

RI101x - 4.5 - Frugal and economic dev.

Welcome to this presentation.

My name is André Leliveld, and I am a senior researcher at the African Studies Centre in Leiden.

In the previous presentation Professor Peter Knorringa explained that frugal innovations are more likely to contribute to inclusive development when social standards are set as high as possible to ensure decent working conditions and as low as necessary to allow for new innovation opportunities. In this presentation I will focus on another dimension of frugal innovations as responsible innovations, namely whether they have the potential to include poor consumers and producers in economic growth and development.

In this presentation I am taking the following steps.

First, I introduce the concept of inclusive economic growth and development and how this relates to trajectories of innovation

Second, I will discuss the potential of frugal innovation for including poor consumers

Third, I will discuss the potential of frugal innovation for including poor producers

Fourth, I will combine and illustrate the earlier points by showing to what extent a frugal weather station can be considered as inclusive and therefore as a responsible innovation.

You can find more detailed information on the first three steps in the paper on inclusive innovation by Joanna Chataway, Rebecca Hanlin and Raphael Kaplinsky, which has been recommended for this presentation.

More information on frugal weather stations you can find on www.tahmo.org

The first issue is then to introduce what we mean by inclusive economic growth and development and how this relates to innovation trajectories.

Inclusive growth allows opportunities for everyone to participate in the growth process while making sure that benefits are shared.

To be inclusive, growth should benefit everyone while reducing the disadvantages faced by the poor, both in terms of benefits enjoyed and, especially, in terms of access to opportunities for participation.

Today, the majority of people living on less than \$1.25 a day belongs to two regions: Southern Asia and sub-Saharan Africa.

Nearly two thirds of these people, the extreme poor, can be found in five countries: India, China, Nigeria, Bangladesh and the Democratic Republic of Congo.

However, since 1990 the GDP growth rates have been high in those regions of the world where most of the poor people live.

As you can see from the table, average growth rates have been above the world average.

This economic growth has resulted in a steep decline of the number of people in extreme poverty, people who have to live with less than 1.25 US Dollar per day.

The decline in the number of people living in poverty, below two US Dollars per day, is less spectacular though.

In 2011 2.2 billion people lived in poverty compared to 2.6 billion in 1981.

In many developing countries we also observe a widening gap between rich and poor, and between those who can and cannot access opportunities.

It means that access to good schools, healthcare, electricity, safe water and other critical goods and services remains elusive for many people who live in developing economies.

These developments in growth, poverty and inequality highlight the character of the current growth.

In many countries people have been and are excluded from the fruits of economic growth and development.

This exclusion takes two forms. On the one hand are those with gainful employment or access to land but who are exposed to highly variable or declining real incomes. On the other hand are those who are wholly outside of income generating activities – the unemployed and the landless.

Why can high economic growth rates go hand in hand with a slow decline in poverty numbers and increasing inequalities? Among others, the dominant trajectory of innovation is one of the causes.

This trajectory is characterized by its capital-intensive nature, its scale intensity, its dependence on high-quality infrastructure, its reliance on skilled labour and its product portfolio, which aims mostly at the needs of the better-off. Taken together such innovation trajectory disadvantages the poor, both as consumers and producers.

It also excludes large segments of the population from productive employment.

In short, the dominant innovation trajectory is a partial but important contributor to the persistence of global poverty.

This brings us to the second step in this presentation, namely the question whether frugal innovations can make a difference; are frugal innovations more inclusive towards poor people than the dominant innovation trajectory?

I first try to answer this question with regard to poor consumers.

Two issues are important to consider here. First, the identity of the consuming unit, and second, the demand characteristics of poor consumers.

To start with the first. People with very low disposable incomes have less capacity to buy goods and services individually.

Typically, when poor consumers purchase a product or service this will be a household purchase (for example, one mobile phone for the whole family), a purchase between households or in some cases a purchase by a village or community organisation (an oxen plough, a water pump, a weather station, and so on).

Where frugal innovations aim to lower the acquisition cost of products and services, the more likely consumption decisions will be made at the individual or household level.

Then more people can afford the product or service, and therefore the frugal innovation will be more inclusive.

An example is the OMO sachet for washing in cold water.

Providing a small portion allows many poor consumers to buy washing powder at low cost.

Frugal innovations are also more inclusive if they take into account the demand characteristics of poor consumers. This figure depicts nine different product characteristics which may reflect consumers incomes.

These characteristics reflect whether the product is for single use or repeated use, the acquisition cost, its longevity, costs of maintenance, operating costs, brand image, impact on the environment, and the extent to which the product or service has characteristics which reflects environmental and ethical considerations. Frugal innovations typically reflect a characteristic that match with low consumer incomes: the frugal products and services have low acquisition costs, through which they become affordable for poor consumers.

