Promoting the Rural Farm and Nonfarm Businesses

Evidence from the Yemen Rural Investment Climate

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Abstract

This study examines the major constraints of rural business entry and performance in Yemen. The Yemen rural investment climate survey made it possible to analyze rural investment climate constraints for rural businesses. The survey was used to investigate both farm and nonfarm rural enterprises. The rural investment climate was assessed using a combination of subjective impressions related by rural entrepreneurs, and a more objective, empirical set of analyses that employed indicators to rank the constraints to “doing business” in the areas surveyed. These empirical analyses included application of the entry model, the performance model, the closure model, and the migration model. The migration model was introduced to identify how the rural investment climate variables at the community

level increase migration and economic activities. Based on the assessment of the rural investment climate, this paper identifies and explains four critical areas in which the rural investment climate in Yemen can be improved: market demand, access to markets, access to finance, and the provision of business services. Because farm and nonfarm businesses often experience common or similar constraints, the climate in which they operate can often be improved with the same measures and policies. Addressing the constraints that affect rural women entrepreneurs in particular, who play a vital role in rural nonfarm enterprises, warrants clear priority as a means to generate income and employment. Security and labor issues are identified as the key such constraints that disproportionately affect women.

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1. Introduction

Poverty is heavily concentrated in rural areas, where 68.8 percent of Yemen's total population resided in 2009. According to a poverty assessment undertaken by the World Bank in 2007, urban poverty rates in Yemen have declined while poverty reduction in rural areas is not robust (World Bank 2007d). The proportion of the rural population living on less than US\$1 a day decreased only slightly between 1998 and 2005, from 42.5 percent to 40.1 percent. In urban areas, this proportion decreased more significantly, from 32.2 percent in 1998 to 20.7 percent in 2005 (figure 1.1). The GINI coefficient reflects worsening income inequality during this period, increasing from 33.4 in 1998 to 37.7 in 2005.¹ In addition to poverty and income inequality, the gender inequality index for Yemen is the worst of 146 countries and improved only slightly, from 0.853 in 2008 to 0.796 in 2011 (UNDP 2010; 2011).²

Source: The United Nations MDGs Report 2011 (<http://mdgs.un.org/unsd/mdg/Default.aspx?q=poverty>); WDI 2010

Policy makers should consider reducing the dependency on oil exports and diversifying economic activities by creating more jobs.³ Especially for rural poverty reduction, income

¹ A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.

² Gender inequality index is measured by a composite measure reflecting inequality in achievements between women and men in three dimensions: reproductive health, empowerment, and the labor market. An index of 1 represents perfect inequality, whereas an index of 0 represents no inequality.

³ The country's financial institutions and its integration within world markets also improved over the past decade. This can be reflected by raising a share of total trade to GDP ratio from 61 percent to 66 percent during this period (IMF 2010). However, recent global financial crisis and the collapse of international oil prices during 2008-09 hit hard on Yemen's vulnerable economy, which depends heavily on the oil industry. Although oil production has fallen over time, income from oil exports remains the single most important source of government revenue. A sharp decline in average oil prices from \$98 per barrel in 2008 to \$60 per barrel in 2009 and contraction of oil production led to a significant drop in government oil exports. As a result, Yemen had a record high fiscal deficit in 2009,

generation activities should be promoted in both farm and nonfarm businesses. In order to do so, it is critical to improve the rural investment climate (RIC) for rural businesses.

This study assesses the RIC and provides directions for key improvement in the RIC to promote the rural private sector in both farm and nonfarm sectors. The study provides unique analyses. First, unlike urban enterprise surveys, which only include enterprise data, it uses community and household survey data provide rural micro-level environment, such as business services, financial services, market, infrastructure, education, and health. Second, the RIC related constraints to farm and nonfarm enterprises, which were not studied in previous RIC literature, can be analyzed. Third, the new approach of the RIC over labor migration at the community level could be studied to see which community RIC components influence the migration.

Using this rich survey data set, the following questions can be addressed. Which RIC components are critical to rural business entry and performance? How do business services and management innovation influence business entry and performance in rural settings? What are the differences in major constraints between farm and nonfarm enterprises? What are women specific business constraints? What are the major different constraints in rural areas from those in urban areas? How do we need to improve those identified RIC constraints for businesses?

2. Literature Review

The RIC is a largely uncharted area though there is rich research related to urban investment climate survey and assessment (Klapper and Inessa 2002; Dollar et al. 2005; Himmelberg et al., 1999; Dinh et al. 2010; Jensen and Meckling 1976; La Porta et al. 1998; and Shleifer and Vishny 1997). Urban investment climate assessment (ICA) has been more successful in improving investment climate compared to the RIC. The first pilot RIC studies of Sri Lanka, Nicaragua, and Tanzania revealed the RIC to be much different and more complicated than the urban investment climate (World Bank 2006a). Informality, small scale in terms of enterprise size and production, and seasonality in terms of employment all bring significant uncertainty and risk into the growth of rural enterprises. Compared with research on urban investment climate, research on RIC is more challenging and vital for least developed countries like Yemen. Informality is one of the key characteristics of rural enterprises, which creates more difficulty in analyzing the accuracy of the data than urban enterprises (Klapper et al. 2006; and Djankov et al. 2002).

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which posed a significant risk to the stability of Yemen's macroeconomic and monetary policy shown by the large decline in net foreign assets and negative private sector credit growth. Fuel exports were 92.2 percent of total exports in 2009 reduced from 96.9 percent in 2000 (WDI 2011).

A series of pilot projects were initiated by the World Bank to assess the RIC in six developing countries since early 2000s: Nicaragua, Sri Lanka, Tanzania, Indonesia, Benin, and Ethiopia (World Bank 2004; 2006a; 2006b; 2007a; 2007b; 2007c; 2008a; 2008b; 2009a; 2009b). In this study, 16 key RIC constraints, which can be aggregated to infrastructure, finance, government regulations, security, labor, land-use policy, technology, and business services, were developed and analyzed.⁴ Infrastructure includes electricity, telecommunication, water, postal/delivery services, and transportation. To further analyze the RIC constraints, survey questions about management innovation and business services were added to community and enterprise questionnaires based on recommendations made in the Ethiopia RICA report (World Bank 2009b).

