

WORLD ENTREPRENEURSHIP FORUM
2008 EDITION

Initial thoughts on a model of rural entrepreneurship in developing countries

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I. Introduction

From Adam Smith to Joseph Schumpeter, those who study the development of societies have considered entrepreneurial capital accumulation as the engine that drives economic growth (c.f., Van Stel, Carree & Thurik, 2005). For entrepreneurship to take root, it must be possible to accumulate capital at a rate exceeding immediate consumption. There are two ways to achieve the minimum efficient scale of production; the first is to exogenously inject capital at a rate exceeding consumption and second, to technologically lower the efficient scale of production to a level matching that of local demand markets. Traditionally, capital accumulation in developing economies has been fostered by government policies to encourage foreign direct investment (FDI) by multinational corporations (MNC). However, MNC are not able to fully understand local consumers, implying that production is less likely to be at the efficiency frontier, implying the need for local entrepreneurs (Corbett, 2008). More pointedly, what has also been generally accepted is the notion that for economic growth to be self-sustaining the allocation of resources to production should be based on consumption priorities as revealed by the prices (values) assigned to productive outcomes. Production systems that depend on institutional interventions require the consumption of resources apart from those dedicated to the production of goods and services and is hence inefficient in the long run.

The importance of this issue is particularly relevant for the *rural* regions of developing countries because the trigger for initial production, which is the presence of a local demand market, is often not large enough to foster rapid capital accumulation. Hence, production tends to remain at a subsistence level. The net effect is a brake in the development of the overall economy because capital accumulation in the cities, where sufficiently large and concentrated demand markets exist, is reduced by net transfers to the rural regions to sustain consumption. Hence, the issue of economic advancement in development countries turns out to be the problem of fostering entrepreneurship in the rural regions.

In recent years, we find that research on rural economic development has focused on the role of entrepreneurs. Li and Matlay (2006) argue that local empowerment is the motivating factor that promotes local entrepreneurship in China. This is because the extant routes for rural development, e.g., international aid money, are less effective than encouraging economic growth through entrepreneurship. This 'inclusive capitalism' represents a base for bottom-up economic development and empowered individuals rather than the more traditional top-down

approaches in which aid money must filter through a bureaucratic chain before reaching its beneficiaries, who by virtue of the process, are rendered passive recipients.

Larson & Shaw (2001) observed that the rural regions of developing economies are the last bastion for new wealth creation in the world as there are potentially millions of new consumers. However, because consumer needs are likely to be different from those of developed economies, entrepreneurs with local knowledge are better poised to recognize those opportunities. Research in microfinance, for example, has studied how petty entrepreneurs can create pockets of productive capacity within communities when given access to credit (i.e., the ability to defer consumption). Additionally, entrepreneurial opportunities are made more salient by the advent of ubiquitous technology. For example, technology enabled highly productive seed varieties and planting methods during the Green Revolution led to the inclusion of rural economies in the U.S., Southern Europe, and Japan in their national developments. Information and communications technologies brought global demand for organic products to family farms in rural regions.

In this paper, we suggest a mid-range theory of rural entrepreneurship, since theoretical approach to study this issue. Our discussions and conclusions are drawn from an extensive literature review summarized in the Appendix¹. At the end of the paper we offer additional thoughts on the challenges and policy implications for a model of rural economic development based on entrepreneurship.

II. Key Points to Take Away

Traditional models of industrial development rely on policies to attract foreign direct investment (FDI) on the assumption that multinational corporations (MNCs) act as catalysts for localized capital accumulation. The record of such policies is mixed, in part because the costs of entry has often been underestimated, leading to the premature withdrawal of some firms. MNCs, for example, have not always appreciated the needs, tastes, customs and social mores of local consumers; although more recently, some firms such as Nokia have started deploying 'user

¹ Reference will be made to a subset of the papers that we reviewed where it is necessary to establish the origin of an idea.

anthropologists' to understand the behaviors of local customers as they interact with their products (Corbett, 2008).

The same perspectives have dominated government policy making in developing countries with respect to their rural regions. Such policies attempt to replicate the pattern of capital accumulation in the cities through wealth transfers, knowledge transfers, foreign direct investment (FDI), and clustering strategies. However, industrialization based on the inflow of multinational corporations (MNCs) is not without its costs. Some unintended consequences have included environmental damage and urban decay when MNCs leave for even lower cost countries. In short, the continual external transfers of wealth via FDI, without local production, are not sufficient to create a stable economic ecosystem. For sustained development, the cycle of wealth creation must be endogenous and capital must be accumulated at a rate that allows the intergenerational transfer of wealth. More significantly, government led development efforts, for example those aimed at creating national champions, is not easily reversed when later determined to be ineffective or misdirected.

This paper argues for a normative understanding of rural entrepreneurship based on the notions of social exchange mediated by non-governmental organizations (NGOs). The paper recognizes that the actions of an external agent may be required to ignite rural entrepreneurship and that NGOs are best positioned to be that agent. The upshot of our argument is that because government organizations are driven by political models of resource allocation (i.e., allocation decisions driven by a bargaining process) they are unable to effectively facilitate social exchange among competing interests in the entrepreneurial value creation process. NGOs by virtue of their mission driven nature, are less prone political bargaining and therefore better positioned to facilitate social exchange. More pragmatically, NGOs tend to be involved at the grassroots level in the communities in which they serve and therefore are designed to identify and respond to opportunities by facilitating access to technology and social network links between potential entrepreneurs and demand markets.

III. Issues to Discuss

For our discussion, we first try to understand the emergence of entrepreneurship in a rural economy. Then, we consider how the theory of social exchange might be used to inform a normative model for this to happen. Next, we discuss the role of the NGO as a primary

mediator of social exchange. Finally, we discuss the implications for various issues that arise in the consideration of rural entrepreneurship such as the role of women.

In accordance with the literature, a rural entrepreneurial economy, as in any other economy, is nothing more than an ecosystem of risk takers, capital providers, markets, technology, and intermediaries that facilitate non-market transactions. Our approach is to examine the *impediments* to the emergence of such an ecosystem. These impediments may take the form of the absence of one or more elements in the ecosystem. For example, the lack of risk takers in a region may be the result of a combination of low levels of human capital (training, experience, perspective), a lack of personal resources (human activity is devoted to creating resources for immediate consumption rather than savings), the absence of legitimacy for entrepreneurship (risk taking is partially a cultural phenomenon), and information asymmetry (lack of awareness of demand markets).

