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Creating Markets with the Poor: Selling Treadle Pumps in India

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EXECUTIVE SUMMARY

With public sector funding stalled in many developing countries, much is expected from local private investment for generating the finances required to develop essential services, such as water supply and irrigation. This philosophy is known as the 'market creation approach', and involves creating viable business chains for affordable products and services for the poor. This paper reviews one attempt at market creation; selling treadle pumps in North Bengal, India. Treadle pumps are ergonomically superior manual irrigation pumps, which in principle can lift a family out of poverty.

The paper analyses five seasons of promoting and setting up supply chains for the treadle pumps. The main recommendations and findings include:

■ The transaction costs of setting up and supporting private sector supply chains are not small. For low cost, low volume products such as the treadle pump they may initially be similar to the actual cost of the product. Even then, private sector delivery of water services is highly cost effective, when compared with expenditure on irrigation development by public programmes.

■ A feature of poor rural economies is that the local private sector may also be weak and undercapitalised. The market creation approach should both strengthen the local supply chains and work with the capacity that is available. This involves critical choices about product quality, product margins and injecting trade credit.

■ There is sometimes a mistaken belief that the public and private sector are two separate entities. Yet if channelled well, public subsidies and local procurement by public bodies may help strengthen the local private sector and increase its capacity to deliver useful services and mobilise local investments.

CREATING MARKETS WITH THE POOR: SELLING TREADLE PUMPS IN INDIA

Frank van Steenbergen

Much has been made recently of the driving force of the market and its ability to mobilise local private investment. With government budgets under pressure and fiscal crises all around, local private investment is being looked to for poverty alleviation and for providing essential services.

The Framework for Action (Global Water Partnership, 2000), for instance, estimated that to achieve water security in 2025, 39% (up from the current 19%) of the necessary increased water investments in low and middle-income countries would have to come from domestic markets. At present these local private investments are US $14 billion annually. They would need to increase to the order of US $70 billion to meet the needs of essential water supply and water treatment services, and for irrigation, drainage and ecological services. Public sector investments in the water sector are not expected to increase. They are now an estimated US $48 billion annually and they are expected to stay at that level. The domestic private sector is seen by many as the major source of finance for new water services.

But what precisely are these 'domestic markets' and local private investments in which so much hope is vested? What does the private sector look like in a low income rural economy? What to expect from the network of local manufacturers, stockists and retailers who comprise the domestic market? Can one support this network in mobilising local investment in useful water services? At what cost? And how to sustain the local private sector in the long run in delivering a good that is of benefit to poor customers? In this paper I explore these questions by examining the market creation approach (explained below) and how it fared during five years of promoting manually operated low cost treadle pumps through the do-

Box 1: Transaction costs

Transaction costs are the costs involved in making transactions, ie. obtaining information, making a deal and monitoring its implementation. In institutional economics the transaction cost concept is used to analyse the costs of social as well as economic transactions. In the case of the treadle pump promotion, transaction costs were involved at two levels:

1. First order transaction costs are the basic costs involved in purchasing a treadle pump: the cost of travelling to the market, identifying the product and organising credit, if necessary. Clearly these first order transaction costs are affected by the supply chain (whether a dealer is nearby and whether he can extend trade credit) and product familiarity (whether it is easy for customers to find out about the existence and characteristics of the product).
2. Second order transaction costs are the costs of setting up such a marketing system: finding retail outlets, linking outlets with distributors and manufacturers, and product promotion, particularly if it is linked to the development of the supply chain.

mestic private sector in three poverty-stricken districts in North Bengal in India.[1] I review how well the approach worked and what transaction costs (see Box 1) were involved in the creation of the market. I then discuss the policy lessons emerging from relying on the domestic private sector, rather than the public sector, as a delivery mechanism.