So far the good news for poor consumers.

But as we saw in the previous presentation by professor Knorringa, to make products or services available for poor consumers may come with a price: the products may not be recyclable, and may embody few ethical, security, labour and environmental standards.

So, the inclusiveness of frugal innovations may be at odds with some other dimensions which would make frugal innovations responsible innovations.

I now move to the third step in this presentation. Are frugal innovations more inclusive towards poor producers?

The majority of poor producers can be found in the so called informal sector.

Poor producers generally have micro, small or medium sized enterprises, often they are own account workers, with little capital available and using their own and family labour.

Production is generally small scale, using unskilled or semi-skilled labour.

As a general rule then, inclusive innovations will involve the generation of processes which lend themselves to ownership by small scale or collective producers, use relatively labour intensive techniques and utilise unskilled labour. Do frugal innovations fit in this category?

The answer is: not necessarily.

Take Figure 6 from the paper that has been recommended for this lecture and is shown now with some small adjustments.

Frugal innovations are mostly to be found in the top left quadrant and the quadrant at the bottom left.

Typically, as presented earlier by professor Van Beers, multinational or transnational companies (TNCs) are an important driver of frugal innovations.

Here it can be questioned whether poor producers are included in the value chain.

There might still be inclusive effects, for example, in the decentralized marketing and distribution of these products, which can create employment for poor traders and salesmen and women. And through the employment of unskilled or semi-skilled labour in the production stage.

But generally the role of local producers will be limited, unless they are able to become part of the value chain of the multinational.

For example, by becoming part of the marketing and distribution network of the multinational or becoming a local source of inputs.

This might be different from frugal innovations which originate from the informal sector itself. Local producers are involved in the design, production and marketing of these innovations, there is so called local ownership.

But the spill over may be limited. Poor designers and producers face many constraints which prevent them from upscaling and linking their activities to other actors in the local or national economy.

In sum, it is not by definition that frugal innovations are also inclusive innovations, in the sense that they allow for poor producers to 'lock in'.

Poor producers have some comparative advantages though to multinational companies when it comes to the design and production of frugal products and services. For example, they know the demands and preferences of local poor consumers better, and they are less vulnerable to reputational damage which may arise because of neglecting standards. Up to date we need more empirical research though to assess to what extent frugal innovations can be inclusive innovations for poor producers.

This lecture series on frugal innovations as responsible innovations links to the discussion of frugal weather stations. In the last step of this presentation we briefly explore how what we discussed so far can inform us about the inclusiveness of frugal weather stations.

As you already know these weather stations have been developed by Delft University of Technology together with Oregon State University, and will be distributed and marketed in West Africa and Kenya.

One attribute which makes the frugal weather station probably more inclusive than conventional ones, is the simplicity of its technology, which allows for low maintenance and operating costs, and easy to handle for people with lower educational levels as well.

The targeted consumers consist of various entities. At the individual level, the weather stations have the objective to reach local farmers. Through mobile information services, the station will provide timely, reliable and locally relevant weather data that will enable for example local cocoa farmers in Ghana to better manage their limited resources, make more efficient use of the available water, and invest in their farms. Other consumers may be cooperatives of poor farmers.

Other – not necessarily poor – consumers may be an insurance company, a local governmental body, a non-governmental organization which may need the data of the weather station to serve its poor clients better and reach them with new services tailored for poor consumers (think of weather based insurances).

Possible gains for local entrepreneurs in West Africa are for the moment not so much to be found in the production of the weather stations but in the extra employment that the weather stations create in processing the data and the marketing of the services linked to the weather stations. This may be within the banks, and insurance micro-credit providers but also within ICT companies that are needed to communicate the information.

This type of employment creation will probably not reach out to poor people, because this employment will ask for semi-skilled and skilled labour.

In sum, the most likely inclusive effects of the weather stations will be that poor farmers can profit from easy to access weather data and can improve their farm enterprise.

And through for example weather based insurance they will be less vulnerable to income shocks.

I have come to the end of this presentation.

What I have tried to show in this presentation is that frugal innovations are not by definition responsible innovations when we take the inclusiveness dimension aboard. Like with the discussion on standards, various criteria have to be met for frugal innovations to be inclusive for poor consumers and producers.

With many frugal innovations still designed, produced and marketed by multinational companies, the inclusiveness is not necessarily guaranteed. Bottom up frugal innovations may allow for better inclusiveness but poor producers of frugal innovations face various constraints for up-scaling and creating spill over effects in the local and national economy. Still, the example of the weather stations shows that frugal innovations can have huge potential to be or become inclusive and therewith responsible innovations.

We need further empirical research though to validate this claim.

Thank you for your attention.