A traditional policy approach to stimulating entrepreneurship in rural regions is to adapt conceptual frameworks from the developed countries. For example, new enterprises can be created by providing education and training people with business skills, attract in-migrants who have entrepreneurial skills (lifestyle entrepreneurs, early retirees or returning ex-villagers) and encouraging underrepresented young people and women to enter the self-employed workforce. Support for business start-ups are usually provided with pre-startup advice, idea appraisal and start-up assistance (North & Smallbone, 2006). The success of existing entrepreneurs can be enhanced by supporting them with business advice (e.g. business planning, marketing, exporting and information technology), provide specialist support such as helping farmers diversify into new farm or non-farm activities, and providing infrastructure such as incubators, transportation and info-communication.

Yet, the theoretical literature is not so sanguine about the scope and nature of the problem. What remains to be clarified is whether the mere absence of one or more of the elements of the entrepreneurial ecosystem is sufficient to impede rural entrepreneurship or whether the problem is more complicated. For example, if the elements of the entrepreneurial ecosystem operate interactively rather than additively, then the challenge of igniting rural entrepreneurship is not confined to simply removing the impediments (or introducing missing elements) but also in ensuring that a sufficient combination of the appropriate elements exists. This is similar to the difference between an ingredient list and a recipe. We think the problem is akin to the latter.

II. What is Rural Entrepreneurship?

Rural entrepreneurship can refer to new ventures that happen to be created in rural regions as the result of an intervention, such as a tax subsidy, to attract businesses into an area or via the in-migration of city dwellers that subsequently start businesses (c.f., Wortman, 1990). It can also refer to the creation of ventures that result from the unique endowments in rural regions that do not exist in metropolitan areas. Such businesses may involve agriculture (viniculture or the farming of high-value specialty foods such as organic produce), lifestyles (eco-tourism, spas and retreats), extraction (mining or forestry), and knowledge industries (software development or artistic-content creation). For example, Lyons (2002) provides cases studies of incubators and community-based economic development programs that utilize networking, and resource and risk pooling to overcome physical isolation and limited access to markets through the linkages that they developed.

We note that only some ventures in such settings have 'high-potential' entrepreneurial returns (Shane & Venkataraman, 2000). In our opinion, such ventures are those that scale up rapidly, achieve minimum efficient scale in a time period sufficient to deter entry by competitors, and earn rates of return far in excess of the risk-adjusted cost of capital. This implies a requirement for the demand market to have a certain size and growth rate so that only certain industries lend themselves to high-potential rural entrepreneurial ventures. For example, personal services related to the lifestyle industries are not scalable in low-density rural populations. We also believe that high-potential ventures are only sustainable when they are based on endowments that are endogenous and unique to the region.

III. The Entrepreneurial Ecosystem

The entrepreneurial ecosystem, which is the environment that fosters the emergence of new ventures, is an interconnected set of elements comprising risk takers, information brokers, resource providers, demand markets, and enabling technologies that act together to form a virtuous cycle of wealth creation (Venkataraman, 2004). Attached to this ecosystem is an entrepreneurial process, which is the collection of decision tasks, such as opportunity identification and selection, resource assembly, organizing, and the management of growth and exit. Research suggests that a successful entrepreneur is often a domain expert who has

accumulated enough knowledge to master the stages of the entrepreneurial process (c.f., Read & Sarasvathy, 2005). The entrepreneur's judgment about the feasibility of a new venture is grounded in her self-efficacy to execute the tasks in the entrepreneurial process. In regions where individuals have rich industry experience and strong social networks, new startups are more likely.

The concept of the entrepreneurial ecosystem recognizes the fact that entrepreneurial opportunities exist at the confluence of markets, people, and technologies. This implies that we cannot understand how individuals recognize, organize, and exploit opportunities to create value without simultaneously considering the institutional barriers and enablers to capital accumulation, the role of markets in deciding how resources are directed, and the impact of technology, especially information technology, on closing the distances between consumers and producers. The concept of the ecosystem also takes into account the fact that opportunities are not static and that changing environmental conditions can sometimes create and destroy value chains.

IV. Impediments to the Formation of a Rural Entrepreneurial Ecosystem

The industrial conditions that foster production at efficient scales are often missing in developing countries. Local demand markets are small due to relatively lower purchasing power, which increases distribution costs. In rural areas, these problems are exacerbated by geographic distance and isolation, which result in higher costs of transportation. Poor access to financial capital is worsened by the invisibility of rural markets and the lack of information to seekers of financial capital. The lack of access to human capital in terms of management and industry expertise reduces the ability to identify and exploit industry-specific opportunities. Also, the lack of access to social capital and networks can result in decreased social acceptance of entrepreneurship as a legitimate activity.

Moreover, national institutions that enforce property rights in developing countries are not sufficiently developed to guarantee credit and exchange contracts, which add to difficulties in accumulating capital. Basic infrastructure such as telecommunications, intraregional transport networks, and power distribution may be poorly laid out in developing countries, which limits the efficient scale of production and hence, increases the costs of entry for startups. The inability to

produce at efficient scale in turn means that capital cannot be leveraged to allow savings and reinvestment in enabling technologies that improve productivity.

In rural regions, a knowledge gap may exist to slow the emergence of new ventures although its severity depends on the types of ventures and the conditions under which they are created. For example, those ventures founded by individuals who have migrated from outside the region to exploit rural endowments are likely to be challenged by the lack of geographic and cultural knowledge of the region. Ventures that are founded by indigenous entrepreneurs may suffer from the lack of knowledge of demand markets or how to access those markets efficiently.