The market creation approach

Over the last few years the market creation approach has gained attention. It tries to create viable private business delivery channels for useful and affordable products and services to poor people (Heierli, 2000). Elements central to the approach are: need-based development of products that are within poor people's spending limits and have a high return on investment; promotion and marketing of these products; and the creation of a market vibrant enough to attract and sustain the private sector. The argument is that donors are justified in investing resources in this type of market creation because the small scale private sector would not be able to manage alone. Once the market is established, however, private delivery channels should be able to sustain the flow of products and services and no external support or subsidy would be required. Prahalad and Hart (2002) have similarly argued that there is great demand and opportunity for developing the mass market of the poor in developing countries;[2] what they call 'tier 4'. They argue that new business models are required which emphasise:

1. The author was team leader of the North Bengal Terai Development Project, through which the market creation campaign was organised.
2. Prahalad and Hart (2002) argue that multinational corporations are best–placed in this respect.

- employment intensity (for instance local assemblage);
- reinvented cost structures (low margins, reasonable quality, large volumes);
- research and development (R&D) focused on the poor (including identifying local practices that can have wider application); and
- new alliances (such as local coalitions of multinational corporations, NGOs and community leaders).

An important point that Prahalad and Hart make is the need to invest in creating commercial infrastructure tailored to the needs and challenges of tier 4. They argue that such investment must be seen on par with the more familiar investments in plants, products and R&D.

MARKET CREATION FOR TREADLE PUMPS IN NORTH BENGAL

Cooch Behar, Jalpaiguri and Siliguri districts all have large areas of shallow groundwater and uncultivated land in the dry *rabi* season (Kundu and Soppe, 2002). Very small land holdings are the norm. Almost 90% of the farms are less than one hectare in size, as a result of the Left Front government's land reform programme in West Bengal. The smallholdings have given rise to a gradual commercialisation of agriculture, in particular an increase in irrigated horticulture in the dry season. Farms are now so small that farm families can no longer sustain themselves on subsistence agriculture and instead gain income from vegetable plots or off-farm employment.

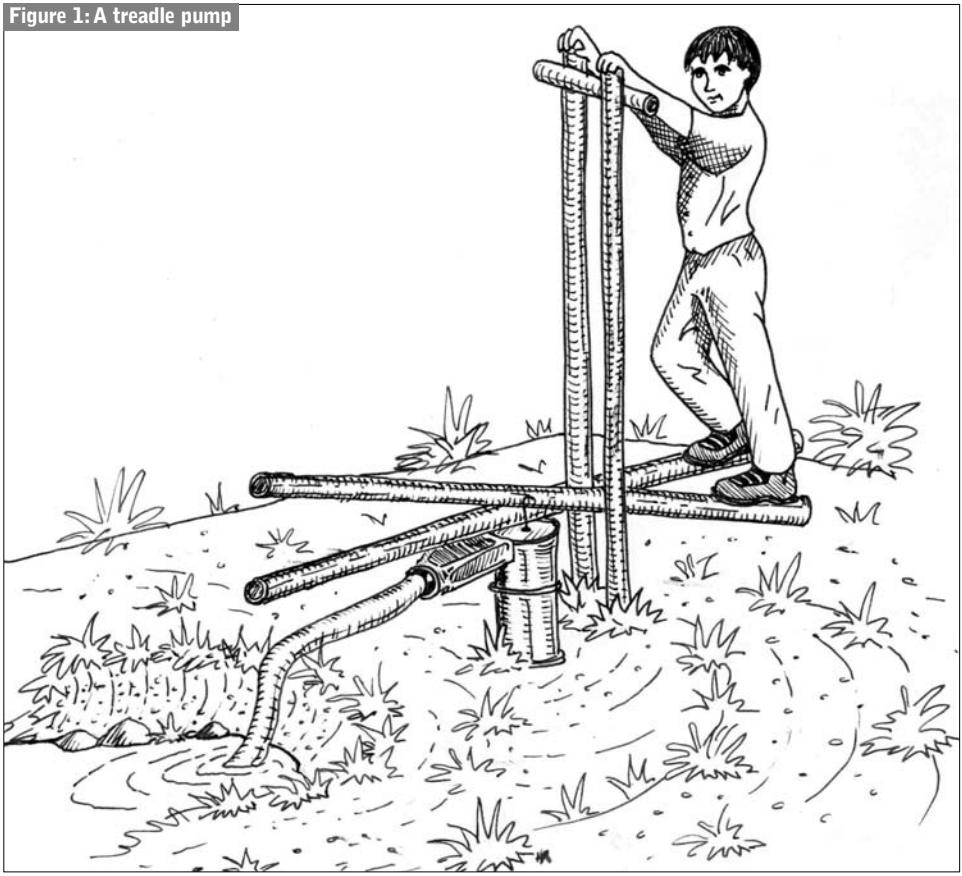
Prior to the promotion of the treadle pumps, irrigation in the dry season was done either using very low capacity manually operated spring pumps or diesel pump sets. The former were very labour intensive; the latter were only available to better-off farmers. In this context the outlook for the treadle pump — far superior to other manual lift systems in vogue — appeared bright. The treadle pump consists of two cylinders, in which pistons go up and down. It is operated by a person who moves the two pedals attached to the pistons by pedalling steadily (see Figure 1). The treadle pump is an example of an employment intensive product. Depending on the model and the lift, pedalling yields 1–1.5 litres of water a second. Two to three hours of pedalling will pump enough water to irrigate 0.2 hectares of commercial vegetable crops. Entrance costs are low. The cost of a treadle pump, including the development of a bamboo well using local techniques, is typically around INR 1,000 (US $25). Under normal circumstances this investment can be earned back within a season and the income generated with it can help a family to 'pedal out of poverty' (Shah *et al.,* 2001).

