Smallholder Dairy Development

Development & Challenges

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Livestock & Livelihoods

Three quarters of rural population keeps livestock

Arguments for livestock development:

- Livestock revolution: global food needs, wealthier consumers or
- better livelihoods for the poor?or both?



Benefits of livestock for a household

Cattle on mixed farms, East Java

Progeny Insurance Insurance Insurance Finance

Draught —

Weight increase



- Lab our productivity comparable to crops and off-farm work
- Functions can be exclusive and conflicting
- Smallholders are more productive than often assumed

Drivers dairy development in developing

countries

- Increased demand for dairy products
 - Income growth
 - Population growth
 - Urbanization → westernization of diets
- National interest
 - Food security
 - Import substitution or export (improvement foreign exchange position)
 - Diversification agriculture
- Rural development
 - Food security and improved nutrition
 - Income generation → poverty alleviation
 - Extra employment→ poverty alleviation

Livestock and Development

- Livestock revolution helping or hindering smallholders?
 - Industrial systems are growing twice as fast as mixed farming
 - Asia: industrial systems account for 80% of the production increase
- Driving forces for increasing demands impact smallholders
 - Can they respond?
 - Grazing lands disappear, poorer quality feeds in return
 - Herd/flock sizes too small to respond to demands
 - Availability of household resources: family labour, capital, land, feeds
 - Family situation

Trends in Dairy Development (1)

Value Chains and food safety standards

- More emphasis on food safety and quality control
- Introduction and application of internationally accepted standards

Privatization

- Reduced involvement of government in input and service supply
- Stimulates producers organization and private service suppliers

Less market protection

- Fluctuating milk prices
- More competition with imports, also in developing countries

Higher feed and fertilizer prices

- Feed: Food-feed-fuel
- Fertilizer: high energy costs (N) and depletion of stocks (P,K)



Trends in Dairy Development (2)

Increase in scale of production and processing

- Large scale processing with strong links to supermarkets (quality, constant supply)
- Large scale milk production units established by processors or private investor

Participation of small scale milk producers

- Shift of emphasis from production to markets, marketing and inclusion in modern chains
- More attention for formation of producers groups, cooperatives etc. to organize marketing, services, input supply and advocacy

Dairy development in developing countries

- Dairying gives substantial income improvement with transfer of capital from urban to rural areas
- Dairying most successful in countries with strong dairy tradition
- Not for the really poor households but offers opportunities for empowerment, particularly women
- Offers opportunities for intensification of production systems (better utilization of crop residues, manure production)
- Feed the main on-farm constraint Milk production 5-6 kg per cow d⁻¹ can be increased with 1 kg on basis of optimal use of local feeds



Livestock ladder

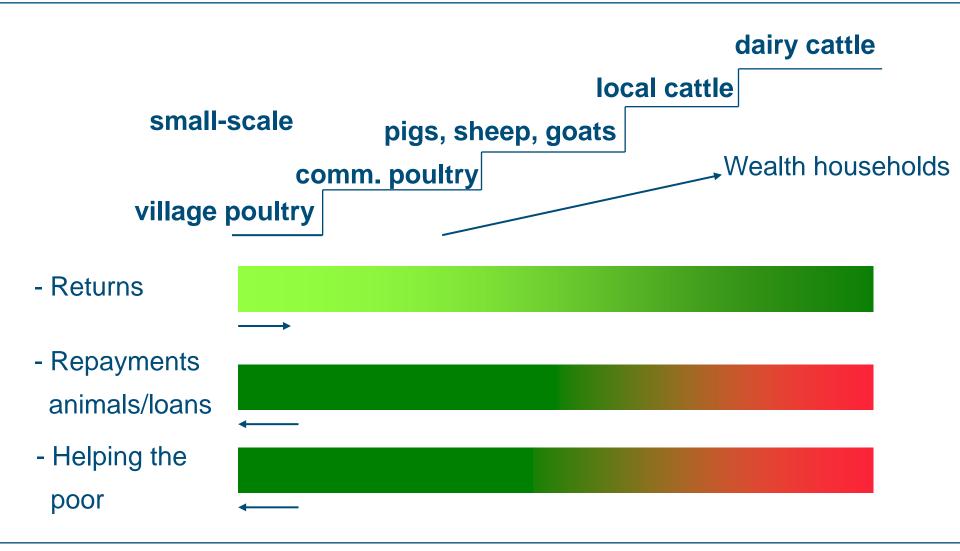
- Household benefits
- Wealth status households
- Life cycle household







