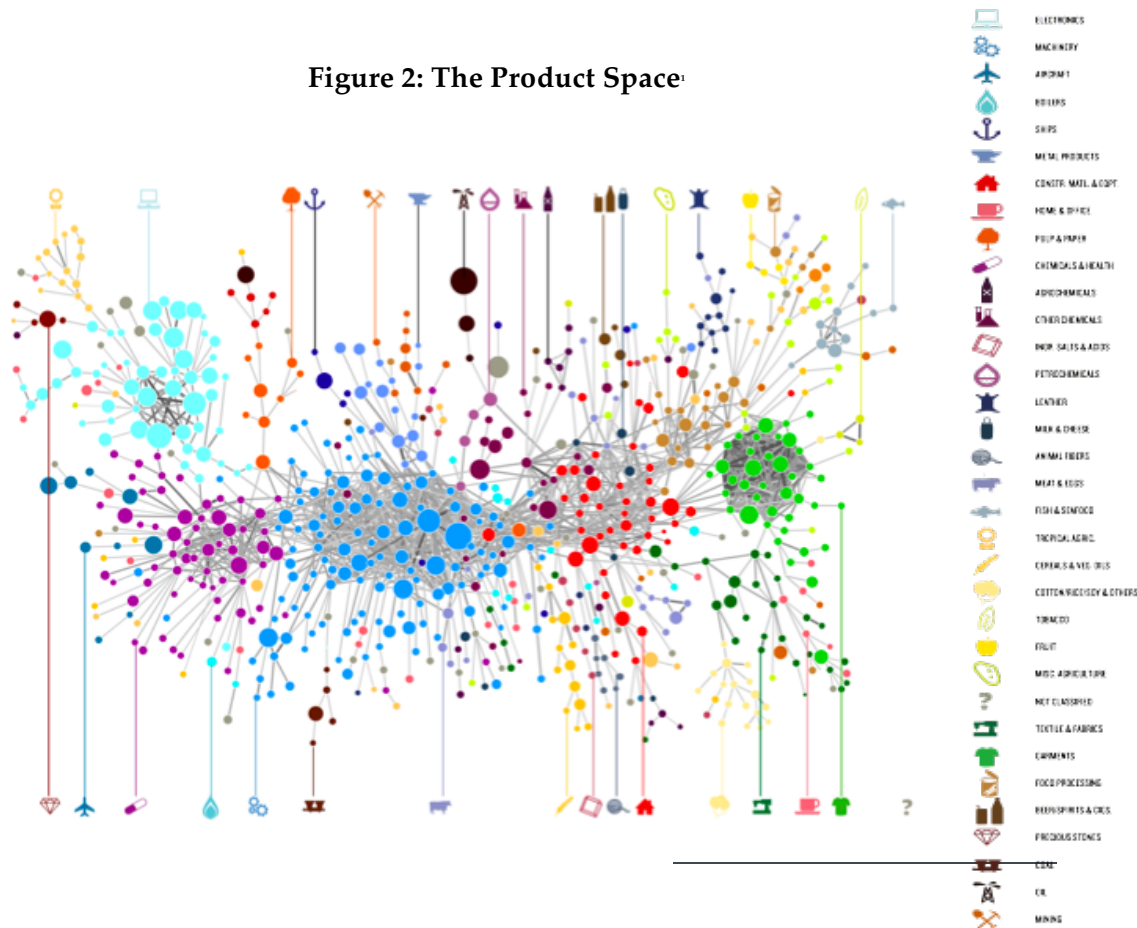
¹⁹² Glossary

¹⁹³ Glossary

Research demonstrates the positive results of developing such industrial pathways. New ventures experience greater success when they relate to existing industrial clusters. Through econometric analysis of industry clusters in regions of the United States, where robust industry data is available, Harvard Business School Professor Michael Porter finds that even with the potential for increased competition, new businesses related to established industrial clusters have enhanced growth opportunities over areas without these clusters.