Finding the right product

Prior to 1995 there were hardly any treadle pumps in North Bengal, with the exception of a number of border villages, where pumps smuggled in from Bangladesh had become popular. Given the popularity of treadle pumps in Bangladesh, the general lack of familiarity with the treadle pump in North Bengal was amazing; an indication that innovations do not necessarily spread. No market infrastructure existed for it and the product was largely unknown.

The promotion of treadle pumps in North Bengal was undertaken by IDE (International Development Enterprises[3]). Contrary to what its name suggests, IDE is a non-profit organisation, committed to "*fulfilling the ambitions of marginalised farmers*

Figure 1: A treadle pump



3. IDE is based in the US, but since 2002 IDE-India has become an independent organisation. The North Bengal Terai Development Project contracted IDE to promote treadle pumps in North Bengal.

through marketing" (IDE Mission Statement). IDE chose to promote the treadle pumps through the private sector. The hope was that the process would ultimately take on a life of its own, driven by profit motives, once a network of manufacturers and dealers was in place and the 'product' became familiar. An almost ideological choice was made to avoid government subsidy programmes, as it was felt this would jeopardise the establishment of a free market and private delivery network.

Treadle pump promotion began with a consumer survey to assess whether there was a demand for the treadle pump and if so, the type of pump preferred by rural customers. There was a choice of two models:

1. A pump with large pistons (12 cm) and pedals of mild steel. Its price off the shelf was INR 1,100 (US $27).
2. A pump with bamboo pedals and 8 cm diameter pistons. The smaller pistons meant the discharge was less, although the pump was easier to work. This 'bamboo' treadle pump was similar to the model popular in Bangladesh. At INR 225 (US $6), its cost was significantly lower than the mild steel version.

The consumer survey consisted of two parts. The first part measured the energy requirements of the treadle pumps and their discharge. It subsequently discussed these with the group of test persons (Bom *et al.*, 2002). This test showed that the 12 cm model had a considerable edge, particularly at very shallow depths. The second part of the survey involved installing test pumps of the two different makes with 50 test users in six trial villages. The test installations were clustered, allowing new users to judge for themselves. Where both models were installed in the same village, the preference of the test users was clear: the sturdy mild steel pumps were greatly preferred to the 'wobbly' bamboo pumps.

In retrospect, however, the survey was flawed, as the test pumps were given free to first time users. The litmus test came when the mild steel treadle pumps were introduced in a border village that had already smuggled in bamboo treadle pumps. The first reaction was encouraging, but within a week the mild steel treadle pumps were returned. Reason: at 17 kg they were far too heavy to carry to the fields. This one important additional parameter — convenience — had not been considered in the survey of first time users, as the consumer test only considered price and water output. In the end market demand was the only real indicator of consumer interest. The promotion therefore concentrated — despite the user test results — on the cheaper bamboo models.