Enterprise dynamics refer to a nonfarm enterprise's entry, closure and participation (World Bank 2004; 2006a; 2006b; 2007a; 2007b; 2007c; 2008a; 2008b; 2009a; 2009b; Kinda and Loening 2010).⁵ This portion focuses on managers' or household heads' decisions of entry, closure, or maintaining business operation of nonfarm enterprises. These empirical results show that household characteristics (age, education level, household size, gender, etc.) and community characteristics (the number of households, population, natural resource, key private sectors, price level, etc.) matter for decisions of an enterprise's entry, whereas a firm's age, location, manager's characteristics, contribution to household income, and location of the community matter for the firm's exit.

Different economic models are employed. A probit model is most commonly employed on enterprise entry and closure. An OLS model is used to analyze enterprise performance such as revenue, sales, net value-added, and productivity (World Bank 2004; 2006a; 2006b; 2007a; 2007b; 2007c; 2008a; 2008b; and 2009a). Tobit and probit models are employed in new investment or reinvestment (World Bank 2004; 2007c; and 2009c).

Business services and management innovation may have impacts on entry and performance of rural entrepreneurs as Bloom et al. (2011) argue that for Indian firms providing appropriate management support to enterprises improves quality and efficiency to raise average productivity of business operations. Recent research studies on management practices on productivity of the

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⁴ Refer to Appendix A for the list.

⁵ Enterprise performance topics include new investment for existing enterprise (World Bank 2008a; 2007b; Loening *et al.* 2008; World Bank 2009a; World Bank 2004; Kinda and Loening 2010); sales, net value added, sales growth, and profits (World Bank 2004; 2007b; 2008a; and Loening *et al.* 2008); productivity, total factor productivity (TFP) (World Bank 2004; 2007b; 2008a; 2008c; 2009a; and Loening *et al.* 2008); employment growth and employment (World Bank, 2007b; and 2008a). Other topics related to RIC include food security and gender which are studied in Ethiopia case study (World Bank 2009b).

enterprises show that enterprises in developing countries are badly managed (Bloom et al. 2010). This study provides the answers to the following questions. How critical are business services and management innovation for rural entrepreneurs? How could business services and management innovation promote business entry and performance if they are critical?

3. Assessment of the Rural Investment Climate

The RIC surveys were conducted in three Governorates. However, sampling data are representative of each Governorate with sampling weights. Sample sizes of household enterprises in industrial sectors are listed in Table 3.1.

Table 3.1 Sample Size of Household Enterprises

Governorate Male or Female Manager	Sanaa		Lahj		Dhamar		Total		
	M	F	M	F	M	F	M	F	
Agriculture	42	3	30	1	24	0	96	4	100
Mining & Construction	8	0	8	0	21	4	37	4	41
Food Processing	19	2	5	0	13	0	37	2	39
Other Manufacturing	25	10	6	0	24	13	55	34	89
Retail-wholesales	47	2	56	0	55	3	158	5	163
Other services	5	0	1	0	0	0	6	0	6
Total	146	17	106	1	137	20	389	38	427

Source: 2010 Yemen RIC Survey

The rural investment climate (RIC) is assessed based on major obstacles perceived by entrepreneurs, major constraints assessed by percentile ranking of RIC indicators, entry and performance regressions, and quantitative survey data.⁶ Major obstacles perceived by entrepreneurs are defined as the obstacles that entrepreneurs perceived as major or very severe obstacles for their businesses. The objective of this assessment is to determine which RIC components are critical to influence entry and performance of rural enterprises.

3.1 Major Obstacles Perceived by Entrepreneurs

Major obstacles perceived by rural entrepreneurs are compared with urban small enterprises to identify what investment climate components are different from each other. Farm and nonfarm comparison and gender comparison are included.

⁶ The assessment using RIC indicators is newly developed to assess the RIC more objectively using quantitative data, whereas major obstacles perceived by rural entrepreneurs may be biased due to limited knowledge and experience. The percentile ranking methodology of “DOING BUSINESS” was applied for assessment by RIC indicators.

3.1.1 Urban versus Rural Nonfarm Entrepreneurs

The differences of business constraints perceived by urban and rural entrepreneurs are quite dramatic according to a number of empirical analyses (World Bank 2006a). Figure 3.1 shows Yemen's rural and urban business constraints perceived by entrepreneurs. As expected, in the informal settings characteristic of the country's rural areas, government regulations are considered as less major constraints on rural nonfarm entrepreneurs, whereas those regulations, such as land access, courts, and tax rate, do matter for urban entrepreneurs. Corruption is quite a bit higher for urban entrepreneurs (65%) though it is also relatively high for rural entrepreneurs (about 40%).

Figure 3.1 Comparisons of Urban Small and Rural Entrepreneurs

Source: Yemen Investment Climate Survey 2009; Yemen RIC Survey 2010 both weighted.

Notes: Informal sector competition in urban is compared with market related obstacles in rural due to mostly informal in rural: Rural enterprises are all household enterprises and small/micro enterprises, whereas urban small enterprises have 5 to 19 employees.

3.1.2 Constraints Perceived by Farm versus Nonfarm Entrepreneurs

Farm and nonfarm entrepreneurs are confronted with similar business constraints with slightly different variations (figure 3.2). The top constraint, which is perceived by rural entrepreneurs, is electricity for nonfarm enterprises and water for farm enterprises. Water for farm enterprises can be understood by the nation-wide water shortage. Other major constraints are similar between

farm and nonfarm enterprises, which include access to finance, market, and transportation. Business service constraints are relatively perceived to be less critical (about 20%) by both farm and nonfarm entrepreneurs. Most farm and nonfarm entrepreneurs expect no support from any agencies/institutions in rural areas because there are almost no business service agencies exists in rural Yemen. This may be one of the reasons they did not perceive business services as a major constraint or obstacle. Our survey data shows that entrepreneurs recognize basic investment climate such as access to finance, access to market, and market demand as major obstacles.

Figure 3.2 Comparison of Business Constraints, Farm vs. Nonfarm

Source: Yemen RIC Survey 2010

3.1.3 Gender Difference in Obstacles Perceived by Entrepreneurs

Another interesting finding emerged regarding constraints to doing business in Yemen revealed a significant difference along gender lines. Because only one woman farm entrepreneur was represented in the sample data, the gender results were limited to nonfarm women entrepreneurs. While men and women entrepreneurs are confronted with similar types of constraints, those which women face are much larger. The investment climate constraints that men and women in Yemen appear to share in common include access to finance, electricity, markets, and transportation. Yet there is at least one major difference in the types of constraints that men and women face: labor and security/safety represent serious constraints to women whereas they do not appear to be major constraints for male entrepreneurs (figure 3.3).

