

Livestock Sector Growth and Poverty, with particular reference to India

Czech Conroy

Natural Resources Institute

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The prospects for livestock production are generally very good. Demand for, and production of, livestock and livestock products in less developed countries (LDCs) is expected to double over the next 20 years (Delgado *et al.*, 1999). Livestock production has been growing faster than any other agricultural sub-sector, and it is predicted that by 2020 livestock will account for more than half of total global agricultural output in financial terms. (This process has been termed the '**livestock revolution**'). Thus, any discussion about agricultural growth and poverty needs to take account of trends and prospects in the livestock sector.

The livestock revolution presents both opportunities and threats to resource-poor livestock-keepers in LDCs. The increased demand for livestock products could represent sustained, and perhaps increased, revenues for them. On the other hand, they could face increased competition from larger, more commercially oriented livestock production units. One dimension of the livestock revolution has been the industrialisation of livestock production, with production changing from being the traditional local multi-purpose activity to an increasingly market-oriented and vertically-integrated business (Delgado *et al.*, 1999; Steinfeld, 2002).

There is a real danger that large-scale intensive producers could undermine the viability of small-scale livestock production, thereby exacerbating rural poverty (Steinfeld, 2002). Whether or not this happens will depend on two factors. One is government policies, and how supportive they are of small scale production. The other is the extent to which small-scale producers are able to increase the efficiency of their operations and the productivity of their animals. This in turn will depend partly on the efficacy of research and extension systems in supporting them.

The Livestock Revolution in India

In India the value of livestock output grew by 6 percent per annum in real terms between 1985 and 1992 (World Bank, 1999). The dairy and poultry industries contributed the major share of this growth. In 1990, livestock accounted for about 32 % of the total value of agricultural output. The increasing demand for livestock products is driven by sustained economic growth and rising incomes. In addition, the income elasticity of demand for livestock products is high, estimated at around unity for certain wealth groups in rural areas (Mehta *et al.*, 2003).

Poultry production in India

Trends in the poultry sector provide a graphic example of how sector growth does not necessarily go hand in hand with poverty reduction. Poultry is one of the fastest growing segments of the agricultural sector in India today. While the production of agricultural crops has been rising at a rate of 1.5-2 % per annum, that of eggs and broilers has been rising at a rate of 8-10 % per annum (Mehta *et al.*, 2003). The

growth of the poultry sector in India has also been marked by an increase in the size of the poultry farm. For example, in earlier years broiler farms used to produce a few hundred birds (200-500 chicks) per cycle on average; whereas now units with less than 5,000 birds are becoming rare, and units with 5,000 to 50,000 birds per week cycle are common (ibid).

Family poultry, which is based almost entirely on native birds, has been by-passed by the poultry revolution, and appears to be a stagnant low-productivity sub-sector: in other words, the poultry sector is, in effect, a dualistic one. The percentage of native birds in the total poultry population has dropped from 50 % about 30 years ago to about 10% now (Rangnekar and Rangnekar, 1999). Whether industrial poultry production has undermined family production is unclear, but it cannot have helped. On the positive side, the meat of family-produced scavenging chickens is much more highly valued than that of industrially produced birds, with prices per kg liveweight being 50-100% higher for the former.

The Current Enabling Environment for Livestock in India

In India, the rural poor are less likely to keep larger species (e.g. buffalo) and more likely to keep smallstock, particularly goats, poultry, and – in some places – sheep. Thus, the effect of the enabling environment on these species is particularly important. Generally speaking, the enabling environment for livestock has not been pro-poor. In particular, the research and extension systems have not been well-g geared to addressing the needs of poor livestock-producers.

Policies

The interests of the poor have not been well represented in policy processes in India; and strategic intervention is required to ensure that poor producers secure a greater share of the benefits from this expanding market (Turner, 2004). It is hardly surprising, therefore, that the livestock sector policies of some states - such as that of Andhra Pradesh, where “the political environment has been fairly hostile to small ruminants” - have not been pro-poor (ibid.). The rural poor are particularly dependent on common pool resources, such as pastures and forests, for grazing their animals. Policies and approaches in other sectors, notably forestry and watershed development, have tended to be hostile to small ruminants (particularly goats), and hence anti-poor, by imposing restrictions or bans on grazing (ibid; Conroy and Lobo, 2002); and stall-feeding of small ruminants tends to be less viable than with large ruminants.

Research

Public sector livestock research tends to be of limited relevance to the realities and priorities of smallholder and landless livestock-keepers. This was reflected in the presentations at a recent conference on smallholder livestock production systems, held in Kerala. In the words of a Danish participant, the conference was “too dominated by a large number of research reports by Indian animal scientists and veterinarian researchers, PhD and MSc students.. [m]ost of these reports had a very narrow scope and were lacking linkage to the development perspectives” (quoted in Dolberg, 2003).