Larson & Shaw (2001) observed that the challenges of agricultural growth in developing countries include the lack of access to technology and infrastructure (institutional, physical, financial, skilled human resources). Similarly, according to North and Smallbone (2006), barriers to enterprise development include lack of interest in cooperative arrangements and lack of coordination, location disadvantages in accessing markets due to remoteness and high transportation costs. In sum, small size and geographic as well as social isolation leads to the lack of scale and scope economies that constraint capital accumulation and innovation. *Accordingly, a reason why rural entrepreneurship does not take off is the lack of connectedness among the elements crucial to the fostering of capital accumulation, risk taking, and innovation.*

V. A Social Exchange View of Rural Entrepreneurship

Systems-level theories of entrepreneurial development assume an institutional environment in which entrepreneurship is more or less a norm. For example, national innovation systems perspectives focus on the role of government policy in enabling technological development as the engine for economic growth. An elaboration of this perspective – institutional theory – posits the necessity of private property rights and a culture of risk taking as prerequisites for the emergence of ventures. Also, agglomeration theory argues that information spillovers can be the basis for the emergence of industrial clusters. Although such theoretical perspectives have yet to be fully verified in developing countries, their prescriptions inform policymaking for such regions. For example, policies to enhance FDI through MNCs reflect attempts to create clusters to foster spillovers to local industry, with mixed results. We believe that a mid-range theory can provide finer-grained understanding of the systems-level effects. More importantly, such a

theory can have implications for practice and policy making, since it is within the level of analysis that allows human action.

To arrive at such a theory, we first establish that the venture creation process is non-linear, dynamic, stochastic, and time consuming. For example, in the U.S., the median and mean gestation period is 32 and 75.57 months, respectively (Liao, Welsch & Tan, 2005). Lengthy pre-startup activities such as building support networks, sequencing business activities, and acquiring financial and other resources are necessary for entrepreneurs to resolve uncertainty and learn more about their opportunities (c.f., Reynolds, 1997) as well as to establish the social networks and social identity of the individual as an entrepreneur (Frazier & Niehm, 2004).

Where the social identity of entrepreneurs is not institutionalized in rural regions, the pre-startup phase may be more properly viewed as a social exchange phenomenon. According to social exchange theory, an individual contributes to the institutionalization of entrepreneurship in her social environment by engaging in the activities of opportunity search and resource assembly. In doing so, she also learns the norms expected from her role and attains legitimacy as an entrepreneur. Indeed, successful entrepreneurs are constantly engaged in social exchanges with a wide variety of networks to creating social capital through trust, mutual obligation, expectations and norm setting activities (c.f., Frazier & Niehm, 2004).

The environment in which social exchanges occur is defined by network density (the degree of interconnectedness among network ties), network centrality (the relative distance of the entrepreneur from key actors), closeness centrality (the ability to directly access actors in the network), and betweenness centrality (the extent to which the entrepreneur is an intermediary for others) (c.f., Vankekerckhove & Dentchev, 2005). Social exchange behaviors can involve active (re)positioning within a network. For example, creating strong ties provide support, validation, and market intelligence from stakeholders while fostering weak ties provide information about the macro-environment outside the industry (Frazier & Niehm, 2004). The filling of structural holes, occupying positions in the network not filled by actors (Burt, 1992), create opportunities for entrepreneurs by providing access to unique information that other actors do not possess. According to Liao and Gartner (2008), completing a business plan signals the individual's commitment to ensuring that the new venture creation succeeds.

Linking social exchange theory to the systems-level perspective can lead to more complete models of rural entrepreneurship. Specifically, repeated attempts at venture creation, successful or not, result in role models that become the bases of new institutional scripts. These scripts are legitimized by the community when enough of its members engage in similar behaviors or when the community perceives benefits from its spillovers (Mueller, 2006). Hence, according to this perspective a necessary condition for the entrepreneurial ecosystem to take hold and a key goal of policymaking is the creation of an institutional environment in which entrepreneurial risk taking is a norm. In short, in rural regions where entrepreneurship is not embedded in the identity of the community, a social identity building process is a requisite step in addressing the structural impediments for entrepreneurship. Hence, policy initiatives must take into consideration the relationships between the macro (such as property rights) and micro (such as cultural bias) impediments to the creation of a sustainable rural entrepreneurial ecology (c.f., Yarzebinski, 1992).

VI. The Role of Intermediaries

Given what we know about the barriers to rural economic development, we believe that it is not possible for entrepreneurship to emerge endogenously in a rural region. There has to be a catalyst that is provided by an intermediary that ignites the processes leading to the emergence of entrepreneurs. A catalyst is a specific, short-term shock with broad impact. For example, the introduction of a communications technology, such as the Internet or GPS enhanced tractors, can enable farmers to obtain information on global commodity prices, connect directly to brokers, and increase the productivity of their crop planting decisions. A catalyst may also take the form of an intervention such as a microloan program by a government agency or NGO that triggers the credit cycle in a village.

Social exchange theory places a high value on the role of intermediaries. In developing countries, important intermediaries can include non-governmental organizations (NGOs) and foreign companies. They act as knowledge brokers to connect entrepreneurs and sources of inputs, demand markets, and managerial expertise (Liao & Welsch, 2005). Intermediaries utilize their social ties and interactions (i.e., structural capital) to influence and shape the norms and practices of their networks (i.e., cognitive capital) to create trust among network members (i.e., relational capital). Strong ties within these social networks provide encouragement, positive

feedback, affirmation and other forms of morale (Davidsson & Honig, 2003). Strong ties serve as sources of specific information in uncertain situations and therefore play a key role in the socialization of entrepreneurship in a region. Therefore, a social exchange solution to the geographic dispersion problem in a rural region is for an intermediary to broker the information necessary for social actors to find each other in a network. For example, rather than devote resources to the building of infrastructure such as industrial parks, governments can facilitate the formation of social and business networks, while allowing demand markets to determine the economic suitability of building an industrial park. Justus (2004), for example, reports on an NGO whose purpose was to design new technologies for micro-irrigation and work with the private sector to manufacture, demonstrate, distribute and sell these new irrigation equipment in the local market to farmers to increase their farm yields through increased efficiencies. The NGO acts as social entrepreneurs whose mission is to promote technologies that are used by small-scale rural farm entrepreneurs. North and Smallbone (2006) also suggest that entrepreneurs adopt e-technologies to strengthen external contacts, access new market opportunities and learn from best-practices. Shields (2005) provide examples in which rural entrepreneurs overcome geo-demography disadvantages by relying on strong social ties and word of mouth reputation.