In addition, the authors find that the presence of clusters enhances the employment levels of medium-term enterprises, indicating that clusters help these enterprises flourish over the longer-term.¹⁹⁴ Even though businesses compete for inputs and customers when operating in related fields, the benefits due to complementarity, easier access to inputs, and reduced barriers to entry outweigh these potential concerns.¹⁹⁵ Thus, developing a strategic industry can lead to faster economic growth as well as more successful and sustainable individual ventures.

Figure 2: The Product Space



¹⁹⁴ Delgado, Mercedes and Porter, Michael, and Stern, Scott. "Clusters and Entrepreneurship." Discussion Paper. Center for Economic Studies. September 2010. <<http://ssrn.com/abstract=1689084>>

¹⁹⁵ Delgado

The Product Space can also be mapped for subnational industries. This provides for a more localized identification of strategic products and industries. In the diverse Indian context, a state-wise mapping of the Product Space would allow us to control for regional differences. Existing knowhow, specializations, and production capabilities will vary tremendously between more well-developed states like Maharashtra, and less-developed states like Bihar. Thus, strategic industry recommendations will differ in these vastly different contexts.

This tool can help policymakers determine why products close to the existing export basket have yet to be developed and craft economic policies accordingly. In some cases, it is possible that an industry has simply not yet matured, in which case the free market would likely promote the growth of this industry. In others, it is possible that a market failure acts as a binding constraint, preventing the development of an industry. By applying the method of growth diagnostics, as described in the Entrepreneurial Interventions chapter, governments can identify and potentially intervene to address this market failure.¹⁹⁶ If this type of analysis were not conducted, the industry or product in question would represent a missed opportunity.

We recognize that there are several limitations and critiques of this tool. First, the Product Space maps out only products, and not services, which undoubtedly can also be drivers of economic growth. Second, the Product Space does not take context into account; certain cultural mores and practices may prevent the production of

specific goods. For example, even if suggested by the Product Space, the production of leather goods would be infeasible within a Hindu community. Thus, an understanding of the cultural context is imperative when parsing through products suggested by the Product Space. Due to these caveats, it is important to perceive the Product Space as merely a starting point in the process of identifying strategic industries, rather than a panacea for industrial development or policies.

Conducting the analysis

A subnational Product Space can be mapped by collecting either trade data or industry employment data from the state of interest and from India as a whole.¹⁹⁷ One can then calculate which industries have a revealed comparative advantage. Using industry employment data, this calculation can be made according to the equation below:

$$\frac{\text{Number of Indian Employees in an Industry in a State} \div \text{Total Number of Employees in a State}}{\text{Number of Indians Employees in the Industry Countrywide} \div \text{Total Number of Workers in India}}$$

A revealed comparative advantage greater than one indicates that the state is relatively more specialized in this industry than the country as a whole.¹⁹⁸ These calculations then must be converted to an industry classification that is compatible

¹⁹⁶ Espinoza, Luis. Research Fellow, Center for International Development, Harvard University. 12 Feb 2016.