Figure 3.3 Rural Nonfarm Business Constraint, Male vs. Female Managers

Source: Yemen RIC Survey 2010

3.2 Assessment by RIC Indicators

The constraints that entrepreneurs perceive may be largely or entirely subjective. RIC indicators are compiled to assess each component of the investment climate more objectively. Most of the main obstacles that are assessed using RIC indicators are not perceived by rural entrepreneurs themselves. Business and agricultural extension services, improvements and innovations in management, technology, labor, and telecommunications for instance were identified as major obstacles using RIC indicators, while they were not listed as important obstacles by entrepreneurs (figure 3.4). Owing to the prevailing informality of rural business in Yemen, government-related constraints such as those associated with licensing, and tax rates and administration were likewise not perceived as major constraints by rural entrepreneurs. Yet the results compiled through application of RIC indicators suggested that government-related issues such as corruption, permits, regulations, tax rates and administration, and land policy (among others) represented relatively major constraints and an important area for improvement. Because rural entrepreneurs are expected to improve their performance and become taxpayers in the near future, the government would be well-advised to play a more active and constructive role in assisting them.

Figure 3.4 Rural Investment Climate Assessments by RIC Indicators

Source: Authors' Calculation Based on Yemen RIC Survey 2010

Notes: Percentile ranking methodology of "Doing Business" was applied to calculate the level of respective RIC indicators; 100 is the worst level among all communities; 0 is the best level of all the communities. The best and worst levels of communities were obtained from 2010 RIC survey data of Yemen, Burkina Faso, Nigeria, and Mozambique.

4. Enterprise Dynamic, Performance, and Migration

By combining major obstacles perceived by entrepreneurs and major constraints assessed by RIC indicators, the following areas were identified as critical for improvement: market demand, access to markets, access to finance, business/agriculture services, management, and technology. Labor, telecommunication, and government-related issues (permits, licenses, registration, and tax rate and administration) could be added to the list. The following analyses are supplementing the above assessments including enterprise dynamics of entry and exit, performance, and community level migration to further fine tune the needs for improvement of the RIC.

4.1 Enterprise Entry and Closure

Reardon et al. (2000) conclude that entry barriers to nonfarm enterprises in rural areas cause rural income inequality because the poor cannot utilize alternative sources of income to improve their livelihoods or well-being. Entry barriers must be eliminated for promotion of rural income generation activities. Some entry analyses find that entry regulation matters for urban enterprises because most of those analyzed are formally registered businesses (Klapper et al. 2006; Djankov

et al. 2002). The informal settings and business climates in which rural enterprises operate make for much different entry barriers.

According to the RIC survey data, start-up capital is the most important obstacle to starting rural farm and nonfarm business as perceived by existing rural entrepreneurs (figure 4.1). The second most important obstacle is access to inputs or raw materials for nonfarm enterprises, and the availability of water for farm business. The third most important obstacle, which affects both farm and nonfarm businesses, is market information and knowledge. Market knowledge can be hindered because of poor infrastructure such as limited roads and transportation. Availability of electricity comes at the fourth for nonfarm business, whereas the availability of skilled labor and roads and transportation are the fourth for farm business.

In terms of motives to start a business, identifying market opportunities (44.4 percent) and obtaining skills (32.6 percent) were the top two motives reported by nonfarm entrepreneurs. For farm entrepreneurs, identifying market opportunities was less prevalent, and reported by just 18.2 percent of respondents. 34.3 percent reported obtaining skills as their primary motive for beginning operations (figure 4.2). These self-reports on the part of farm and nonfarm entrepreneurs should be useful in informing policies that promote incentives for business entry. Policies that effectively enable people to obtain skills and identify existing market opportunities clearly fall within this category.

Figure 4.1: Obstacles to Start Business

Source: Yemen RIC Survey 2010 weighted
Note: Each entrepreneur chose up to two obstacles.

Figure 4.2: Motives to Start Business

Source: Yemen RIC Survey 2010 weighted
Note: Each entrepreneur chose up to two motives.

4.1.1 Entry Model

The hypothesis of the entry model is whether the household head or member decides to start nonfarm enterprises given the rural investment climate in the community level. In other words, what are determinant factors for a household head to start a nonfarm business? These factors are further decomposed into household characteristics and community RIC variables. The entry-decision data are obtained from the household head's decision to enter or not to enter nonfarm business during the last three years before the survey time in 2010. The Probit model is applied to assess which household characteristics and community level RIC influence the decision of entry (Deininger *et al.* 2007):

$$\mathbf{Z}_i = \alpha_0 + \alpha_1 (\mathbf{H}_i) + \alpha_2 (\mathbf{C}_j) + \alpha_3 (\mathbf{D}_j) + \varepsilon_i \quad (1)$$

where i denotes a household, j denotes a community, $\mathbf{Z}$ denotes the household head's entry decision (1: yes; 0: no), $\mathbf{H}$ denotes a series of household characteristics, $\mathbf{C}$ denotes a series of community-level RIC variables, $\mathbf{D}$ denotes governorate (province) and rural dummies, and ε denotes an *iid* error term. Variables included in $\mathbf{H}$ are household size, the head's years of education, the head's age, household agriculture income and other income. Community RIC variables included in $\mathbf{C}$ are hours to district market (access to market), percentage of electrified household (electricity), percentage of secure drinkable water available (water), percentage of high school educated (education), dummy for availability of physician (health), dummy for availability of management service (management), dummy for availability of formal financial institutions (access to finance), dummy for security (safety), dummy for disaster (disaster), and price of rice (price level). Variables included in $\mathbf{D}$ are dummies for Sana'a Governorate, Dhamar Governorate, and Rural/semi-urban.

Our results show no surprises regarding household heads' decision of entry under household characteristics (table 4.1). The household heads with a larger family size are more likely to make the entry decision to nonfarm businesses. The less non-agriculture income households are also more likely to start businesses.

Access to water and the availability of business management services may help the households to start a nonfarm business because they are positively correlated with the decision of entry. The percentage of high school education in the community has significant negative correlation with the entry decision. This may reflect that for nonfarm entry the education level is not important, even uneducated people can start nonfarm businesses. Rural dummy indicates that rural households are more likely to make the entry decision than suburban households reflecting there are more opportunities for nonfarm businesses.