VII. NGOS as Key Intermediaries

While it is not inconceivable for local governments in the rural regions of developing countries to have the requisite resources to play an effective intermediary role, it is more likely that international NGOs, in partnership with such governments, represent a more realistic solution. NGOs are less likely to be embedded in an institutional environment hostile to entrepreneurship. They are more likely to have the experience and resources to span knowledge gaps, for example, by conducting studies to identify impending supply constraints, alternative supply sources that are more eco-friendly, or demand increases faced by markets in the developed world. They can go further by suggesting how the endowments of specific rural areas can be matched with global demand markets.

More generally, international NGOs can assist local governments, through research, with identifying best practices that have succeeded in similar regions. NGOs can provide better policy analysis for the design and implementation of supply-side initiatives and assist in building

demand-side capacity by setting up enterprise networks to link businesses across different countries. Clusters that are subsequently created when such businesses expand their local supply chains can ignite the emergence of local entrepreneurs. Orsini, Courcelle and Brinkerhoff (1996) report an example of a demand-side stimulation NGO initiative in which enterprise networks are used to coordinate unorganized groups in the private sector by identifying common interests, articulating and presenting their interests to government policy makers and donors, identifying means of sustaining their organizations over time, and fostering learning through the exchange of experiences at the regional level.

Rather than rely on costly subsidies and incentives to attract MNCs, developing countries can exploit the natural incentives of MNCs to source globally for talent and inputs. Here, NGOs can play a role by using their networks to connect MNCs with potential rural entrepreneurs. One method is for NGOs to assist in the setting up of incubator organizations to accelerate the development of rural businesses emerging from technologies such as GPS-enabled crop planting and drought-resistant farming. NGOs can help local enterprises access fast growing demand markets or partner with MNCs looking to expand production capacity into rural communities. NGOs can assist local governments to upgrade the business competency of local entrepreneurs so that MNCs find it more advantageous to engage local enterprises as suppliers rather than hire them as employees. We believe this approach makes a critical difference to the sustainability of a rural economy because the difference between an employment-based rural economy and an entrepreneurial-based one is that the latter is endogenous and therefore robust to the migration of MNCs.

Corbett (2008) reports on how International Development Enterprises, a nonprofit company specializing in training and technology for small-plot farmers in developing countries, set up farm cooperatives in Nepal to link farmers, who would bring their vegetables to a local person with a mobile phone, who act as a commissioned sales agent, using the phone to check market prices and arrange for the most profitable sale.

In other examples, the World Resources Institute, a Washington-based environmental research group, found that poor people living in developing countries spend their money on information-communication technology in the form of prepaid cellphone cards and airtime as a means to increase productivity and well-being. For example, with the cellphone, individuals could work as independent janitors or construction workers to enable customers to call and book their services.

Fishermen use their cellphones to call around to prospective buyers before they even bring their catch to shore to increase their profits (Corbett, 2008).

Makita (2007) provided a case study in which the NGO serves as a sponsor and master trader with individuals in the rural community by identifying poultry farming business that the locals can enter into because of its short cycle time of 35 days to rear the chicken, procuring the raw materials (chicks, feed and technical support), accessing markets by finding buyers and providing the transportation for the product, and finally setting up revolving funds for the loan, repayment and capital accumulation for these locals who become entrepreneurs. The NGO implements the master trader-subcontractor arrangement because it assumes that the poor cannot enter into business opportunities by themselves. The income to the rural entrepreneurs increased as a result of economies of scale, scope and economic impact as a cooperative.

Terjesen (2007) reports on an NGO that identified opportunities and created new ventures for villages in India. Specifically, when the director of the NGO visited a village on the installation of a drinking water pump, he noticed that villagers used pot fumigation to catch rats for food. Thus, he developed a better rat trap with the help of a mechanical engineer in the city, pilot tested the new trap and obtained funding for the commercialization and factory production when the new trap was found to be more efficient. Unemployed young women were chosen to work in the family to produce traps, who were also given ownership to the factory from the launch of a microcredit revolving fund. Traps were produced for villagers who used these traps to start new businesses for catching rats. New factories were established in multiple villagers with similar arrangements, thus enhancing entrepreneurship in multiple groups and businesses (factory owners and rat trappers).

VIII. Discussions and Observations

It is now common practice to establish microenterprise programs in rural regions. Maximizing the contribution of microenterprise to sustainable economic development requires policies that achieve macroeconomic stability, high quality physical, legal and communications infrastructures, technical assistance in education and training, access to new or existing markets, financing alternatives and access to capital, and other measures to lower barriers to business creation (Popovich & Buss, 1990). Other scholars (e.g., Storey, 2007 and Storey &

Tether, 1998) are not convinced that such policies work. In part, they assume that missing elements to the ecosystem for entrepreneurship (such as technology, capital and human capital) can be remediated by reintroducing them. It turns out that the solution is not so simple.

The first challenge for such programs begins with clarifying the goals of microenterprise – to create jobs, empower participants to be economically self-sufficient, or foster the emergence of sustainable rural industries. Goals drive policy designs. For example, the fostering of rural industries requires specific steps to identify key industries for support whereas the goal to create jobs merely requires a startup to hire another employee. Another challenge is to conduct impact analyses to ascertain the return on investment to training and whether microenterprise programs are helping clients reach self-sufficiency or if they merely become overworked, petty entrepreneurs. Based on our review of the literature, both of these are not usually done, which typically results in piecemeal solutions.

Piecemeal solutions to solving the impediments of rural entrepreneurship, such as adopting private property rights regimes are insufficient, since the entrepreneurial ecosystem comprises an interactive collection of institutional, economics, and individual factors. For example, in this paper, we have suggested that a necessary condition for the emergence of an entrepreneurial economy is the establishment of the institutional norms for entrepreneurship. This has to be done in parallel to the removal of structural impediments to startups.