Extension

Extension services in India are characterised by five biases that result in them tending to neglect poor rural livestock-keepers, (Matthewman and Ashley, 1996). First, many organisations follow a top-down ‘transfer of technology’ approach: they rely heavily on interactions with ‘progressive’ farmers, and assume that others will learn from the experiences of these farmers and will subsequently adopt the technology in question. Second, most extension organisations focus on large ruminants “almost to the complete exclusion of other species” (ibid). Third, they also tend to focus primarily on intensive systems; and particularly on milk production, to the neglect of other roles of livestock. Fourth, services are usually concentrated in higher potential areas. The state Departments of Animal Husbandry tend to have higher densities of veterinary institutions and activity in areas where production is highest. Similarly, dairy cooperatives use business criteria to determine their areas of operation, which results in less well developed areas being explicitly excluded from involvement in their activities. Fifth, livestock extension is generally provided by men for men, despite the key roles that women play, particularly in goat-keeping and backyard poultry.

Can Poor Producers ‘Cash-in’ on the Livestock Revolution in India?

In India – and many other less developed countries – the majority of rural households keep some livestock: this includes poor smallholders, and even a substantial proportion of landless people. An important question is how much scope there is for increasing the profitability of poor people’s livestock enterprises. Are they doomed to be marginalised in the livestock revolution, or can they also ‘cash in’ on it? This issue will now be considered in relation to poultry-keeping and goat-keeping respectively.

Improving returns to poultry-keeping

There are two options here – one is to improve the traditional scavenging system, and the other is to promote an intermediate, semi-intensive system. Recent work in south Rajasthan by BAIF, Scottish Agricultural College and the Natural Resources Institute suggests that it is realistic to expect simple, low cost improvements to the traditional scavenging system in this region to:

- halve the number of eggs not hatching;
- reduce the mortality rate of growing birds by 25%; and
- increase the number of eggs available for consumption by 25%.

The experience of LIFE, a network of NGOs working in Tamil Nadu, is that technological improvements such as these, combined with health-related and capacity development interventions, results in almost a doubling of the bird populations. Productivity and production impacts like these would result in substantial increases in sales and household incomes.

Enabling poor producers to move to an intermediate, semi-intensive system is a second option, albeit a particularly challenging one given the higher establishment and operational costs involved. Nevertheless, the experience of another NGO, PRADAN, suggests that this approach can work, notwithstanding the general trend towards larger and larger production units noted earlier. PRADAN works with small

self-help groups, mainly composed of poor tribal people, and forms producer cooperatives to coordinate purchase of inputs and marketing. Most producers can earn over Rs 7,000 per annum from taking up poultry-keeping as a part-time activity. About a third may earn more than Rs 10,000 per annum. Such sums of money may be enough to lift them above the poverty line (as measured by simple annual income indicators).

Improving returns to goat-keeping

Applied research by BAIF and the Natural Resources Institute has shown that there is substantial potential for improving the productivity of traditional goat-keeping systems, which tend to be associated with problems like low kidding rates or high kid mortality, the precise problem varying according to the locality. The research developed and tested low-cost interventions, based on locally available materials, that were effective in addressing constraints and increasing productivity (Conroy *et al.*, 2002). One technology increased kidding rates by 30-40%; while another one was as effective as a commercial drug in de-worming goats, thereby reducing kid mortality and increasing growth rates (Conroy and Thakur, 2002).

Goat marketing can also be improved by: making goat-keepers more aware of market prices; by marketing birds through small producer groups; and by providing these groups with weighing machines so that they know the weights of the animals they are selling. A combination of technological improvements (like those described above) and more effective marketing could greatly increase the returns to goat-keeping.

Implications for Development Agencies

An international review of donor-supported livestock projects concluded that they have generally failed to benefit the poor (LID, 1999). As poor people generally consume only a very limited quantity of livestock products, they need to be reached through improvements to production rather than via lower prices for livestock products. This in turn means that donor support should particularly target the types of animals that the poor keep.

Improving the enabling environment

In principle, the voice of poor livestock-keepers in policy discussions can be greatly strengthened through formation of producer groups and networks, and through lobbying by development NGOs and donors. There is also a need for better articulation of poor producers' needs from service agencies, and reform of research and extension agencies to make them more client-led and poverty-focused.

Lower-level development interventions

In their programmes and projects development agencies should give higher priority to supporting pro-poor livestock enterprises, such as goat-keeping and poultry-keeping.

Implications for DFID

To its credit, DFID has recognised the need to make livestock policies pro-poor through its support for the Pro-Poor Livestock Policy Initiative, which is managed by FAO. In addition, at the national level DFID and other donors “could alter the content and tenor of common/state property debates by treating small producers, including sheep and goat rearers, as legitimate participants and insisting that donor-supported projects do not damage the welfare of poor producers” (Turner, 2004).

Through its Livestock Production Programme (LPP) DFID has also supported the development of pro-poor livestock technologies, including the goat and poultry research projects mentioned earlier. It remains to be seen, however, whether pro-poor livestock research will continue to attract any funding from DFID when the LPP is terminated at the end of 2005, other than the funds allocated to the International Livestock Research Institute.

DFID’s agricultural and rural development programmes in India (such as the Western India Rainfed Farming Project) have also been quite good at supporting pro-poor livestock enterprises, but could do more. In addition, not all interventions (by DFID-supported projects and by other agencies, including NGOs) have been effective, particularly in family poultry, and there appears to be a need for better guidance and improved information-sharing among Indian development agencies and projects.

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