IS SMALL FARM LED DEVELOPMENT STILL A RELEVANT STRATEGY FOR AFRICA AND ASIA?

Peter Hazell
Why small farms?

Small farm led development has been the dominant paradigm since its remarkable success in driving Asia’s Green Revolution. The paradigm is based on several claimed advantages of small farms:

- Small farms are more efficient than large farms as evidenced by an impressive body of empirical studies showing an inverse relationship between farm size and land productivity across Asia and Africa.
- In poor, labour-abundant economies, not only are small farms more efficient, but because they also account for large shares of the rural poor, small farm development can be a “win-win” proposition for growth and poverty reduction.
- Small farms also contribute to greater food security, both through feeding their own families but also by supplying local markets with foods that may be less costly and less risky than alternative supplies, particularly in regions facing high transport costs.
- Small farm households with cash incomes also have more favourable expenditure patterns than large farms for promoting growth of the local nonfarm economy, including rural towns.
A polarized debate

- Despite its proven success, the small farm development paradigm is widely challenged today and there is considerable debate about its continuing relevance for Asia and Africa.

- Critics argue that because of a) rural population growth on a fixed land base, b) the onslaught of globalization and market liberalization policies, and c) the emergence of new types of farm technologies, the economic context for small scale farming has changed and small may no longer be as beautiful as before.

- This paper considers these arguments and their implications for agricultural development and small farm assistance strategies.
Small farms are proving surprisingly resilient

- Despite all the challenges they face, small farms continue to increase in number across much of Asia and Sub-Saharan Africa.
- There are nearly 450 million farmers today who farm less than 2 hectares of land, and many more family farms larger than 2 ha who struggle to make an adequate living from farming.
A “reverse” transformation

- Although there is a lot of country and regional variation, the overwhelming story is one of more small farms, shrinking farm sizes and increased income diversification.
- Despite growth, sometimes quite rapid growth, in national per capita incomes, there is little sign yet of a shift to the patterns of farm consolidation that occurred during the economic transformation of most of today’s industrialized countries.
- Rather, relatively few workers are leaving their farms for the cities and instead are diversifying into nonfarm activity from a small farm base.
Emerging distribution of farm households by farm size group and degree of off-farm income diversification
# Farm size distribution, India

<table>
<thead>
<tr>
<th>Census year</th>
<th>Average farm size (Ha)</th>
<th>Number small farms less 2 Ha (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>2.3</td>
<td>49.11</td>
</tr>
<tr>
<td>1991</td>
<td>1.6</td>
<td>84.48</td>
</tr>
<tr>
<td>1995/96</td>
<td>1.4</td>
<td>92.82</td>
</tr>
<tr>
<td>2001</td>
<td>1.3</td>
<td>98.10</td>
</tr>
<tr>
<td>2005/06</td>
<td>1.2</td>
<td>107.64</td>
</tr>
</tbody>
</table>

(WDR2008)
### Trends in farm size and income diversification in China

(Huang, Wang and Qiu, 2012)

<table>
<thead>
<tr>
<th>Year</th>
<th>Cultivated land Ha/household</th>
<th>% net income from farming</th>
<th>% net income from wage earnings</th>
<th>% net income from other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>0.70</td>
<td>66.3</td>
<td>18.2</td>
<td>15.5</td>
</tr>
<tr>
<td>1990</td>
<td>0.67</td>
<td>50.2</td>
<td>20.2</td>
<td>29.6</td>
</tr>
<tr>
<td>1995</td>
<td>0.65</td>
<td>50.7</td>
<td>22.4</td>
<td>26.9</td>
</tr>
<tr>
<td>2000</td>
<td>0.55</td>
<td>37.0</td>
<td>31.2</td>
<td>31.8</td>
</tr>
<tr>
<td>2005</td>
<td>0.57</td>
<td>33.7</td>
<td>36.1</td>
<td>30.2</td>
</tr>
<tr>
<td>2010</td>
<td>0.60</td>
<td>29.1</td>
<td>41.1</td>
<td>29.8</td>
</tr>
</tbody>
</table>
Even in land abundant countries where the average farm size is increasing, still many small farms persist in lagging regions.