We believe that policies to increase FDI by MNCs may not be sufficient to catalyze entrepreneurship in a region, and in some instances may even displace capital needed to fund local startups. This is because MNCs, by definition, cannot be more sensitive to the institutional environment and demand markets than local entrepreneurs. On the one hand, an economy consisting of local suppliers to MNCs is a common approach to capital accumulation in developing countries. The resulting transfer of knowledge can become the basis for the creation of local firms and the eventual industry cluster, such as the case of the IT sector in India. On the other hand, the conditions for knowledge transfer are strict, such as the requirement for absorptive capacity in the local population to exploit the knowledge that is transfer, and if this never occurs, then domestic capital accumulation is unlikely to take-off, such as the stillborn automotive sectors in Malaysia and Indonesia. Hence, FDI must lead to the creation of an entrepreneurial class. MNCs must derive greater value from partnering with rural entrepreneurs than engaging them as employees for in-house production. The calculus to understand this

decision is a simple transactions costs economics analysis of the 'make or buy' decision. The basic requirements that make it more efficient for MNCs to 'buy' are for rural entrepreneurs to possess the requisite competencies as suppliers and for trust between MNCs and stakeholders in the rural community, which point to development role of intermediaries.

We believe that for rural entrepreneurship to be sustainable, high rates of potential market growth are necessary. This is because the decision to accumulate capital is a decision to defer consumption in the hope of the promise for higher future gains. The scale of such gains is affected by the time it takes to generate positive value (the shorter the time, the greater the total return), and the nature of the opportunities themselves, which limits the types of businesses that can form the basis for such an economy. Having said this, we also recognize that the entrepreneurial ecosystem is recursive, so that when entrepreneurial activity takes off in a region rates of consumption accelerate, leading to high rates of market growth.

Rural entrepreneurs in developing economies may already be living at a subsistence level when making the decision to start the venture. For a sustainable enterprise, production must take place at an efficient scale, which implies capital accumulation and hence, savings beyond subsistence level consumption. New ventures must be rapidly scalable, which implies a high level of capital and technology intensity relative to the share of labor and have access to fast growth demand markets. More importantly, because high value employment opportunities tend to be limited in rural areas, new ventures must be capable of providing employment to family and extended family members. Henderson (2002), for example, suggests that ventures with the potential for high impact include services in life-style recreational destinations because the willingness to pay, and hence margins, tend to be higher. Such businesses are unique to rural regions since it is the very nature of the destination that attracts the demand market. However, rural regions suffer from their own unique problems that limit growth include the lack of economies of scale from small size and remote access, difficulties in accessing venture capital and technology and lack of technical and managerial know-how to create high-growth businesses. Yet, according to MacKenzie (1992), the utilization of technology can also provide new models of wealth creation, shorten the distance of markets and capital resources, and hence create significant entrepreneurial opportunities to rural communities. This implies that high potential ventures normally requiring the advantages of the city is now capable of success in rural regions. The role of the NGO intermediary is therefore to bridge the knowledge gap between the technological possibility frontier and the rural entrepreneur.

Finally, an important issue that attends all discussion of rural entrepreneurship is the role of women in fostering entrepreneurship. In examples of successful microenterprise programs, women often form the backbone of the entrepreneurial class. This is because employment, which is undertaken by men, still provides the stability and bulk of income in such families. NGOs that are focus on rural economic development often report on the enthusiasm by women to participate in entrepreneurial ventures. Bertauz and Crable (2007), for example, provide a case study to show how an NGO, whose purpose was to organize meetings to educate villagers on the use of methane gas from its establishment of biogas plants became a meeting point for women in each village to form a co-operative for jewelry-making, textile weaving and other handicraft businesses. Given the lower status of women in many rural economies, self-employment is often the only route to empowerment open to them. Paradoxically, given the corresponding paternalistic culture in these regions, the participation of men in the entrepreneurial process may be required for the institutionalization of entrepreneurship as a legitimate social activity to occur.

IX. Conclusions

We have argued that entrepreneurial ventures that draw upon rural endowments to serve global demand markets are more likely to foster sustainable production at efficient scale. Along with this are four general policy implications. The first is that solving the problem of collective action by closing the knowledge gap creates opportunities for network actors to organize around common interests and hence lead to the emergence of entrepreneurial activity. For this to happen, according to Orsini, Courcelle and Brinkerhoff (1996), there needs to be a flexible implementation framework that permits a trial-and-error approach to defining the network's purpose and objectives. This is why we believe that NGOs are better positioned than governments to play the intermediary role since the former is less politicized and therefore incurs a lower cost to being flexible.

A second implication is that an entrepreneurial advocacy agenda be driven from the grassroots by communities that stand to gain most from entrepreneurial activity in their midst. If entrepreneurship is imposed by an external agency, the legitimacy of the movement is likely to

be compromised. Hence, individual champions consisting of grassroots leaders must be identified and supported.

A third implication is that early successes stimulate further attempts at venturing. Therefore, it must be possible to exchange information on network initiatives and role models, implying a certain degree of information efficiency. This implies a central role for technology, which is another reason we think that rural entrepreneurial ecologies are unlikely to arise endogenously without a catalyst of some sort.

A fourth implication is that a facilitative rather than prescriptive approach to technical assistance for capacity-building is preferred. Technical assistance is designed to help network members organize and prioritize their startup activities, provide advocacy and management tools, and provide coaching to nascent entrepreneurs. Such an approach lines up with the community-driven agenda we advocated.

A final implication of our model is that one must be sensitive to the risks that community-driven actions driven by external agencies pose. NGOs are mission driven. If an NGO's primary mission is to bring social order, their participation as intermediaries may reinforce institutional norms, such as the higher status of men in a society, that attenuate the acceptance of entrepreneurial behaviors primarily associated with women. If, however, an NGO's primary mission is to bring social justice, such as the elevation of women's rights, their participation may be viewed suspiciously, which may attenuate their effectiveness as an arms-length intermediary. Therefore, the mission of the NGO must at least not be inconsistent with its role as an intermediary for social exchange.