Livestock Development: cows or chickens?



Major challenges and opportunities for small scale dairy development

Market

participation of smallholder dairy farmers in modern dairy chain

Sustainable increase of milk production

Economic and environmentally sustainable increase

Institutions

Required organization and support

Market challenges related to smallholder dairy development

- Efficient and effective models for linking small scale dairy farmers with modern supply chains
 - Producers groups, cooperatives
 - Efficient collection systems
- Meeting standards of modern dairy supply chains
 - Milk quality
- Fluctuations in supply and demand
 - Dry season shortages
 - Fasting periods (e.g. Ethiopia)

Sustainable increase of milk production

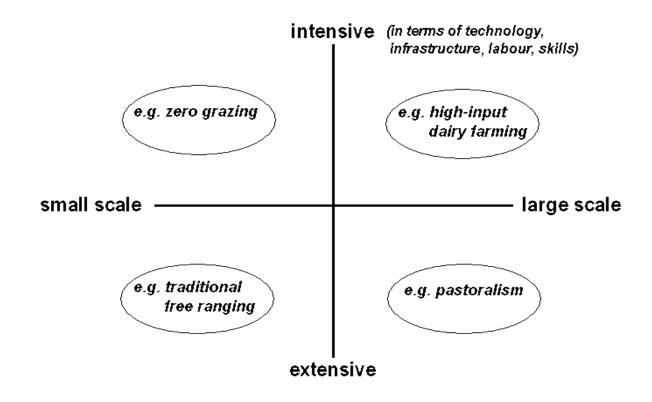
- Improvement of knowledge & skills of farmers
- Intensification of production system
 - Feeding (quantity and quality)
 - Breeding (improvement of genetic potential for milk production)
 - Disease prevention and control

Intensification

- Intensification: increase in production for the market
 - increased use of purchased inputs
 - less attention to other livelihood functions, resilience?
 - competition other smallholders and large-scale producers
 - globalization
 - part of the smallholders will be excluded: 'moving out'
 - others can 'step up' or will 'hang in'
- Intensification requires a package of innovations
- Intensification : how does it work out?

Vision quadrant for dairy development

Fig 1. Vision quadrant for dairy development



Smallholder dairying, Kenya highlands

Driving forces: demands and the reduced landholding size

Free-grazing Zero-grazing





Intensification

Smallholder dairying and markets

	Zambia extensive grazing system	Sri Lanka cattle under coconuts	Kenya zero-grazing intensive dairying
Total annual income PPP\$	1345	1456	2973
Cash income %	22	75	59
Income in kind %	41	16	33
Intangible benefits %	37	9	8
Labour productivity d-1	15	15	12

PPP\$: purchasing power parity \$

Moll et al., 2007

- Labour productivity higher than for crops or wage labour
- Market major pull factor for dairy development in Kenya

Smallholder dairy development and institutions

- Smallholders need support to enter the market
 - Credit, services, input supply
 - Organization of farmers: groups, cooperatives
 - Knowledge and capacity building of farmers, development workers, policy makers
- Small holder dairy development needs clear vision and policies.
 - Development policies often directed at modernization, crossbreeding, management changes- do these policies match resources?
- Smallholder dairy development requires an integrated approach with active involvement of the various actors in the dairy supply chain
 - To identify and implement jointly supported interventions