In some countries (e.g. Bangladesh, India and the Philippines), even the total agricultural land area is becoming more concentrated among small farms, and it is the large farms that are being squeezed out.
There are many factors driving this reverse farm size transition

- Rapid rural population growth, especially in already populous countries.
- Insufficient growth in urban jobs to enable faster rural-urban migration. Even relatively fast growing countries like India have not generated sufficient growth in nonfarm jobs. Bangladesh and China may be two exceptions.
- Other constraints on rural-urban migration, such as language, racial and cultural barriers; legal restrictions on resettlement (e.g. China).
- Inheritance systems that lead to sub-division of farms amongst multiple heirs.
- Restrictions on land market transactions, such as caps on farm size (India), or indigenous land rights systems that limit opportunities for land consolidation (Africa).
- An aging and immobile population of farmers. Farmer exits tend to be an inter-generational phenomena; land is consolidated when farmers retire or die.
- Constraints on women’s employment opportunities that keep them on the farm
- Inadequate social security systems so that farms are kept as a retirement hedge
- Agricultural support policies that make small scale farming more attractive than its real economic worth.
- Dense rural settlement patterns that provide enough income earning opportunities in the local nonfarm economy so that farm based workers do not need to migrate to urban areas.
- Growing high value opportunities in farming that create significant new employment opportunities in agriculture
Outlook

➢ Many of these drivers are very powerful and seem unlikely to diminish in the near future.

➢ The earlier experiences of Japan, Taiwan and South Korea suggest that the reverse farm size transition could continue well into middle income status (Otsuka 2012).
Challenges to the conventional small farm development paradigm

- Are small farms still the more efficient producers?
- Can small farms compete in today’s more globalised value chains?
- Is a new breed of large commercial farm emerging that is about to displace lots of small farms?
- Can small farms generate the marketed surpluses needed to feed growing urban populations?
- Are small farms still win-win for poverty alleviation and growth
Are small farms still the more efficient producers?

Most farm level studies still show an inverse relationship between farm size and land productivity. Nor, except for a few specialist crops, are there any obvious sources of economies of scale, particularly if machinery rental markets are allowed to work. But there are reasons to be concerned:

- Many of the poorest small farms are to be found in marginal areas where land is being degraded
- Poverty and malnutrition reduce labor productivity
- Farmers are becoming older
- We do not know much about the relative cost structures of large commercial farms
Can small farms compete in today’s more globalised value chains?

- Small farms are facing growing challenges in accessing modern inputs, credit and markets, whereas large farms seem able to capture economies of scale and scope in linking to value chains.

- Some small farms are successfully linking to value chains through cooperative action or various types of contract farming relationships, whereas many others are being marginalized by these problems.

- The challenge is greatest for high value markets, but in Africa it is also prevalent for food staples.
Is a new breed of large commercial farm emerging that might displace small farms?

- Competition is growing from corporate sized farms that can exploit entirely new types of farming technologies, such as GPS-controlled precision farming, minimum tillage, GM seed and agrochemical packages, and back this with investments and political connections that give them privileged access to markets, modern inputs, insurance and credit, resulting in yields and cost structures that small farms simply may not be able to beat (Byerlee)

- A good example is the development model of Brazil’s Cerrado region, which is being successfully transplanted by private investors to parts of Angola and Mozambique.
Can smallholders generate the marketed surpluses needed to feed growing urban populations?

- Small farms provide for the food security of huge numbers of rural poor. But many small farms are net buyers of food and contribute little to marketed surpluses.

- Urban population shares are projected to grow strongly across the developing world (from 40 to 60% in Asia and Africa by 2050), and the marketed surpluses to feed these populations will need to come from commercially oriented small farms and large farms.

- It follows that a national food security agenda will need to walk on two legs. One leg is to provide support to the many smallholders who farm largely to meet their own subsistence needs. The other leg is to invest in large farms and commercially oriented smallholdings that can produce marketed surpluses for the cities.
Are smallholders still win-win for poverty alleviation and growth?