X. References

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Appendix: A Sample of Literature Review

Author (Year) - location of study	Theoretical Framework / Independent & Dependent Variables	Findings / Key Implications
<p>Alsos, Ljunggren & Pettersen (2003) - Norway</p>	<p>Exploratory study of 16 case studies on triggers for new business activities by existing farmers: IV=goals</p> <ol style="list-style-type: none"> 1. rural sociology perspective: to sustain or expand farm to support more family members e.g. pluriactive farmer 2. opportunity perspective: to utilize existing resources (human capital, material resources) 3. resource-based perspective: to exploit new biz ideas <p>DV=size of farm</p>	<p>Policy makers need to be aware of heterogeneity among farm-based entrepreneurs based on their motivation & source of business ideas (farm, networks, or active search for new opportunities).</p>
<p>Bertaux & Crable (2007) - India</p>	<p>Case study of how an NGO, whose educational meetings to inform villagers on the use of methane gas for heating, lighting & cooking from its biogas plants, became an opportunity for women to meet collectively to form a co-op for jewelry-making, textile weaving and other handicraft businesses as well as obtained training in other skills e.g. nursing, construction and other trade skills provided by the government.</p>	<p>Elements crucial for success:</p> <ol style="list-style-type: none"> 1. empowerment of women to get organized and learn about business. 2. NGO built trust in the community by having a long-term presence 3. village level participation 4. involvement of national government
<p>Bhaskaran (2004) - Australia</p>	<p>Case study on stakeholder approach to introduce new crop (wasabi farming): Ant: Jap firm approach its current supplier of green tea on sources of cultivated wasabi. Conversation on farming conditions & market opportunities for the crop led farmer to seize opportunity to prepare a</p>	<p>Entrepreneurs pursued strategic experimentation (trial & error learning) and business networks (partners[personal relationships with trust & commitment] & government agencies) that is aided by a supportive 'national culture[government</p>

	<p>trial crop with Jap firm providing the financial, technical and export support.</p> <p>IV: Farmer investigated potential growing sites with appropriate climate, terrain & geographical conditions for growing wasabi & leased a small plot to grow the crop. Farmer obtained financial support & seed funding to undertake R&D from local government.</p> <p>DV: extended product line from green tea to wasabi farming for export, then penetrated local market through import substitution, and finally marketed seeds overseas.</p>	<p>provided moral support, reduce expenses in strategic experimentation]</p>
<p>Chrisman, Gatewood & Donlevy (2002)</p> <p>- US</p>	<p>Empirical study tested if the economic impact from counseling activities to entrepreneurs in rural & urban areas had different results.</p> <p>DV=growth in sales, growth in employment</p>	<p>No significant differences were found, implies that a high-quality program that is offered by the Small Business Development Center can meet the needs of the majority of entrepreneurs & aspiring entrepreneurs regardless of geographic location.</p>
<p>Davidsson & Henrekson (2002)</p> <p>- Sweden</p>	<p>Empirical study identifies institutional deterrents to entrepreneurial activities and job creation.</p>	<p>Deterrents include heavy taxation of entrepreneurial income, job security mandates, regulations restricting access to health and other service sectors, and high tax rate decreases savings required for equity financing.</p>
<p>Davidsson & Honig (2003)</p> <p>- Sweden</p>	<p>Panel data compares the human and social capital of individuals engaged in nascent activities with a control group from the general population.</p> <p>IV = human capital (tacit and explicit knowledge) and social capital (strong and weak ties)</p>	<p>Both strong and weak ties predicted nascent entrepreneurship and progress after the start-up process. Human capital predicted entry into nascent entrepreneurship but was weakly related to carrying the start-up process toward completion. Making the</p>

	DV = entry into nascent entrepreneurial activities, moving the entrepreneurial process forward, and obtaining sales and achieving profits	first sale and showing a profit were predicted only by being a member of a business network.
Drabenstott, Novack & Abraham (2003) - US	Summary of conference discussions pertaining to “Main Streets of Tomorrow: Growing & Financing Rural Entrepreneurs”.	Undertake challenge to make entrepreneurship the centerpiece of rural policy.
Frazier & Niehm (2004) - US	Examined the networking & information seeking activities of 24 small retailers in rural communities using social network theory. Interview questions pertaining to network membership and characteristics as well as the nature of resources, social capital and competencies that were obtained were asked.	Entrepreneurs engage in simultaneous interactions in a wide variety of networks. Strong ties were used to access information that is not codified, complex or rapidly changing and weak ties were used to tap information about the broader market and macro-environment.
Fuller-Love, Midmore, Thomas & Henley (2006) - UK	From a case study, scenario analysis was used to develop alternative policies and actions to support rural entrepreneurship.	Scenario analysis enabled active participation by key stakeholders to identify strategic perspectives and develop integrated responses.
Henderson (2002) - US	Conceptual framework to build high-growth rural entrepreneurship: <ol style="list-style-type: none"> 1. Types of industry: services (recreation & retirement destination), retail trade & construction 2. Problems limiting growth: <ol style="list-style-type: none"> a. lack economies of scale from small size & remote access b. difficulties in accessing VCs & technology c. lack technical & managerial know-how to create high-growth biz 	Role of community: partner with other rural communities to build economies of scale, access technology & other resources Role of policymakers: develop skills, strengthen community resources & create support networks to access resources

<p>Johnson, Parker & Wijbenga (2006) - UK</p>	<p>Summary of articles on nascent entrepreneurship in the special issue of Small Business Economics from a conference hosted by the Centre for Entrepreneurship, Durham University.</p>	<p>Research on nascent entrepreneurship should combine characteristics from the individual, environment and process of start-up.</p>
<p>Justus (2004) - Kenya</p>	<p>Case study of an NGO whose purpose was to design new technologies for micro-irrigation and work with the private sector to manufacture, demonstrate, distribute & sell these new irrigation equipment in the local market to farmers to increase their farm yields through increased efficiencies.</p>	<p>NGOs act as social entrepreneurs whose mission is to promote sustainable economic growth and job creation by promoting technologies that are used by small-scale rural farm entrepreneurs.</p>
<p>Larson & Shaw (2001) - developing countries</p>	<p>2 areas of agricultural growth: 1. technology-led Green Revolution is the exogenous force driving transformation due to highly productive new seed varieties & planting methods 2. demand-led exogenous growth e.g. organic coffee Non-farm microenterprises should link to farmers in the areas of: 1. manufacturing (food processing, packaging, textile, chemicals, metals) 2. commerce (farm equipment & materials, consumer goods) 3. services (construction, transport, storage & repair)</p>	<p>Challenges: 1. to achieve fast growing agriculture requires resource endowments, economic policy, technology, infrastructure & institutions 2. to design policies & foreign assistance programs to maximize the contribution of microenterprises by investing in infrastructure (credit, promote clusters, technical assistance & training)</p>
<p>Li & Matlay (2006) - China</p>	<p>Conceptual arguments on the rise of Chinese entrepreneurship in 3 stages: 1. local entrepreneurial state in township & village enterprises in the rural areas for resource mobilization and risk-sharing 2. networked entrepreneurship to take advantage of unconnected institutional holes that arose because different organizations</p>	<p>1. there is a bias towards an institutional perspective on Chinese local entrepreneurship 2. decentralization is the main source for local empowerment in the local entrepreneurial state theory and the local state corporatism</p>