Five seasons of market creation

For five seasons an intensive effort was made to create a market. There were two main aims: (1) to familiarise would-be users with the new device and create demand; and (2) to build a chain of suppliers outside the public delivery sector.

Activities started in the *rabi* (dry) winter season of 1995-1996. This is the irrigation season and outside of it demand would not be significant. While designing the market creation campaign, a number of decisions were taken:

- a high quality treadle pump would be promoted at a fixed non-subsidised price; the idea was to set a standard and create a reputation for the treadle pumps, thus avoiding the market in this initial stage being spoiled by inferior models;

- to safeguard the quality of the pump, purchasers would receive a one-year warranty card and each pump would have a punch plate with a unique number;

This decision to promote a quality product had implications for the manufacturing and marketing strategies; quality production and quality control required the pump to be manufactured centrally; in other states some manufacturers were already in business, but an effort was also made to set up a manufacturer in North Bengal itself. The central manufacture of the pump also implied a long single marketing chain from a limited number of central manufacturers to a large number of remote rural customers.

First season 1995-1996

In the initial season of market creation, the strategy relied on direct marketing through local well developers, so-called *mistris*. The *mistris* were trained in treadle pump installation and maintenance and were offered a margin of INR 25 on each treadle pump they installed. They would lift the pumps from local dealers, who were given a similar margin. The price of the treadle pump to the consumer, including these margins, was very low at INR 275. In this first 'trial' season the emphasis was more on creating product awareness and less on setting up a supply chain.

The market creation effort was supported by six marketing assistants. They would build up *mistri* networks in the blocks in which the marketing efforts concentrated. Each team did further general promotion through demonstrations at rural markets on market days. The trial promotion was limited to a few 'most promising' subdistricts (blocks). The results of the first year were better than expected;

903 treadle pumps were sold. A shortage of diesel at the end of the irrigation season gave an extra boost to the first year's sales.

IDE acted as the main distributor in this first year, supplying the dealers and the *mistris*, thus positioning itself in the marketing chain. Efforts were started to build up local manufacturing capacity. The production of the treadle pumps required a pressing machine, a shearing machine, electricity supply and working capital. No manufacturer in North Bengal was found that matched requirements. Instead connections were established with a Calcutta-based manufacturer making high quality drinking water pumps for UNICEF programmes.

Second season 1996-1997

In the second season (winter 1996-1997) market creation activities were intensified and expanded to the entire area, where there was demand for the combination of treadle pump and bamboo well. The strategy also shifted, with more emphasis on dealers doing the promotion and less on *mistris*. The idea was to help build up an independent retail network. The chosen dealers were in most cases local hardware shops or fertiliser dealers in the village markets. The policy was to give each selected dealer monopoly in his market area. All in all, 63 dealers were identified. Simultaneously, efforts were made to identify local distributors. This turned out to be difficult, but two distributors were identified. IDE continued to play the role of central stockist. It was also discovered that the retail sector was very fragmented in North Bengal: there were no permanent linkages between dealers and distributors. Though the emphasis in promotion shifted to dealers, the network of *mistris* was expanded, including training more than 200 *mistris*. *Mistris* were also asked to assess demand prior to the promotion season. Based on their estimates, an exciting turnover of 11,000 treadle pumps for the season was expected.

Prior to the second promotion season sales price was increased to INR 375 (US $9). This was done in response to increased material costs and also to allow for larger margins for the distributor (INR25), dealer (INR35) and *mistri* (INR35). A request was made to the Government of West Bengal to waive the sales tax, but this effort grounded in bureaucracy.

Efforts got off to a reasonable start, supported by market demonstrations, dealer boards and distribution of handbills. The wider recognition that the pumps gained prompted some dealers to ask the Government of West Bengal for a subsidy of 50% under an existing programme. Sales at the end of this season were 2,400

branded pumps.[4] In addition 1,250 non-branded, usually locally made, pumps were sold through various channels. One may debate whether this was a success or not; it was clearly fewer than predicted by the pre-season market survey.