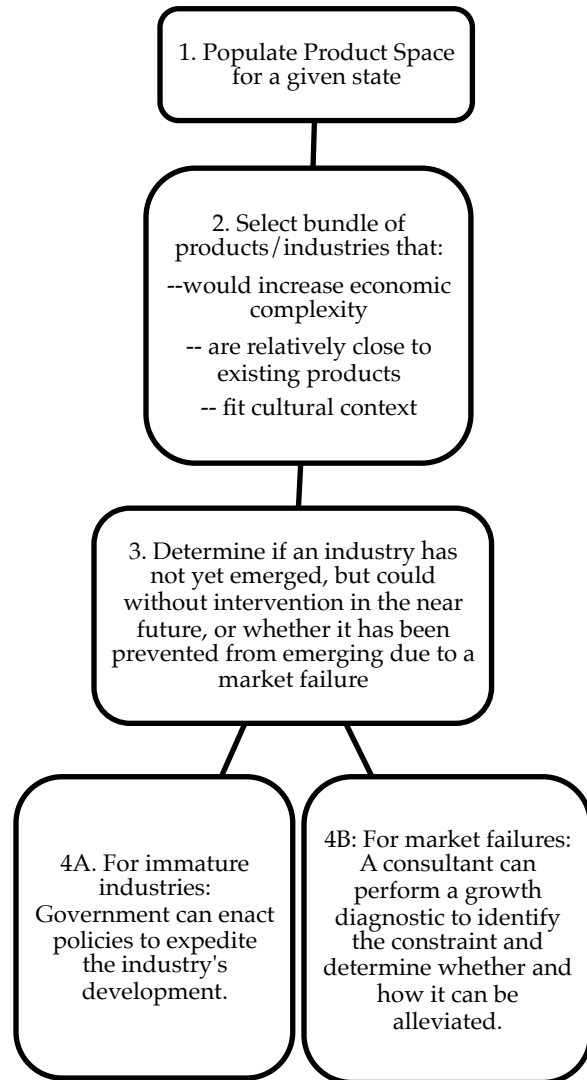
¹⁹⁷ Chauvin, Juan Pablo. Teaching Fellow for Ricardo Hausmann, Center for International Development, Harvard University. Personal Interview, 4 Mar 2016.

¹⁹⁸ Chauvin

with the product space framework.¹⁹⁹ Finally, once the data has been converted, the framework can be populated.²⁰⁰

We are ready and willing to conduct this analysis with support from the Center for International Development at Harvard. We have collected the subnational employment data and conversion codes necessary to conduct this analysis for three Indian states: Tamil Nadu, Rajasthan, and Maharashtra. We have selected data from Tamil Nadu and Maharashtra, as they are industrially and culturally diverse states. Additionally, we have selected Rajasthan due to the fact that it is a relatively poorer state. Our analysis would manifest as seen on the right.

Figure III: Conducting Subnational Strategic Industry Analysis



¹⁹⁹ Chauvin

²⁰⁰ Chauvin

Connecting Strategic Industries to Rural BPL Women

We believe that strategic industry development can harness individual women as engines of rapid macroeconomic growth. Placing job-creation interventions within the context of strategic industries addresses the need for immediate rural employment while simultaneously addressing more inclusive long-term macroeconomic growth. This can take multiple forms.

Self-employment interventions can be positioned within the selected strategic industries. In this way, rural BPL women would be immediately connected to these high-growth sectors and could directly benefit from ensuing macroeconomic growth. As previously mentioned, new ventures within an industry connected to similar industries are associated with greater business success and longevity, increased access to inputs, and diminished barriers to entry.²⁰¹ These benefits can then trickle down to individual women employed by or launching these ventures.

Incentive packages can connect rural BPL women to these strategic industries. These packages should be tailored to the cultural context, as well as the relationships that the MoRD maintains with the relevant actors. Incentives may include subsidies, tax incentives, rebates, production bonuses, or direct linkages to markets. The MoRD could further incentivize subcontracting businesses in strategic sectors with select “sticks.” For example, the MoRD could require subcontracting businesses in select rural areas to hire a certain percentage of BPL women.

Strategic industry analysis identifies existing knowledge in successful industries within a given sector. By harnessing the knowhow of individuals working in these related industries, the MoRD could help strengthen the bridge to the next more complex product. This bridge could effectively transfer existing knowledge through on-the-job-training and internship programs for women working in related industries. These programs could be coupled with product-specific coaching on the newer products. The MoRD could also provide opportunities for women to access internships and on-the-job training in new strategic areas, giving women a new set of skills to bring home to their communities.

Using the Product Space methodology, we can begin to identify strategic industries that are amenable to employing rural BPL women. The MoRD can subsequently create pathways to connect individual women to these strategic industries.