In order to promote rural nonfarm entry, start-up capital and access to inputs must be overcome with identifying market opportunities and required skills. Management service may be also an additional key issue to promote new rural business entry. Providing management service and improving infrastructure would help access to finance and access to inputs. Management service also provides marketing knowledge of how to identify market opportunities.

4.1.2 Closure Model

The closure model is to analyze whether the household head once started a nonfarm business, but forced to exit or close his business operations during the last three years. The hypothesis of the closure model is to assess what household characteristics and community RIC variables affect the household entrepreneurs' decision to close the business once started. In other words, the closure model concentrates on whether once started businesses can maintain or survive under the community level RIC. The Probit model is applied to assess which household characteristics and community-level RIC variables matter for closure of once-started nonfarm business. The hypothesis of the closure model is whether a household head or member decides to close his/her business operations during the past three years.

$$E_i = \alpha_0 + \alpha_1 (H_i) + \alpha_2 (C_j) + \alpha_3 (D_j) + \varepsilon_i \quad (2)$$

where E denotes a dummy for closing business operations once started.

The same household characteristics and community RIC variables as the entry model are used.

The survey analysis results indicate that 65 percent of started businesses were closed because of financial liquidity or profitability problems. The availability of management services may be of interest. Actually, the availability of business management services may be able to help those entrepreneurs to overcome working capital or low profitability and to stay in their businesses (table 4.1). Low profitability can be solved through business-management knowledge, such as quality control, operations management, and marketing knowledge, whereas the need of working capital can be enhanced through financial management.

Agriculture income serves as a complement income for nonfarm enterprises. The higher the agriculture income the lower the possibility of closure of the nonfarm enterprise is. Increased agricultural income may help to maintain stability of working capital, which allows enterprises to survive and maintain business operations. The larger the household size the more likely to exit the business once started. An interesting result is that if the community's education level is higher, the more likely an entrepreneur might exit the nonfarm business. Among the community RIC variables, the less management services and electricity are available, the more the household

enterprises exit. Management services definitely support and help rural entrepreneurs to stay in their businesses. If there are natural disasters, the household enterprises are more likely to close their operations. The household businesses are less likely to close their operations in the community with lower price of rice, where the cost of living is lower. Regional variations are also observed.

Table 4.1: Nonfarm Enterprise Dynamic: Probit Model for Entry and Closure

Model	(1)	(2)	(3)	(4)
Independent Variables	Entry	Entry	Closure	Closure
Household Characteristics (H)				
ln (# of HH member)	0.452*** [0.151]	0.426*** [0.152]	0.720 [0.450]	1.367*** [0.505]
ln (head's years of education)	0.001 [0.061]	0.012 [0.062]	0.144 [0.166]	0.443** [0.212]
ln (head's age)	-0.112 [0.248]	-0.007 [0.252]	-0.021 [0.580]	-0.114 [0.660]
ln (total agriculture income)	0.005 [0.009]	0.007 [0.009]	-0.032 [0.024]	-0.068** [0.032]
ln (other income)	-0.028*** [0.009]	-0.029*** [0.009]	-0.018 [0.022]	-0.039 [0.025]
Community RIC (C)				
ln (hours to markets)		-0.197 [0.289]		-0.053 [0.764]
ln (% of electrified)		-0.009 [0.043]		-0.350*** [0.103]
ln (% water available)		0.064* [0.039]		-0.114 [0.080]
ln (% high school educated)		-0.204* [0.110]		0.676** [0.322]
Dummy: physician's availability		-0.030 [0.135]		-0.330 [0.358]
Dummy: management service		0.461** [0.195]		-1.223* [0.670]
Dummy: formal fin inst.		-0.260 [0.168]		1.189** [0.483]
Dummy: theft security		0.193 [0.167]		-0.550 [0.454]
Dummy (disaster)		-0.099 [0.213]		1.053* [0.552]
ln (rice price)		0.253 [0.485]		-6.943*** [1.267]
Dummy	Rural	0.186 [0.136]	-0.182 [0.356]	-0.622 [0.491]
Observations	663	663	221	221

Source: 2010 Yemen RIC Survey; *Notes:* Sampling weights are applied; Standard errors are in parentheses; *, **, and *** denote significant levels at the 10, 5, and 1% respectively, based on standard errors; The dependent variable for entry is a dummy of a household member's success in starting nonfarm business. The dependent variable for closure is a dummy of a manager's decision to close after business started within the past three years.

The unexpected signs of the results are the availability of formal financial institutions and community level of high-school education. Many rural entrepreneurs are not using the formal

financial institution and many of them are financially illiterate (see the next section). The community with formal financial institutions may have keen competition with larger enterprises. In a less-educated community, entrepreneurs are more likely to stay in nonfarm business, whereas in more educated community, they are more likely to close their business and find other source of income.

4.2 Enterprise Performance

The hypothesis of enterprise performance model is to study what RIC components at the enterprise level would be the possible determinants of performance to be better off.

4.2.1 Performance Model

In order to analyze rural enterprise performance, we employ the standard economic theory related to TFP model (Bosworth and Collins 2003). For simplicity, a Cobb-Douglas production function is assumed here.

$$Y = AK^\alpha(LH)^{1-\alpha} \quad (3)$$

where Y , K , L , H , and α denote for total revenue, physical capital, labor, a measure of educational attainment, and capital share respectively. We further decompose this equation by labor and take log form.

$$\frac{y}{l} = a + \alpha \left(\frac{k}{l} \right) + (1 - \alpha)h \quad (4)$$

To integrate equation (4) with the RIC variables, we describe performance in terms of the log of total revenue per full time employee equivalent as:

$$y_m = \beta_0 + \beta_k k_m + \beta_c c_m + \beta_x x_m + \varepsilon_m \quad (5)$$

where m denotes enterprise m ; y denotes revenue per full time equivalent employee; k denotes capital input; c denotes a vector of observed factors, a vector of control variables such as enterprise characteristics and manager's education level; x denotes a vector of unobserved factors, in this case, RIC components; and ε is error terms.

Revenue of enterprise has been used as a key indicator to measure enterprise performance in most literature (World Bank 2004; 2007b; 2007c; and Bosworth and Collins 2003). The enterprise performance in this study is measured by total annual revenue per fulltime equivalent number of employees including managers. By considering the key RIC components, women entrepreneurs perform much better than men entrepreneurs, and finance (money transfer), security (face payment dispute), electricity, and transport show strong correlation with

enterprise's performance (table 4.2). Having a bank account is not a common phenomenon in rural Yemen; however, money transfer is more often used in rural business. Therefore, a money-transfer variable is used as a proxy for a financial service. Facing payment disputes is highly correlated with performance because disputes for payments happened more frequently with more business transactions. Our pooled data also show that transport and electricity are key factors that affect enterprises' performance.