The subsidy scheme was withdrawn not long after it was announced, but the confusion caused by its sudden announcement and equally abrupt withdrawal had a serious effect on private sector promotion. The subsidy procedure itself was cumbersome: rather than an uncomplicated subsidy at source, it involved screening applicants and concession on delivery. For farmers it meant procuring and routing an application form through local officers. What is interesting though is that in a relatively short period more than 3,000 application forms were submitted, essentially to obtain a modest rebate of INR 185 (50% of the price of the treadle pump) despite considerable transaction costs for applicants. This typifies a culture in which subsidies are an important delivery mechanism.[5] All in all 920 pumps were sold with a subsidy in the short period that the procedure was in place.

Third season 1997-1998

The third market creation season consolidated the strategy of the previous year, with even less emphasis on *mistris* as a sales force. The fixed margin for the *mistri* was dropped. If the *mistri* landed the deal, it was up to him to negotiate the price with the dealer. Instead of dealers or *mistris*, 15 marketing assistants engaged by IDE became the key players in sales promotion.

The price of the treadle pump was also raised from INR 375 to INR 390. The promotion activities expanded to the entire vegetable and winter paddy belt of North Bengal. Again, prior to the actual promotion season much attention was paid to familiarising *mistris* with the treadle pumps and many new *mistris* were trained. There was a complete revamp of the dealers' network prior to the season. Non-performing dealers and dealers who were actively pursuing government subsidisation were dropped. More than half of the dealers were left out. The number of distributors increased from three to seven, while IDE continued to be the link between the manufacturer (who was subject to quality control) and the distributor-dealer network (expected to sell the branded pumps).

It was increasingly realised, however, that the dealers' network in North Bengal

4. Pumps sold through the IDE supply chain, produced by quality-controlled manufacturers.
5. Subsidies do not only generate great interest from farmers, but also from dealers and manufacturers, because of the scope for high volume sales they offer. Intriguingly many treadle pump dealers' first move was to persuade local governments to include treadle pumps in subsidised programmes.

had its limitations. Several areas have no fertiliser or hardware shops. The 'market', in other words, did not cover all areas. Another major limitation was the prevalent system of sales-on-credit coupled with the modest working capital of most dealers. As a consequence each dealer has a limited clientele (often 80–100 customers) to which he will sell on credit or whose recommendation he will accept for new customers. Non-credit sales are limited, particularly at the start of a cultivation season.

To stimulate sales, IDE therefore decided to relax its earlier insistence on payment by cash and instead advanced credit-on-sales to the distributors and dealers. This amounted to approximately INR 200,000 or close to 20% of the total turnover of that season. A second change was that at some places the one dealer per market policy was no longer maintained, as it was unnecessarily limiting the number of outlets.

In spite of the credit advance, the increased familiarity and the revamped and expanded dealers' network, the treadle pump sales in this third season were not significantly different from the previous season. Sales of the branded and non-branded treadle pumps totalled 3,100. This was achieved at the price of an intensive promotion campaign, consisting of more than 1,600 promotional events.

One reason for this might have been the plummeting crop prices of the previous season, leaving farmers with little to invest in commercial agriculture. A second factor was the early rains in 1998, making irrigation in the region less important. Other explanations should be sought in the campaign itself: the newness of most dealers and the tendency of the marketing assistants to generate direct sales rather than supporting promotion through dealers and *mistris*. This turned marketing assistants into salesmen chasing targets rather than facilitators of a new supply system.

Fourth season 1998-1999

There was considerable soul-searching at the start of the fourth market creation season. One outcome was a decision to improve promotion, for example by selling discount coupons at demonstration events. The coupons cost INR 25, and entitled customers to a INR 50 rebate on the price. Also, the importance of addressing women farmers was stressed, particularly by organising special demonstrations for village women. Furthermore, the promotion activities were routed and planned more through the dealers. Marketing assistants were instructed to play a facilitating rather than a sales role. Counter sales were aimed to rise to 50% of total sales.

A stronger role was expected of the distributors in providing stock to the dealers.