	<p>held different resources because of government regulations</p> <ol style="list-style-type: none"> 3. adaptive entrepreneurship to leverage upon technologically mature and labor-intensive economic activities by producing generic goods and other arbitrage activities. 	<p>approach, and local empowerment becomes the motivating factor that promotes local entrepreneurship involving multiple stakeholders.</p>
<p>Liao & Gartner (2008) - US</p>	<p>Panel study examines if business planning and participation in government-sponsored programs enhance the creation of new businesses.</p>	<p>Nascent entrepreneurs who completed a business plan and those who participated in government-sponsored assistance programs were 6 and 5 times more likely to start a business respectively, suggesting that undertaking these activities signaled their commitment to insuring success at new venture creation.</p>
<p>Liao & Welsh (2005) - US</p>	<p>Study utilizes social capital theory and panel data to examine if there were differences in the social capital between:</p> <ol style="list-style-type: none"> 1. nascent entrepreneurs and the general public 2. technology and non-technology nascent entrepreneurs 3. different groups in their utilization of the 3 dimensions of social capital (structural, relational and cognitive) 	<p>Nascent entrepreneurs and the general public were not significantly different in terms of the amount of social capital that they have but the former utilize their cognitive capital significantly less than the latter group. Technology-based nascent entrepreneurs have higher levels of relational capital than their non-technology counterparts.</p>
<p>Liao, Welsh & Tan (2005) - US</p>	<p>Using survey data from 668 nascent entrepreneurs and applying data mining techniques to model the timing of 26 start-up activities.</p>	<p>Firm gestation is a complex, nonlinear, time-based pacing process in which the stages are not easily identifiable as entrepreneurs engage in trial-and-error learning by exploring various paths and activities.</p>

<p>Lyons (2002) - US</p>	<p>2 case studies involving incubators and 1 involving a community-based economic development program utilized social capital to describe its application to overcome obstacles in rural enterprise development.</p>	<p>Networking and resource and risk pooling accomplished through incubators and community-based programs built social capital and linkages that overcame physical isolation and limited access to markets.</p>
<p>MacKenzie (1992) - U.S.</p>	<p>Summary on the means to facilitate rural entrepreneurship for economic development.</p>	<p>Although entrepreneurship is one means of economic development, it offers a significant opportunity in rural communities with the utilization of technology to provide new models of wealth creation.</p>
<p>Makita (2007) - Bangladesh</p>	<p>Case study on partnership enterprise using sub-contracting arrangement between sponsor (NGO as master trader) & rural entrepreneur to reduce poverty through self-employment on poultry farming: IV: sponsor identifies business (short cycle of 35 days to rear chicken); procures raw materials (chicks, feed & technical support), accesses markets (transportation & find buyers) & sets up revolving fund for loan, repayment & capital accumulation. DV: small-scale poultry rearers form a large partnership enterprise</p>	<p>Master trader-subcontractor arrangements are implemented on the premise that the poor cannot enter into business opportunities by themselves and are dependent on the Sponsor as a business manager. Income to rural entrepreneurs increased from economies of scale & scope & economic impact as a cooperative.</p>
<p>Mohapatra, Rozelle & Goodhue (2007) - China</p>	<p>Using econometrics model with 20 years of labor market histories, the study test if self-employment is a result of economic development or distress and whether the rise of self-employment promotes entrepreneurship.</p>	<p>The results show that self-employment in rural China is a sign of development and shares many features of a productive small-business sector in developed countries in trade and transportation among younger, more educated workers who are trained in</p>

		specific skills.
Mueller (2006) - Germany	Panel data examines the relationships among entrepreneurial environment, human, social and financial capital and nascent entrepreneurship.	An entrepreneurial environment reduces ambiguity and increases legitimacy for self-employment so that regions with entrepreneurial activities perpetuate over time. Once an entrepreneurial desire is established, the importance of role models decreases. Work experience and having a parent who is self-employed are more important than education or financial assets in predicting nascent entrepreneurs.
North & Smallbone (2006) - EU	<p>Conceptual framework on policies to stimulate entrepreneurship & new enterprise creation:</p> <ol style="list-style-type: none"> 1. build entrepreneurial capacity by influencing attitudes towards entrepreneurship & training/educating people with business skills 2. target potential sources of entrepreneurs e.g. attract in-migrants who have entrepreneurial skills (lifestyle entrepreneurs, early retirees, returning ex-villagers) & 'under-represented' young people & women toward entrepreneurship 3. support the biz start-up process e.g. pre-start-up advice, idea appraisal & start-up assistance <p>Conceptual framework on policies to strengthen existing rural entrepreneurs:</p> <ol style="list-style-type: none"> 1. support business with advice (e.g. business planning, marketing, 	<p>Barriers to enterprise development:</p> <ol style="list-style-type: none"> 1. lack of interest in cooperative arrangements because of strong feeling of self-sufficiency. 2. lack of coherence between policies suggests a need for more strategic & coordinated approach 3. location disadvantages in accessing markets (remoteness & transportation costs), small size (lack economies) and business services constrain innovations, which suggest that new e-technologies should be adopted to strengthen external contacts and access new market opportunities & best practices but need to reduce user-resistance