²⁰¹ Delgado, Mercedes and Porter, Michael, and Stern, Scott. “Clusters and Entrepreneurship.” Discussion Paper. Center for Economic Studies. September 2010.

EVALUATION CRITERIA

To determine how the MoRD can best address the lack of rural employment options for DDU-GKY's female graduates, we measure potential MoRD interventions along five criteria. These criteria help to illuminate both the scope of the MoRD's possible actions and limits it might face in implementation. We use the following criteria to measure these options: political feasibility, administrative operability, technical feasibility, addresses a binding constraint, and cost-effective. We contextualize these criteria below.

Politically Feasible:

We first evaluate whether the local community and its leaders would support the intervention. This will greatly affect whether it is successfully implemented over the long term. We also evaluate whether the intervention could co-exist with current DDU-GKY programming. Because the MoRD is very much in favor of continuing DDU-GKY and its emphasis on regular wage employment, it is unlikely that they would consider overhauling the program in the short-term. An additional consideration is whether the intervention allows the MoRD to track these women's employment. Because one of the MoRD's goals is to ensure that rural women are sustainably employed, being able to quantitatively assess the intervention's impact on this metric would help determine whether this goal had been achieved.

Administratively Operable:

We evaluate whether the MoRD and/or EPoD have the capability and resources needed to successfully implement the given intervention. We also assess whether the

intervention is within the scope of the organizations' mandates.

Technically Sufficient:

To determine whether an intervention is technically sufficient, we evaluate whether the intervention would successfully increase the level and quality of women's rural employment. We also determine whether the intervention would effectively reach the target group of BPL women, DDU-GKY's skilling program graduates, or those who would otherwise be eligible for DDU-GKY.

Addresses a Binding Constraint:

We assess whether an intervention is likely to alleviate a binding constraint facing rural BPL women. Definitively identifying the binding constraints facing certain subpopulations of women is outside the scope of our analysis. Thus, this criterion hinges upon hypothesized constraints, as identified in our research.

Cost-Effective:

We evaluate the financial implications of the intervention. We assess whether the intervention is costly in absolute terms, as well as whether or not it is an efficient use of available funds. Although budgetary information is not available for EPoD or the MoRD, we recognize that budgetary concerns are of critical importance to both actors.

EVALUATING INTERVENTIONS

Our analysis illuminated two decisions that could aptly be made with the use of an evaluation matrix: which RCT on entrepreneurial interventions EPoD should prioritize, and which pathway to rural development the MoRD should pursue. We applied the five evaluation criteria listed previously, each with equal weighting, to identify the best policy options. Evaluation matrices, along with explanations of rankings, can be found in Appendices I and II.

1. Prioritizing RCTs on Entrepreneurial Interventions

The empirical record, as examined in the Entrepreneurial Interventions section, demonstrates spotty results of these interventions. However, three combined interventions warrant further exploration in the Indian context:

1. Business training plus microfinance
2. Business training plus industry specific support
3. Business training plus grants

The efficacy of these interventions can be examined through randomized control trials. Due to the time-intensive and costly nature of RCTs, we recommend that EPoD execute one combined intervention in communities where DDU-GKY operates. These three options are analyzed in Appendix I through an evaluation matrix.

The evaluation matrix shows that option 2, Business Training Plus Industry-Specific Support, dominates the other two RCT options. This option has demonstrated the most promising empirical results and has the greatest potential to address binding constraints. Additionally, the least amount of research has already been conducted on this topic, further warranting greater academic exploration. We build upon this recommendation and delve into further policy recommendations in the next section.

II. Providing Pathways to Rural Employment

To alleviate some of the binding constraints preventing rural women from accessing sustained employment, we explored cases of:

1. Producer cooperatives in rural areas
2. Subcontracting work with larger corporations in rural areas
3. We then compared these to maintaining the status quo of rural to urban migration support, as detailed in the section on DDU-GKY's current programming efforts.