Sales in the fourth season increased, but not by a quantum leap. The season resulted in sales of 3,000 branded pumps and 500 non-branded pumps. This was achieved again through an intensive promotion campaign. The innovative coupon system generated a lot of interest, although disappointingly this initial interest did not translate into sales. Many coupons were never cashed in.

It has to be noted that the slightly increased sales were achieved despite another difficult farming period. In February and March the bottom dropped out of vegetable prices. The reason was the clear weather, which limited pest damage and caused a glut.

The dealer network had stabilised and, in contrast to the previous season, the across the counter sales accounted for 80% of turnover. It also became clear that sales would be in the 3,000–4,000 per annum range and that the high annual sales predicted at one time were not attainable.

Fifth season (1999-2000) and beyond

In the fifth season a withdrawal strategy was initiated. It consisted of a shift from dynamic promotion (ie., demonstrations) to static promotion (flyers, wall paintings) and the use of mass media. This reduced pressure on staff time. In one area dynamic promotion was stopped completely, as an experiment. Sales in these areas dropped from the previous year, but not dramatically (only 15%) and a safe platform seemed to have been reached.

IDE also gradually withdrew from the marketing chain. Thus far, IDE had served as the link between treadle pump manufacturers and distributors and also provided trade credit to the system. In this season a start was made to establish links directly between the manufacturer and the pump distributors.

Overall sales of branded pumps for the season stabilised at a slightly lower level than in the previous season. Turnover was 2,500. Two hundred non-branded pumps were sold, in this case from new local workshops. It turned out to be difficult to find a distributor for the region, particularly one that did not focus on the various government programmes. This eventually became the main bottleneck — sales slid away and stabilised at a level of half that of the previous years.

Analysis: the market creation approach

Was the market creation approach successful? Did it reach the poor? Was it efficient in terms of the (second order) transaction costs invested in it?

In five seasons some 11,500 treadle pumps were purchased. Detailed monitoring of selected treadle pumps suggests that the treadle pumps served an area of 0.18–0.23 hectares in the winter and spring season. The campaign hence supported 2,300 hectares under irrigation. The cost of doing so — both market creation and farmer investment — was INR 10,000 (equal to US $500) per irrigated hectare. This is still lower than expenditure on irrigation development by public programmes, which in the same region ranged from INR 8,000 to INR 60,000. These costs do not include the hidden cost of the government staff responsible for the implementation of these programmes.

Most of the new area is under high value vegetables, cultivated by small farmers. A survey done after the first market creation season suggested that 64% of the treadle pump buyers were marginal farmers (land holdings of less than 1 hectare), whereas 27% of the farmers were small farmers. There were also a few landless treadle pump buyers (Nagar, 1999). As marginal farmers make up 90% of the farmers in the region, the bias is towards small rather than marginal farmers. This is not surprising for a population of early adaptors (Heierli, 2000). Due to its labour-intensive nature, however, the treadle pump will not attract large farmers.

The overall transaction costs involved in creating the new market links and promoting the product over five seasons worked out to be INR 1,100 (US $27) per treadle pump. This is high compared to the investment of INR 900 for a bamboo treadle pump and low cost filter. It goes to show that market creation may be cost effective but it is not necessarily cheap. One large expense (approximately INR 400 per pump) was creating market channels, ie. setting up a supply chain, including the costs of market assistants, dealers meetings and training, as well as the investment in working capital. The remaining expenditure was on the promotional events; the demonstrations and announcements. In retrospect (see below) a different approach to market creation might have had a similar impact at a lower transaction cost; but market creation still comes at a cost.

To put the cost of treadle pump market creation in perspective, a comparison can be made with the promotion of latrines in Southern India. Using a market creation approach, Water Aid, working through partner NGOs, encouraged the promo-

tion of low-cost latrines. The cost of hygiene promotion and marketing per low cost (and partly subsidised) latrine (INR 1,500) was INR 1,161, which is in the same order of magnitude as the treadle pump programme (WSP South Asia, 2000).