Table 4.2 Household Farm and Nonfarm Business Revenue Model

Model		(1)	(2)	(3)	(4)	(5)	(6)
Enterprise Type		Nonfarm	Nonfarm	Nonfarm	Nonfarm	Farm	Farm
Independent Variables		Pooled data	Pooled data	Male	Female	Pooled data	Pooled data
Enterprise Characteristics							
ln (enterprise age)		-0.044 [0.107]	-0.045 [0.105]	-0.085 [0.107]	0.442 [0.433]	-0.378 [0.390]	-1.153** [0.472]
dummy: female manager		1.124*** [0.281]	0.822*** [0.292]			0.894 [0.736]	0.935 [0.648]
dummy: own founded		0.435* [0.256]	0.135 [0.240]	0.227 [0.269]	0.662* [0.385]	0.859 [0.658]	0.975* [0.492]
ln (manager's education years)			0.043 [0.072]	0.085 [0.073]	-0.076 [0.289]		-0.093 [0.215]
Enterprise RIC	Moneytransfer		0.727*** [0.266]	0.725*** [0.273]	0.851 [1.582]		0.390 [0.652]
	Facepayment dispute		0.488** [0.205]	0.562*** [0.213]	0.077 [0.420]		-0.816* [0.462]
	Corruption		0.187 [0.247]	0.191 [0.251]	0.632 [1.344]		-1.207 [0.758]
	Usetransport		0.873*** [0.271]	0.871*** [0.315]	-0.627 [0.413]		-1.554 [1.014]
	Useelectricity		0.585*** [0.201]	0.474** [0.215]	0.504* [0.277]		-1.920* [1.040]
	Hascell phone		0.013 [0.210]	-0.067 [0.222]	0.117 [0.675]		-0.102 [0.373]
	Management innovation		-0.309 [0.193]	-0.370* [0.202]	0.259 [0.660]		1.002* [0.507]
	Business service		0.047 [0.248]	0.131 [0.252]	-0.263 [0.658]		0.000 [0.000]
	ln (wait days for permit)		0.031 [0.061]	0.061 [0.065]	-0.208 [0.249]		0.432** [0.216]
	ln (distance to market)		0.089 [0.056]	0.119** [0.060]	-0.072 [0.139]		-0.004 [0.153]
Dummy	Rural	-0.186 [0.169]	-0.253 [0.177]	-0.333* [0.195]	-0.424 [0.550]	0.496 [0.624]	0.155 [0.494]
	Observations	325	324	291	33	69	69
R-squared		0.091	0.218	0.180	0.623	0.150	0.410

Source: 2010 Yemen RIC Survey; Notes: Sampling weights are used; standard errors in parentheses. *, **, and *** denote coefficient significant levels at the 10, 5, and 1% respectively; the dependent variable for all models are revenue per full time employee equivalent in log form; according to Breusch-Pagan/Cook-Weisberg test for heteroskedasticity, robust results show that there is no heteroskedasticity problem in the data set.

In analyzing a household nonfarm enterprise's performance, a gender issue is also taken into consideration. There is total of 291 male managers and 33 female managers in nonfarm

enterprises in our survey sample. The results for male managers are quite similar to the pooled data for nonfarm analysis. Financial services, transportation, electricity, and facing payment disputes are positively associated with enterprise performance. In addition to all the above factors, distance to markets is positively correlated with performance, and management innovation is negatively correlated. As for management innovation, a negative sign can be interpreted as the entrepreneurs with better performance having not even considered improvement or innovation, but entrepreneurs with worse performance had to improve or innovate for survival, but all by their own ideas and sources. Receiving business services is not statistically significant. The availability of business services is extremely limited in rural areas. According to the RIC survey, marketing services are available in 20 percent of the communities, and business services are available in 25 percent of the communities. However, the utilization of business services is even worse. Only 1.0 percent of farm entrepreneurs and 2.5 percent of nonfarm entrepreneurs used management-related services, such as consulting, marketing, and accounting, during the past year.

4.3 Rural Labor Migration

Migration, more move-in than move-out, may reflect an increase in economic activities in the community. The survey data on migration are shown in Table 4-3.

Table 4.3 Migration (% communities)

Governorate	Sana'a	Lahj	Dhamar	Total
More Move-in	50.0	16.7	16.7	27.8
More Move-out	33.3	66.7	16.7	38.9
The same move-in & move-out	0	8.3	50.0	19.4
No move-in & move-out	16.7	8.3	16.7	13.9

Source: 2010 Yemen RIC Survey

4.3.1 Migration Model

The migration model is used to analyze which household characteristics and community level RIC components may affect migration workers to flow into the community. In other words, the hypothesis of the migration model is to find out which household characteristics and community level RIC components affect migration. The Probit model is also applied for the dependent variable “more move-in” with household characteristics and community-level RIC variables.

$$M_i = \alpha_0 + \alpha_1 (H_i) + \alpha_2 (C_j) + \alpha_3 (D_j) + \varepsilon_i \quad (6)$$

where M denotes a dummy that equals 1 when more people moved into the community during the past three years.

The regression results are shown in Table 4.4.

Household Characteristics

Total agriculture income and income generated from other than agriculture sector will attract more migration workers to move into the community. People are more likely to move into the communities where household incomes are higher or more economic activities exist.

Community RIC

A better business environment provides more economic activities or an increase in population. Concerning the impacts of RIC components on migration, better access to drinkable water, better health-care environment, and available business management services would attract more migrant workers to move in. A higher price of rice may be a result of more people moving into the community to push the price of rice up. Negative external shocks or environment such as natural disasters would have negative effect on migration. Safe environment (no theft) may result due to less economic activities. However, if the activities increase, safety and security may be strengthened for an anticipated increase in crime. A suburban area has more migration of move-ins than that of a rural area due to the size of nearby markets.