	<p>exporting, IT)</p> <ol style="list-style-type: none"> 2. provide specialist support e.g. help farmers diversify into new farm or off-farm activities 3. provide infrastructure e.g. incubators, transport, IT/communication 	
Orsini, Courcelle & Brinkerhoff (1996) - Ghana	Case study of an enterprise network that created demand capacity from the technical assistance of an NGO who promoted policy dialogue with the government and business ventures using advocacy tools and strategic planning techniques.	Enterprise networks provide a means for groups to organize and articulate their interests coherently to governments and donors.
Popovich & Buss (1990) - US	Summary of ideas pertaining to stimulating rural entrepreneurship.	Suggestions for rural revitalization from state and local governments.
Read & Sarasvathy (2005) - Switzerland	<p>Conceptual framework (effectuation theory – a heuristic principle): Effectuation based on Entrepreneurial Expertise IV: expertise (individual differences, knowledge structures, experience & deliberate practice[involved motivation, understandability, feedback, repetition, fit]) Mediator process for resources: networks, stakeholder commitment DV: new firms & markets</p>	Entrepreneurship is an endogenous process of effectual action. Develop entrepreneurial expertise by nurturing effectual reasoning (e.g. contingency view, do what you can, learn by trial & error) & use effectual action (e.g. obtain stakeholder commitment, create market partnerships, business planning & marketing research) as a tool.
Sequeira, Mueller & McGee - US	Survey data from a sample of 389 individuals examined the extent to which social network ties and self-efficacy affected entrepreneurial intentions and nascent behavior.	Results showed that strong supportive ties and entrepreneurial self-efficacy increased the likelihood of entrepreneurial intentions and nascent behavior. However, strong ties with individuals who can provide business advice, knowledge and experience

		suppressed entrepreneurial intentions and nascent behavior but weak ties with such individuals enhanced nascent behavior.
Sharma, Miller & Reeder (1990) - US	Conceptual framework for the growth of microenterprises in third and fourth world countries.	Paper suggests 4 models with 3 decisions to be made in each stage of enterprise development that are designed to leverage upon the capabilities of institutions of higher education and NGOs.
Shields (2005) - US	Survey of 76 rural small business owners to examine the extent to which dimensions of the rural location (geo-demography and socio-cultural) were perceived to adversely affect their business.	While resource constraints (financing, technology, and transportation) and labor issues (availability of skilled workers and childcare) were not significant sources of adversity, rural geo-demography were perceived to adversely affect the marketability of their products and services. They managed their businesses consistent with rural socio-cultural values by relying on strong social ties and word of mouth reputation.
Terjesen (2007) - India	Case study on opportunity identification and new venture creation by director of an NGO: Ant: during a visit to village on the installation of a drinking water pump, the Director noticed at villagers used pot fumigation to catch rats for food Intervention: he developed a better rat trap with the help of a mechanical engineer in the city. In a pilot test with 15 rat catchers, the new trap was found to be more efficient. He obtained funding for its	Opportunities were identified by NGOs and they set up new ventures that provided the components for a self-sustaining value chain in the village (production, market, credit). The producer surplus enabled them to send their children to school and to buy traps to catch other small animals which live in burrows, which increases their income.

	<p>commercialization and a factory was set up.</p> <p>Outcome: 50 young, unemployed women were chosen to work in the factory to produce the traps, who were also given ownership to the factory from the launch of a microcredit revolving fund. 400 traps were produced a month and 1500 villagers were chosen to use new steel traps to start new businesses in catching rats. New factories were established in multiple villages with similar arrangements.</p>	
<p>Van Stel, Carree & Thurik (2005) - 37 countries</p>	<p>Regression analysis tests the relationships among total entrepreneurial activity (TEA), GDP growth, per capita income and the growth competitiveness index.</p>	<p>The TEA rate has a negative effect for the relatively poor countries but has a positive effect for the relatively rich countries. Poorer countries fail to benefit from entrepreneurial activities suggesting either lower levels of human capital or a need for larger firms to transform a developing economy to a developed economy.</p>
<p>Vandekerckhove & Dentchev (2005) - Belgium</p>	<p>Conceptual framework utilizing network and stakeholder perspectives. Proposed a heuristic approach to locating entrepreneurial opportunities by:</p> <ol style="list-style-type: none"> 1. mapping interactions between the entrepreneur and her stakeholders 2. identifying specific issues and the stakeholders that constitute them 	<p>To enhance opportunities by increasing network density and centrality, entrepreneurs utilize stakeholder relationships to overcome cognitive limitations.</p>
<p>Vesala, Peura & McElwee (2007) - Finland</p>	<p>Survey on 3 groups of rural small-business owners comprising non-farm entrepreneurs, portfolio farmers (farmers who manage an enterprise besides farming) and conventional farmers were contrasted on 9</p>	<p>The results indicated that portfolio farmers had a stronger entrepreneurial identity than conventional farmers as they perceived themselves to be growth-</p>

	dimensions of identity.	oriented, risk-takers, innovative, optimistic and have more personal control. The results suggest that policy makers should not perceive farmers as homogenous but to provide vocational education and training to help farmers develop entrepreneurial skills.
Wennekers, van Stel, Thurik & Reynolds (2005) - 37 countries	Regression analyses test the relationship between a country's rate of entrepreneurial dynamics and its level of economic development (per capita income and index for innovative capacity).	A U-shaped relationship between economic development and nascent entrepreneurship resulted, suggesting that advanced nations should improve incentive structures for business start-ups and commercial exploitation of scientific findings while developing nations may be better off pursuing exploitation of scale economies, fostering FDI and management education.
Wortman (1990) - US	Conceptual framework for developing rural entrepreneurship: Antecedents: pre-organization networks (community, economic, social & religious) supported by rural financial institutions IV: startups supported by rural community research parks, rural enterprise zones, agribusiness intrapreneurship, government & NGOs, small business development centers, small industrial service centers, rural incubators, rural financial institutions, rural extension operations, rural educational programs DV: mature organizations supported by rural community research parks, rural enterprise zones, government & NGOs, small business	Adopt a unified public-private approach to create a rural economic development zone in the center of 4-10 county cluster to create agribusiness sites & provide support in terms of having an economic development zone coordinator, rural incubator, support services (finance, accounting, legal, business/technical, education).

	development centers, small industrial service centers, rural financial institutions, rural extension operations, rural educational programs	
Yarzebinski (1992) - US	Summary describing the traits of successful entrepreneurs and supporting structures needed from the community.	Policymakers need to be better informed about the needs of the entrepreneur for the economic development programs to succeed.