This raises an important point. If transaction costs are so high, can one conceive them to be incorporated in the price of the product? Much seems to depend on the product itself. A low cost product which requires much explanatory effort will have higher transaction costs than investment costs. If on the other hand the product is more expensive (for instance a diesel pumpset) or easier to popularise (because it is self-explanatory), product margins would more easily compensate for the transaction costs of market creation and promotion. This explains why some innovations — though useful in themselves — will not easily spread in a poor economy. There is therefore all the more reason to understand how to keep the cost of market creation as low as possible.

LESSONS FOR MARKET CREATION

Could the way that domestic investments were encouraged have been more efficient?[6] Since there is little documented experience with market creation, it is useful to take a closer look at the market creation strategy followed, including the product and marketing choices.

Strengthening the private sector

First, the market creation campaign exposed a dimension of rural underdevelopment that is not always obvious. As Prahalad and Hart (2002) observe in general for the 'tier 4' market segment, the commercial infrastructure is weak. It was difficult in North Bengal to find manufacturers or main distributors; there was little trade capital flowing around and links between suppliers and dealers were weak. In such a system (first order) business transactions (particularly where they involve credit advances) are costly and will not come about easily. Where people are poor, the domestic private sector is equally poor. This has a number of policy implications.

Given this weakness, how well conceived was the market creation strategy as it was implemented in North Bengal? The question is particularly relevant since projected sales were substantially higher than actual sales. The high expectations were based on the popularity of the treadle pump in adjoining districts in Bangladesh and confirmed in the marketing survey at the beginning of the campaign. The high re-

6. With hindsight one may speculate that a less costly campaign might have had a similar promotion effect, but the discussion in this section is on the structure of the marketing campaign rather than the cost of the various components.

sponse to the subsidy package in 1997 also suggests a much larger untapped demand and potential to make more business out of poverty alleviation.

In the chosen approach the weakness of the local private sector became a bottleneck. Instead it would have been better to go for an approach which relied more on local business chains and aimed to strengthen them in the process. One mistake in hindsight was the decision to make a quality product available to a poor clientele and maintain a reasonable price at the same time. The choice of quality manufacturing meant that a long retail chain was required for a relatively small trade volume, starting from Calcutta-based manufacturers and ending in relatively remote villages 600 kilometres away. No such chain existed earlier. IDE had to insert itself into this long chain of command as a main agent; acting as quality inspectors of the manufacturers, licensing local dealers and providing trade credit, as well as coordinating a very intensive promotion campaign. These choices increased the transaction costs of building up a locally effective supply chain.

An added drawback of this long chain and the reliance on Calcutta-based manufacturers was that the local spin-offs were limited. This meant that product innovation could not become a spontaneous process, driven by customer feedback, but instead became a complementary service provided by IDE. A further drawback was that the distant manufacturers did not automatically take an interest in promoting demand or even sustaining supply to distributors, particularly since profit margins were kept low. For the manufacturers the treadle pump was one product out of many that they could make with the capital at their disposal. They would easily lose interest if things went bad.

The same applied to the other links in the long chain. For distributors and dealers as well, the pump was only one item in a range of products — one with a modest margin. This made it unlikely that they would actively promote the new product at any cost, whatever its value as a social good. Thus the policy of giving local monopolies to treadle pump dealers was a risky one. Moreover, because of the long chain, IDE had to play a large and direct role in getting the flow of products going, making it hard to withdraw.

A key lesson is not to hang on too long to quality control and centralised production and sales. Having reached a certain level of market saturation and product awareness, there are a number of ways forward. The first is to re-encourage

diversity. This would mean bringing in local workshops, with shorter chains and higher innovation capacity. The second is to release control over the dealer network; the more dealers, the better. Licensing and monopolies are not justified for very long as the total turnover and promotion effort of individual dealers is too small to justify them. If there had been less emphasis on product quality, a simpler producer-distributor-dealer network would have sufficed. This would have required less effort and lower transaction costs.