All three address the need to increase employment opportunities for rural women. However, **when measured against the evaluation criteria, we find that the MoRD should incentivize and support the creation of subcontracting opportunities for DDU-GKY graduates.** We expand on this recommendation in the next section. Please see Appendix II for a detailed comparative analysis of the three options.

POLICY RECOMMENDATIONS

This section offers recommended action steps that EPoD and the MoRD should pursue to develop female self-employment in rural areas. These recommendations are based on decisions elucidated by evaluation matrices, as well as the analysis conducted in the Entrepreneurial Interventions, Sustained Rural Development, and Macroeconomic Growth sections. Policy recommendations are grouped into three categorical bundles, as listed below.

I. Improve the Efficacy of Entrepreneurial Interventions

- **EPoD should launch a new RCT to evaluate the impacts of business training plus industry-specific support in rural communities where DDU-GKY operates.** This support should manifest as multiple one-on-one coaching sessions with professionals experienced in the industries that the woman are entering. Outcome variables should include the number of new firms launched, the longevity of these firms, as well as business performance indicators, such as sales, profits, and revenue. It is also important that impacts be assessed in the short, medium, and long terms.
- **EPoD should harness the lens of binding constraints during data analysis.** Similar to the study by Field, Jayachandran, and Pande, results should be collated according to various cleavages, including caste, religion, and age. For groups of women not impacted by the interventions, consideration should be given to the binding constraints that these women may be facing.
- **The MoRD should employ a model of women-centered design to help identify and alleviate the binding constraints that various subpopulations of women face.** Before the MoRD launches an intervention in a particular community, a woman should be hired as a cultural consultant. This consultant can advise on the various barriers that women in this community face, and help identify the most binding constraint.
- **Contingent upon the results of EPoD's RCT, the MoRD should consider rolling out business training plus industry-specific support as a new component of the DDU-GKY program.** This intervention should not be one size fits all, but should be tailored to specific contexts and specific populations of interest. More specifically, the intervention should be designed to address the binding constraint of a given population *in addition* to business training and industry-specific support. The female consultants identified above should be incorporated into the process of designing interventions to alleviate various binding constraints. In the long run, supported industries should be strategic industries, as explained below.

II. Incentivize Independent Contracting Opportunities

- **In the near-term, DDU-GKY should encourage PIAs to partner with subcontracting businesses as a form of placement-linked employment in rural areas.** PIAs could record that these self-employed women were “successfully placed,” and would have the ability to track them through salary slips, similarly to urban placements. This would diminish PIAs’ reluctance to take on trainees who would be unlikely to leave their villages or would not stay in urban placements. In these cases, trainees could be placed in subcontracting arrangements where they would use skills gained from PIA coursework and generate a regular income while remaining in their rural communities.
- **In the long-term, the MoRD should partner directly with companies interested in subcontracting in rural areas.** The companies themselves could directly train BPL rural woman as subcontractors. This would eliminate the need for PIAs as middlemen and would ensure a woman’s training would be directly relevant to her subcontracting business’s needs. She would then be able to work as a subcontractor in her rural community. As outlined in the next section, in the long run subcontracting businesses should ideally be those in strategic industries to ensure their long-term ability to provide employment, as well as contribute to a community’s economic development.
- In either case, **DDU-GKY should carefully vet potential subcontracting businesses to ensure that they have sound business models appropriate for employing rural BPL women.** The MoRD should choose to partner only with businesses prepared to adapt their business model to each local context and willing to encourage community support and involvement. As recommended above, female consultants from individual communities should help design subcontracting agreements likely to alleviate the binding constraints facing women in their communities.
- **The MoRD should also provide women with information about their legal rights in any subcontracting agreement.** The MoRD should also provide information and connections to collective bargaining opportunities and associations which provide social protections to women. Both of these initiatives would give women the flexibility to be self-employed while benefiting from the economies of scale of larger businesses.
- To determine the impact of such initiatives for improving future iterations, **the MoRD should conduct a pilot study** to determine whether subcontracting could have a larger-scale economic impact on women in rural areas. This analysis should be partnered with qualitative assessments of women’s sense of empowerment. This would involve comparing the economic growth of areas where the MoRD has partnered with corporations either directly or through PIAs to provide subcontracting work, with villages where no such initiative has taken place. If found to have positive outcomes, this would give the MoRD additional heft in creating new partnerships. It could also be used as a tool to give corporations a set of best practices for training, hiring, and retaining rural women.