Table 4.4 Migration Model for Yemen

Community More Move-in = 1	Independent Variables	(1)Probit	(2)Probit
Household Characteristics	ln (# of household members)	-0.154 [0.144]	-0.177 [0.159]
	ln (total agricultural income)	0.029*** [0.009]	0.027** [0.011]
	ln (income other than agriculture)	0.032*** [0.011]	0.031** [0.012]
Community RIC	ln (hours to markets)		2.865*** [0.341]
	ln (% electrified)		-0.006 [0.040]
	ln (% drinkable water)		0.426*** [0.049]
	ln (% high school educated)		-0.066 [0.111]
	Physician available		1.057*** [0.168]
	Management service available		0.383** [0.178]
	Formal financial institution available		0.234 [0.157]
	No theft		-0.636*** [0.145]
	Disaster happened		-0.944*** [0.213]
	ln (rice price)		2.046*** [0.338]
Other Dummy	Rural	-0.565*** [0.134]	-0.373*** [0.123]
Observations		665	665

Source: 2010 Yemen RIC Survey; Notes: Sampling weights are applied; standard errors in parentheses; *, **, and *** denote coefficients significant levels at the 10, 5, and 1% levels respectively

5. Improving the Rural Investment Climate for Businesses

Improving the RIC for businesses appears to be a necessary condition for incentivizing activities that raise rural incomes. The proliferation of such activities lays the foundation for improved livelihoods, and promises to provide an expanded resource base from which community health care, education, transportation, and infrastructure can draw.

By combining major constraints perceived by rural entrepreneurs, assessed by RIC indicators, and econometric modeling results, the following areas are identified as critical RIC components for improvement: market demand, access to markets, access to finance, business/agriculture services, management, and technology. Labor and telecommunication could be also added to the list. Improving these areas would lessen the obstacles to starting a business and the reasons for closing it and it would further increase income generation activities. For women entrepreneurs, a security issue has to be resolved. These income-generation activities could also boost the population of the rural communities through increased economic activities.

5.1 Increase Market Demand

It is vital to increase market demand in rural areas if rural businesses are to grow. If market demand stays the same while income generation activities increase or existing businesses expand, profitability may decrease due to the limited number of customers. If there are too many competitors relative to the existing demand, then prices may come down due to excess supplies and enterprises may not be profitable. If there are too few competitors, market demand may exceed the supply, giving entrepreneurs a chance to expand their businesses to meet the excess demand. Major obstacles perceived by rural entrepreneurs for weak demand or too many competitors are 43 percent by farm entrepreneurs and 37 percent by nonfarm entrepreneurs according to the Yemen RIC survey.

There are a number of ways to enable entrepreneurs to better access demand and reduce the frictions that impair their ability to supply products targeted on market opportunities. These include: (i) developing or improving marketplaces with required amenities; (ii) improving access roads and transportation for customers to come to market; (iii) applying marketing knowledge to identify new customers; and (iv) providing market information to customers. Marketplaces exist in all of the places in which community survey data were gathered. These marketplaces may need to be improved with required amenities such as those which were proposed in the Ethiopia RICA proposal (World Bank 2009b). Improving access roads and transportation would provide

both consumers and rural entrepreneurs with easier access to local markets. Applying marketing techniques requires certain business management knowledge to increase market demand and the number of customers. These marketing techniques may involve identifying new customers, by differentiating products or services (finding a market niche), or by using scale economies. Economies of scale can be achieved by informal or cooperative groups of entrepreneurs who provide similar products or services. They may also be achieved through the formation of industrial clusters. Information about the products and services being offered can also be instrumental in stimulating consumer demand by informing consumers where they can go to find what they want to buy. Cell phones, which are rapidly saturating rural areas, can be utilized to provide this type of marketing information. Market information can be improved by providing appropriate management services, including skills and management training to rural entrepreneurs.

5.2 Access to Marketplace and Market information

Access roads, transportation, and available market information enable entrepreneurs to access to market. The World Bank (2009c) emphasizes that roads connect people not only to markets, but also to essential services such as health services and schools. New road or bridge construction improves market access for both suppliers and customers, thus increasing market demand and enabling entrepreneurs to transport more supplies to meet that increased demand. The poor quality and high cost of transportation are an extra burden that diminishes the profitability of small rural business operations. Many entrepreneurs perceived transportation as one of the top four obstacles (figure 3.2). Having access to market information enables existing or potential entrepreneurs and customers to broaden their knowledge and information of the market, take advantage of market opportunities, and make correspondent strategies.

5.3 Access to Finance

Access to finance is one of the most important assets for a business to be successful, especially for the rural poor, who require collateral. The limited availability of much-needed loans remains a principal constraint among rural entrepreneurs because they need loans to start and expand their businesses (Islam 1997).

Improving the access entrepreneurs have to finance can be accomplished in a number of ways. In Yemen, increasing the number of financial institutions and improving the financial literacy of entrepreneurs suggest themselves as ways forward. According to the survey data,

formal financial institutions are available in only 31 percent of the communities, and formal insurance institutions do not exist in any of the communities surveyed. Survey data also revealed that 49 percent of farm entrepreneurs and 60 percent of nonfarm entrepreneurs did not even apply for loans even though they needed access to financial resources. This low application rate for loans suggests limited formal literacy among rural entrepreneurs. The reasons that participating rural entrepreneurs gave for declining to apply for loans varied. The complexity of the procedures required to apply was given as the reason by 15 percent of both farm and nonfarm respondents. Low expectations over the likelihood of their loan applications being approved was also very similar, with 12 percent of farm entrepreneurs and 13 percent of nonfarm entrepreneurs reporting this as their reason for not applying. Doubt as to their ability to repay a loan was given as the reason for not applying by 4.8 percent of farm entrepreneurs and 8 percent of nonfarm entrepreneurs. These findings suggest that in addition to increasing the number of financial institutions and targeting financial literacy through training, credit guarantee schemes introduced by small business promotion agencies to support rural entrepreneurs and improve their ability to negotiate and repay loans could be instrumental in improving the success of their business operations.

5.4 Business Services

Good business management is critical for rural entrepreneurs who typically have little knowledge and resources of business practices. As Sawada and Harishchandra (2011) identified in rural Ethiopia, rural entrepreneurs can easily improve their productivity and profitability by learning the fundamentals of business management. Markley (2006) states that providing technical assistance, training, and networking are essential to rural economic development strategy. Management knowledge can enable rural entrepreneurs to identify the appropriate levels of financing, technology, skills, processes, quality control, and marketing for a business to be profitable. The following issues related to business services needed to be improved and addressed.