- As small farms get smaller, they may not have the kinds of cash income and non-food expenditure patterns that help drive economic growth.
- Small farms today are less than half the size of the small farms of the green revolution era, and many are subsistence rather than market oriented. The possibility arises that it is now the medium to large sized farms that are able to generate significant growth multipliers.
Implications for small farm assistance policies

- There is greater diversity of small farms today in terms of their size and livelihood strategies.
- There is less complementarity between poverty, growth and food security goals.
- This implies greater need to target assistance by type of smallholder and by goal.
Typologies of small farms

- A variety of farm typologies have been offered in the literature to help manage small farm diversity (Vorley 2002; World Bank 2007; Berdegué and Escobar 2002; Fan et al. (2013))

- Key elements in these typologies are the characteristics of the region in which farmers live (especially its agricultural potential and access to markets), and the characteristics of the farm household themselves (assets, business orientation and acumen, and degree of diversification into off-farm sources of income)
Three types of small farms

1. Business oriented small farmers who either are already successfully linked to commercial value chains, or who could if given a little help. Business oriented small farms may be full or part time farmers.

2. Smallholders in transition who have favourable off-farm opportunities and would do better if they were to either exit farming completely or obtain most of their income from off-farm sources. Most transition farmers are likely to leave farming, and it is just a question of when and how. Those that remain will farm part time and may not be very market driven.

3. Subsistence oriented small farmers are marginalized for a variety of reasons that are hard to change, such as ethnic discrimination, affliction with HIV/AIDS, or being located in areas with limited agricultural potential. Many of the same factors also prevent them from becoming transition farmers.
Figure 2: Relative importance of the three small farm groups
## Types of assistance relevant for different small farm groups

<table>
<thead>
<tr>
<th>Type small farm</th>
<th>Types of assistance</th>
</tr>
</thead>
</table>
| **Commercial**  | **Farming as a business**  
Better technologies and NRM practices  
Organizing small farmers for marketing purposes  
Incentivizing large agribusiness to link with small farms  
Accessing seeds, fertilizer, finance and insurance  
Securing land rights and development of efficient land markets  
Encouraging entrepreneurship  
Empowering women and other vulnerable groups  
Building resilient farming systems  
Safety nets |
| **Transition**  | **Stepping out of farming**  
Training and support for nonfarm activity, including development of small businesses  
Encouraging entrepreneurship  
Empowering women and other vulnerable groups  
Securing land rights and development of efficient land markets  
Better technologies and NRM practices  
Safety nets |
| **Subsistence** | **Social protection**  
Safety nets and transfers  
Better technologies and NRM practices  
Subsidized inputs for own food crops  
Securing land rights  
Building resilient farming systems  
Empowering women and other vulnerable groups  
Support for nonfarm diversification |
Targeting assistance

- Although the choice of assistance policies will need to be different for the three groups of small farms, not all interventions need to be as carefully targeted as others.

- If an intervention generates ‘non-excludable’ benefits, i.e. other groups can also benefit at little or no additional cost beyond the cost of reaching the primary target group (e.g. some types of agricultural R&D) then the benefits captured by other groups can be viewed favourably as “spillover” benefits and careful targeting would not be required.

- But if the benefits captured by other groups represent are ‘excludable’ and represent a diversion of benefits from the primary target group, then this must be viewed as a “leakage” that needs to be minimized through careful targeting. Cash transfers, food subsidies and fertilizer vouchers intended for the poor typically fall into this category.
Where targeting is required, how can we identify different groups of farms on the ground?

There has been a lot of recent work using GIS and spatial analysis to identify target areas for rural development purposes. Most of this work focuses on mapping different regions in terms of their agro-ecology, market access, and rural population density.

But so far there has been limited work on disaggregating areas further according to differences in farmer endowments and market orientation.
Development Domains in Uganda

Source: Gerd Ruecker and IFPRI
Conclusions

- Unlike the green revolution era when small farm led development was a clear win-win-win proposition for growth, food security and poverty alleviation, a new situation has arisen in which policy makers need to differentiate more sharply between the needs of different types of smallholders, and between growth, poverty and food security goals.

- This requires the design and targeting of three types of assistance programmes: business support to commercially oriented farmers; social protection for subsistence farmers trapped in poverty; and exit strategies for transition farmers.

- There is a widening fault line between the food security needs of large numbers of poor, subsistence oriented smallholders and the food needs of growing urban populations that will require a two pronged strategy for achieving national food security.