III. Link Self-Employment Interventions to Strategic Industries in the Long-Run

- **Commission consultants knowledgeable on the Atlas of Economic Complexity methodology to map the Product Space** of Tamil Nadu, Maharashtra, and/or Rajasthan. With support from the Center for International Development at Harvard, these consultants, who could include Kym and Jennifer, can identify strategic industries amenable to rural BPL women.
- **The MoRD can then position self-employment mechanisms within the context of these strategic industries.** In the long run, entrepreneurial interventions should shift toward these industries. If this intervention is business training plus industry-specific support, then training and support mechanisms should focus on these strategic products and industries. Similarly, subcontracting partnerships should be formed exclusively in strategic industries. Individual entrepreneurs and subcontractors can be further enticed to shift toward these strategic industries through incentive packages.

CONCLUSION

In this paper, we first examine the current state of India's rural economy and government programming intended to increase rural employment opportunities for women. We find that India's current economic trajectory is pushing rural women toward low-wage agricultural work, which is increasingly becoming obsolete. The Ministry of Rural Development's DDU-GKY program aims to provide steady wage work for women through training and by encouraging rural to urban migration. However, this program falls short of its goals; few female graduates stay in urban areas. Moreover, the program fails to take into consideration the fact that women and their families may prefer to live in their rural home communities.

We explore the possibility of encouraging rural women's self-employment under the auspices of the DDU-GKY program as an alternative employment option. We analyze interventions with the potential to create rural jobs while also alleviating barriers that many rural women face. We employ the lens of binding constraints to help identify which mechanisms are likely to be the most effective. We first explore entrepreneurial interventions, and then examine subcontracting and cooperatives. Across interventions, this analysis demonstrates that one-size fits all approaches are not effective for rural Indian women.

Our analysis suggests that Evidence for Policy Design should conduct a randomized control trial on the impacts of business training with industry-specific elements. Impacts should be analyzed according to subgroups of women. This will assist the MoRD in crafting more effective entrepreneurial interventions for women. We also recommend that the MoRD partner

with corporations offering subcontracting opportunities to rural women as a way to provide flexible and stable employment.

These recommendations would alleviate binding constraints facing rural BPL women, enabling them to generate a stable source of income. Additionally, these policies have the potential to contribute to the region's long-term economic development. By connecting these interventions to strategic subnational industries, as identified with the help of the Product Space tool, self-employment mechanisms can empower rural BPL women to drive macroeconomic growth.

Through this suite of recommendations, we hope that the MoRD, in partnership with EPoD, can catalyze women to become drivers of rural development, creating better futures both for themselves and for their communities.

APPENDIX I: EVALUATION MATRIX FOR RCT OPTIONS ON ENTREPRENEURIAL INTERVENTIONS

	Politically Feasible	Administratively Operable	Technically Feasible	Addresses a Binding Constraint	Affordability
Business Training Plus Microfinance	Medium	Medium	Low	Low	Low
Business Training Plus Industry-Specific Technical Support	Medium	Medium	High	Medium	Low
Business Training Plus Grants	Medium	High	Medium	Low	Low

Description of Rankings Process

Politically Feasible

It is unlikely that any of the three RCTs would meet with significant resistance by local communities. However, local communities may want these trials to be open to both men and women. These RCTs may also interfere with existing DDU-GKY programming. Rural BPL women selected for the trial would not be eligible and available to participate in DDU-GKY programming. MoRD support would be essential in executing these trials, as ideally these RCTs would be launched in communities where DDU-GKY already operates.