First, the availability and utilization of business services are to be improved for rural entrepreneurs. With appropriate business management knowledge, unprofitable operations can be turned into profitable ones. Profitability is determined by prices and quantity of sales and also by the productivity of business operations. Productivity can be improved through management innovation or improvement, such as product innovation/improvement, process innovation/improvement, setting higher sales prices when selling at a new location, changing the

mode of transport, and streamlining operations. The RIC survey data shows that product innovation/improvement was accomplished by 5.6 percent of farm entrepreneurs and 11 percent of nonfarm entrepreneurs, whereas process innovation/improvement was accomplished by 3.7 percent of farm entrepreneurs and 8.4 percent of nonfarm entrepreneurs.

Second, entrepreneurs need training to obtain the skills and business management knowledge. The survey data indicate that obtaining skills was identified as an important motive for starting a business. However, only 19 percent of farm managers received training before starting a business, whereas 36 percent of nonfarm managers received training. Given the limited availability of skills training, it is essential that the specific skills are needed by local farm and nonfarm businesses.

Third, inputs and raw material should be procured locally whenever available to eliminate paying additional costs for transportation and intermediation for goods procured outside the area. Keeping cost of inputs low leaves more room for profits. If inputs are needed to modify or differentiate with existing products/services, these should be procured locally whenever possible. In Yemen, only 31 percent of farm entrepreneurs and 21 percent of nonfarm entrepreneurs procured inputs within their own community. In addition, 17 percent of farm entrepreneurs and 13 percent of nonfarm entrepreneurs procured inputs from the same and neighboring districts. There is a total of 52 percent of farm and 66 percent of nonfarm businesses that procure inputs outside of the district. Management services should provide guidelines to develop products or services using local inputs.

Fourth, managing expenses or wages is an important part of running a business. 27 percent of workers in farm enterprises are paid, whereas only 8.9 percent of workers are paid by nonfarm enterprises. Even if no formal wages are paid, entrepreneurs should make sure to set aside an amount equivalent to wage money to run their businesses. In this way, informal enterprises can prepare to grow and become successful, formal enterprises.

Fifth, accessing market information and knowledge by using telecommunication tools and technology is important. In Yemen, penetration of cell phone use is accelerating, as shown in the survey data, 74 percent of farm entrepreneurs and 79 percent of nonfarm entrepreneurs use cell phones. Using cell phones to get information on markets and inputs is more practical and feasible than using computers. In Uganda, the cell phone became a very handy tool for accessing commodity prices due to its flexibility of function, yet it does not require special skills to operate (UNPF 2010).

Figure 5.1 Seasonal Fluctuation of Average Sales: Farm and Nonfarm

Source: 2010 Yemen RIC Survey

Notes: 4 is the highest sales level, 3: the average sales level; 2 the low sales level; and 1 no sales

Finally, rural income generation activities need to overcome seasonal fluctuation in sales by promoting farm and nonfarm enterprises together, and focusing on value addition activities by nonfarm enterprises (figure 5.1). Knowing the constraints for farm and nonfarm enterprises are similar, promotion activities should be focused on small rural enterprises of both farm and nonfarm. Farm and nonfarm enterprises need business management knowledge to earn more or improve profitability. Delgado et al. (1998) conclude that farm and nonfarm enterprises have economic multiplier effects. That is, when promoting rural enterprises, both farm and nonfarm enterprises should be targeted simultaneously in order to generate synergy effects to the rural economy, rural livelihood, and well-being of the poor.

6. Conclusion

Through this study, four critical RIC components are identified to be improved: weak market demand, poor access to market, limited access to finance, and missing management service to rural entrepreneurs. Among those critical RIC components, providing business management services is a key component because management knowledge can increase market demand using marketing knowledge, increase access to market and inputs identifying appropriate transportation and technology, and increase access to finance improving financial literacy of rural entrepreneurs. The management knowledge would help rural entrepreneurs start, operate, and expand their farm and nonfarm businesses. Without increasing market demand, supply-side RIC improvement may not do any good. It is important to focus on increasing both demands and supplies to promote rural private sector.

Rural income generation activities could be promoted by improving the critical RIC for businesses. Farm and nonfarm enterprises should be promoted together to create synergy since major constraints for farm and nonfarm entrepreneurs are similar except electricity for nonfarm

and water for farm. By providing business services to rural entrepreneurs, rural entrepreneurs could become successful and become tax payers to the government. Therefore, the government puts more effort into providing business management services to support rural entrepreneurs to be more profitable and as a return they could pay more taxes. At this moment, government issues are not perceived as a major obstacle by entrepreneurs. However, government related RIC (licenses, permits, registration, labor regulations, etc.) needs to be improved since regulatory improvement by government may be soon needed as rural entrepreneurs become more profitable and formalized (Klapper et al. 2006; and Djankov et al. 2002).

Female entrepreneurs are playing a vital role in rural nonfarm enterprises. Rural female entrepreneurs have additional business constraints such as labor and security issues due to religious and socioeconomic background in Yemen. Correspondent policies should be considered by the government to reduce or even remove these constraints. Many studies have shown that women can be successful as entrepreneurs (Reardon 1997, Barrett et al. 2001). Promotion of women participation of rural nonfarm enterprises is a key to success in generating income and employment. Sawada and Harishchandra (2011) propose women's economic empowerment to be included in the sustainable support system for rural women entrepreneurs. In addition, other infrastructure improvement may be necessary, such as electricity and water, which can be accessible by women.

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APPENDIX A: List of Rural Investment Climate Obstacles