A bigger policy issue highlighted by the treadle pump case is the undercapitalised and disjointed nature of the local private sector. If five seasons of market creation showed one thing, it is that in a poor rural economy the private sector is equally underdeveloped (comprising mainly small autonomous traders with limited working capital) and at best a weak partner in promoting a new product initially. One cannot assume that there is a ready-made rural private sector that can promote domestic investments. Instead more efforts are required to strengthen the local private sector. To a certain extent the local private sector is a reflection of the amount of money channelled through the local economy. Thus, more resources need to be invested in remote rural economies and procurement policies need to give preference to local private sector supply chains and local purchases to get the local multipliers going.[7] Otherwise a poor area such as North Bengal will remain poor, simply because it is poor. Very few business opportunities exist, very little money changes hands and poverty perpetuates itself. As the government is a major spending party in low-income rural economies such as North Bengal, this will also require a new look at government procurement and subsidies.

The role of subsidies

A very explicit effort was made to develop the entire suppliers' network outside the public sector. Dealers who tried to sell the treadle pump under subsidy programmes were blacklisted by IDE and no longer allowed to sell the pumps, adding extra transaction costs for market creation. Was this wise?

During the campaign one intriguing question came up several times: would subsidies not have achieved a larger turnover for the same amount of money? The argument runs as follows: if one had subsidised 50% of the price of every treadle pump, the amount of money spent on promotion could have paid for 45,000 trea-

7. This may sound obvious, but many internationally funded programmes that promote efficient irrigation systems, such as drip and sprinkler, still rely on international procurement and delivery of the systems through public and semi-public channels.

dle pumps. At this number it would have been easy to withdraw the subsidies and the coverage would have been so dense that a service sector of mechanics and dealers would have developed to perpetuate the efforts, as it is obvious that the treadle pump also has a demand without subsidy.

In this regard, the brief episode in 1997, when subsidies on treadle pumps were announced, is intriguing. In a short period there were 3,000 requests for subsidised pumps. To obtain the modest discount that a subsidy implied (INR 185), considerable costs (INR 50–60) were incurred by the applicants. Even then, the total number of applications was of a similar order of magnitude as total sales for the entire area, even though the subsidy offer was only open in part of the area. What this shows is the undeniable appeal of subsidised items and a certain confidence in the public sector as a deliverer and a source of spending.

The problem with subsidies, however, relates to how they are managed. The confusion in 1997 is a good example, with the subsidies doing more harm than good in giving out confusing messages. Furthermore, when a product is new and the basics of its use are not well known, a subsidised environment tends not to sustain the development of basic local technical skills and service facilities. Subsidies attract entrepreneurs who act as brokers, but who will not serve as dealers providing after sales support. A final flaw in the subsidy argument is that it underestimates the costs of administering the subsidies by the public sector. This may be substantial too; perhaps even more than the cost of engaging the private sector to promote a new product.

However, as the public sector is often the biggest source of investment for poor rural economies, it should not be overlooked as a resource for developing the local private sector.[8] There is often a mistaken belief that the public sector and the private sector are two entirely unrelated entities. This is wrong. For the local private sector the public sector may be an important source of income. The trick is to use public subsidies to strengthen rather than undermine the local private sector and help it build up a firm basis from which it can provide a wide range of services. Instead of setting up a dealers' network with no links to the public sector, as was attempted in North Bengal, it may make more sense to take a partnering approach. Without this the already impoverished local economy will be split in two.

8. This differs from Prahalad and Hart's (2002) view; they see a role mainly for non-government and multinational companies in building up this commercial infrastructure. However, in India the national companies and the government sector could both, at least in some areas, act as major potential procurers and arguably could play a constructive role.

There is scope to explore 'smart subsidies' (Shah, 1998). These are subsidies at source, channelled through the private sector, avoiding high transaction costs and petty political interference. Smart subsidies in North Bihar meant that rather than all energy being spent on clearing complex procedures, the initiative was with dealers (Shah, 1998). The pump set dealers identified customers who fitted the criteria of the scheme (landholding, income level) and arranged the applications, thus filling a subsidised sales quota. This model put the private sector in the driving seat in this particular poverty alleviation programme and strengthened the private sector by channelling business through it. It did not replace the private sector as some other subsidy programmes have done, where in place of the local supply chain of dealers and distributors a temporary government mechanism was put in place which delivered the subsidised goods.

Although heresy to some, subsidies should not automatically be excluded as a mechanism to promote investments by poor water users or poor communities. The key lies, however, in the way such public support is structured.

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