Administratively Operable

All three RCTs would require securing and implementing a business training program. This presents few administrative hurdles, as business training programs are easily accessible through organizations such as the ILO. However, options one and two require partnering with a microfinance organization and specialized consultants, respectively. Option three, on the other hand, does not require an organizational partner, as EPoD could implement the grants directly.

Technically Feasible

Extensive research has already been conducted on the impacts of training and microfinance in other contexts. At best, results show that this intervention helps women launch new businesses more quickly. Training plus industry-specific support, on the other hand, has shown promising initial results on business outcomes. Training plus grants have demonstrated lackluster results, but no studies have been conducted in India.

Addresses a Binding Constraint

There is little evidence to suggest that basic business knowledge and lack of access to capital are widespread binding constraints. However, the positive returns to industry-specific knowledge indicate that specialized knowledge could be a binding constraint. Alternatively, by bringing specialized knowledge directly to women, this intervention may be maneuvering around the binding constraints of social mobility or discrimination, which would prevent women from garnering this same knowledge through alternative means.

Affordability

All RCTs are expensive. Although the three options may slightly vary in their cost, all will present a significant financial investment.

APPENDIX 2: EVALUATION OF INDEPENDENT CONTRACTING VS. COOPERATIVES VS. STATUS QUO

Option/ Criteria	Administratively Feasible	Technically Sufficient	Politically Operable	Long Term Impact	Affordability	Binding Constraint
Status quo: increase migration support to urban areas	High	Low	Medium	Low	Low	Low
Connect graduates to subcontractors	Medium	High	High	Medium	High	High
Incentivize producer cooperatives	High	Low	High	Low	Medium	Medium

Description of Options

Independent contracting:

- DDU-GKY could encourage PIAs to partner with businesses hiring independent contractors, giving women the flexibility to be self-employed while benefiting from the economies of scale of larger businesses. DDU-GKY could also partner directly with corporations, who could provide on-the-job training directly to their new hires, eliminating the need for PIAs as middlemen and ensuring their training would be directly relevant to an employer's needs.
- The MoRD could conduct a pilot study to determine whether subcontracting could have a larger-scale positive economic impact on women in rural areas, partnered with qualitative assessments of women's sense of empowerment. This would involve comparing the economic growth of areas where the MoRD has partnered with corporations either directly or through PIAs to provide subcontracting work, compared to villages where no such initiative has taken place. If found to have positive outcomes, this would give the MoRD additional heft in creating additional partnerships. It could also be used as a tool to give corporations a set of best practices for training, hiring, and retaining rural women.

Cooperatives:

- The MoRD could incentivize PIA graduates to form cooperatives and encourage them to become large-scale producers in strategic industries. The Ministry could partner current DDU-GKY graduates with RSETIs to provide financing for cooperatives, in addition to the financing they currently provide for individuals. Because DDU-GKY graduates would already be trained in soft skills by their PIAs, RSETIs would bear lower training costs than they do for their own trainees. They would also already have an employment record for these graduates, giving them a sense of these potential entrepreneurs' creditworthiness. They would be well-positioned to provide financing for cooperatives.

Status Quo:

- If it were to continue with existing policies, the MoRD would continue disbursing funds to PIAs to establish and run urban migration support centers for DDU-GKY graduates. EPoD could set up improved data collection systems for migration support centers and begin tracking DDU-GKY graduates who received this support, versus those who did not.

Description of Rankings Process**Administrative Operability**

Independent Contracting: Medium. The MoRD would have to make an economic case to private corporations to provide skills training and jobs to rural women. This may be difficult to do, given the risk a corporation might face in taking on a large training investment with potentially limited returns. It also begs the question of why corporations are not currently doing this. However, the MoRD could play an important role by identifying market failures currently preventing companies from subcontracting, such as supply chain weaknesses, skills gaps, and other infrastructural problems. The MoRD could then attempt to alleviate these constraints and/or provide regulatory incentives, such as tax breaks or CSR credits, to companies engaging in subcontracting to skilled DDU-GKY graduates.