01. Electricity

011. Lack of access to electricity

013. Cost of electricity

012. Power surges and outages

02. Telecommunication

021. Lack of access to fixed line telephone services

023. Cost of fixed line telephone services

025. Poor quality of cell phone services

022. Poor quality of fixed line telephone services

024. Unavailability of cell phone services

026. Cost of cell phone services

03. Water

031. Lack of access to water

033. Cost of water

032. Poor quality of water

04. Postal/Delivery Services

041. Unavailability of postal/national delivery services

043. Poor quality of postal/national delivery services

042. Cost of postal/national delivery services

05. Transportation

051. Lack of access to roads

053. Road tie-ups (congestion)

055. Cost of transportation

052. Poor quality of roads

054. Unavailability of transport for merchandise

06. Financing

061. Lack of own and family capital

063. High interest rates and other transaction fees

065. Cumbersome borrowing procedures

067. Fear of not being able to pay loan installments

062. Lack of access to banks and other formal institutions

064. Lack of access to sources of informal financing

066. Too high value of required collateral

07. Market

071. Lack of access to markets (distance and cost)

073. Weak demand for goods and services

075. Access to inputs/merchandise products

072. Difficult to obtain information on product market

074. Too many competitors

076. Lack of market competition

08. Government

081. Corruption

082. Difficulty with legal system and conflict resolution

09. Licenses and permits

091. Time in registering business

093. Complicated procedures for registration

095. Cost of obtaining licenses/permits for business

092. Cost of registering business

094. Time in obtaining licenses/permits for business

096. Complicated procedures for licensing/permits

10. Tax system

101. High tax rates

102. Complicated tax rules and procedures

11. Security/Safety

111. Crime, theft, and social unrest

112. Conflict and social friction

12. Labor issue

121. Rigid labor regulations for hiring & firing

123. Lack of available skilled labor

125. Work related disease, accidents, death etc.

122. High labor costs because of government regulations

124. Inadequate education level of workers

13. Land-use policy

131. Inadequate regulations on the use of land

133. Land ownership uncertainties

132. Difficulty in obtaining construction permits

14. Technology and information technology

141. Unavailability of computer

143. Unavailability of internet services

145. Cost of internet services

147. Unavailability of information on foreign/appropriate technology

148. Cost of foreign/advance technology

142. Cost of computer

144. Poor quality of internet services

146. Unavailability of foreign/appropriate technology

149. Lack of training on foreign/appropriate technology

15. Business services

151. Unavailability of business services

153. Poor quality of business services

152. Cost of business services

16. Exports and Imports

161. Difficulty in obtaining an export license

163. Time for obtaining an export license

165. Cost of obtaining an import license

162. Cost of obtaining an export license

164. Difficulty in obtaining an import license

166. Time for obtaining an import license

APPENDIX B: Assessment by RIC Indicators

B1 Definitions of RIC Indicators

RIC Indicators	Sub indicators	Definitions
Finance	Bank accounts Money transfer Informal financing Loan Interest rate Collateral required	% of enterprises having a bank account % of enterprises using money transfer service % of enterprises using informal financing % of enterprises having loans or a line of credit % Annual interest rate of a recent loan % Collateral required/loan amount
Security	Security expenses Payment dispute Theft loss	% Security expense/total expense % of enterprises with payment dispute % Theft loss/total revenue
Labor	Primary completed Manager's years of education Manager's years of experience Obtained skill was motive Wage paid	% labor completed primary school Manager's average years of education (years) Manager's experience before started (years) % of enterprises started with obtained skill as a motive % of workers paid
Government	Total wait days Licenses Government contract Registration	Total days for license, registration, water, fixed phone % of enterprises having an operating license % of enterprises had a government contract % of enterprises registered
Corruption	Unofficial payment	% of enterprises requested unofficial payment
Business Services	Association membership Management service received Other services received	% of enterprises being member of any association % of enterprises received management services % of enterprises received other services than mgt.
MgtImprovement/ Innovation	Improved/innovated By own idea By own sources	% of enterprises improved/innovated in operations % of enterprises improved/innovated by own idea % of enterprises improved/innovated by own sources
Technology	Improved/innovated By own idea By own sources	% of enterprises improved/innovated technology % of enterprises improved/innovated by own idea % of enterprises improved/innovated by own source
Electricity	Use of electricity Sufficient electricity supply Outage Own/share a generator	% of enterprises using electricity for business % of enterprises having sufficient electricity Average hours of outage per enterprises % of enterprises own/share a generator
Water	Sufficient water Securing drinkable water	% of enterprises having sufficient water % of enterprises with secure drinkable water source
Telecommunication	Fixed phone Cell Phone Computer	% of enterprises using a fixed phone % of enterprises using a cell phone % of enterprises using a computer
Transport	Use transport Own transport Use delivery service Availability of delivery service	% of enterprises using transportation % of enterprises own transportation % of enterprises using postal/delivery services % of enterprises having no available delivery service
Market	Market opportunity as motive Community market Community purchase of input # of competitors	% Motive market opportunity % Main market is in the community % Input purchase in the community The number of competitors for each enterprise

Note: These indicators are taken at the community level on average in order to determine the minimum and maximum levels to calculate percentile ranking using the “Doing Business” methodology.

B2 Percentile Ranking of RIC Indicators

Table D2.1: Percentile Ranking of RIC Indicators: Farm Enterprises

	RIC Indicators	Percentile Ranking		
			Farm	Nonfarm
Finance	% Bank account	+	0	10
	% Money transfer	+	24	36
	% Informal financing	+	0	14
	% Loan	+	1.3	13
	% Annual interest rate	-		99
	% Collateral required/loan	-		93
	% Firms did not apply but wanted	-	50	43
Security and Safety	% Security expense/total expense	-	97	93
	% Firm with payment dispute	-	46	68
	% Theft loss/revenue	-	99	100
Labor	% Primary completed labor	+	49	62
	Manager's years of education	+	55	59
	Years of manager's experience	+	36	32
	Motive obtained skill	+	48	28
	% Labor paid	+	44	24
Government	Total wait days	-	81	91
	% Having a license	+	50	75
	% Had government contract	+	0	11
	% Firm registered	+	9	19
Corruption	% Firm requested unofficial payment	-	82	75
Business Services	% Member of association	+	5	2
	% Received management services	+	2	5
	% Received other services	+	1	2
Improvement	% Firm improved in management	+	17	23
	% Improved by own idea	-	6	11
	% Improved by own sources	-	0	4
Technology	% Firm technology improvement	+	3	7
	% Firm technology improvement by own idea	-	0	36
	% Own technical support	-	33	0
Electricity	% Use electricity	+	24	82
	% Sufficient electricity	+	55	53
	Hours of outage	-		49
	% Use own/shared generator	-	55	41
Water	% Sufficient water	+	48	72
	% Secure drinkable water source	+	50	53
Telecommunication	% Use a fixed phone	+	30	39
	% Use a cell phone	+	71	77
	% Use a computer	+	38	26
Transport	% Use transport	+	88	88
	% Use own transport	+	41	77
	% Use postal/delivery services	+	0	8
	% No delivery service available	-	92	82
Market	% Motive market opportunity	+	19	44
	% Main market is in the community	-	52	24
	% Input purchase in the community	-	67	80
	The number of competitors	-	71	96

Source: 2010 Yemen RIC Surveys

Note: This methodology to assess the rural investment climate by RIC indicators was developed by Sawada (2012).