Cooperatives: High. This would be fairly simple for the Ministry to undertake, given the Indian government's past experiences establishing cooperatives and self-help groups. However, as past experience shows, government cooperatives have required long-term support in order to be successful.²⁰²

Status Quo: Medium. The MoRD is able to work with PIAs to set up migration support centers, but because there is limited data on best practices, it is currently unclear whether these are being administered in the best way possible.

Political Feasibility

Independent contracting: High. This is also politically feasible. There is great interest in developing the domestic manufacturing sector (Make in India being just one major initiative), and both PIA managers and MoRD officials have expressed that a major obstacle for DDU-GKY's success is rural to urban migration. Solving this issue through subcontracting would help eliminate this barrier.

Cooperatives: High. Cooperatives where women complete work from home have long been accepted in rural areas.

Status Quo: Low. Many families are unsupportive of their daughters migrating to urban centers, though PIA managers shared that they can be convinced that it will ultimately benefit their daughters (Saluja).

Technical Sufficiency

Subcontracting: High. Incentivizing subcontracting would be technically sufficient, given that subcontracting has been shown to increase higher skilled opportunities in rural areas and gives women the flexibility to work from home. It satisfies the need for DDU-GKY's target population to have increased job options in rural areas, ideally in sectors with a higher potential for growth.

Cooperatives: Medium. Cooperatives could provide large numbers of BPL women with higher incomes than either unemployment or low-paying agricultural work. However, the kinds of jobs which best lend themselves to cooperative work are jobs which require less training, since there is no single individual or company positioned to provide training.

²⁰² Mayoux, L. (1995), Alternative vision or Utopian fantasy?: Cooperation, empowerment and women's cooperative development in India. *J. Int. Dev.*, 7: 211–228.

Status Quo: Medium. It is largely unknown whether these migration support centers are successful in solving DDU-GKY's retention issue. Anecdotally, PIA managers shared that retention remains a major issue for the program.

Affordability

Subcontracting: High. Besides administrative costs to find appropriate corporations with which to partner, this would cost less than the status quo option, as it would not require long term migration support. Ideally, corporations would pay for training costs themselves, eliminating the MoRD's obligation to reimburse PIAs for training costs.

Cooperatives: Medium. It is unclear exactly how much it would cost the MoRD to help women establish successful cooperatives. Cooperatives may require start-up capital, but this would ideally be repaid as the cooperative became profitable. However, women may require ongoing support from experts to run their cooperatives properly, as well as resolve any potential supply chain and distribution issues. It may cost less than the status quo approach of long-term migration support.

Status Quo: Low. Such centers require administrators and support staff, counselors, a physical space, and other infrastructure as deemed necessary by the MoRD or a PIA.

Addresses a Binding Constraint

Subcontracting: High. Independent contracting helps women maneuver around many of the binding constraints identified previously, including familial pressure to live in their rural area and restrictive cultural norms around leaving home. It also would give them the flexibility to work from home, on their own schedules, and take care of domestic responsibilities.

Cooperatives: Medium. Cooperatives are well-positioned to help women overcome constraints to employment. They provide flexibility to live in a rural area and to work from home. As seen in Lijjat, women are also not responsible for marketing and distributing their products, further enabling them to avoid violating cultural norms around interacting with outsiders. However, they may not provide pathways to high-growth potential sectors since, as operations and responsibility are necessarily diffuse, it may be difficult to launch more complex businesses.

Status Quo: Low. The status quo does not enable women to avoid identified binding constraints, including restrictive social norms and familial pressure to live in a rural area. It also does not satisfy the normative argument that women should be able to continue living in their home villages.

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