

socio-economic conditions. This means that scientists and extension workers must be able to understand factors influencing acceptance when transferring such technology to farmers. Scientific knowledge alone cannot solve small-scale farm problems (Falvey and Chantalakhana 1999).

Policy makers should resist the all too common assumption that development efforts should move from smallholders towards supporting larger scale, 'more efficient' milk producers to meet growing consumer demand. Instead, growing demand should be used as a stimulus to help continue and sustain SHD enterprises particularly when they face increasing barriers to participation in value chain markets (Ahuja et al. 2012).

If well organised, SHD can compete with large-scale, capital intensive 'high tech' dairy farming systems as practised in both developed and developing countries. However, SHD development plans must include strategies to increase competitiveness in all segments of the dairy industry chain, namely input supply, milk production, processing, distribution and retailing (APHCA 2008; Otto et al. 2012). The future for SHD farming in tropical Asia is optimistic so long as the industry can rectify many of the constraints to improving domestic production of raw milk, particularly those at the farm level.

## 8 Where to look for further information

A standard introduction to the subject is J. B. Moran, *Tropical dairy farming* (see Moran 2005 in the References and further reading section for full details).

The best single source of information on smallholder dairying in Asia is the Asia Dairy Network jointly established by the FAO and the Animal Production and Health Commission for Asia and the Pacific (APHCA) (<http://www.dairyasia.org/>). The site includes information resources and key contacts.

Centres of expertise include:

- The International Livestock Research Institute (ILRI) (<http://asia.ilri.org/>)
- The National Dairy Research Institute in India (<http://www.ndri.res.in/>)
- The author's own consultancy, which has undertaken numerous projects to support smallholder dairy farmers in countries such as Indonesia, Malaysia, Thailand, Bangladesh, Myanmar and India (<http://www.profitabledairysystems.com.au>).

There are a number of current research projects designed to support dairy farmers in Asia and which identify current problems and ways of tackling them, including:

- The CGIAR's Research Program on Livestock and Fish which includes improving the dairy value chain for Indian smallholders (<http://livestockfish.cgiar.org>; an overview can be found in Rao et al. (2014))
- The Smallholder Dairy Development Programme coordinated by the FAO and others, focusing on Bangladesh, Myanmar and Thailand (<http://www.dairyasia.org/projects>)
- The Market Access for Smallholder Farmers (MASF) Project, coordinated by Practical Action, which supports dairy farmers in Nepal ([http://practicalaction.org/region\\_nepal\\_masf\\_project](http://practicalaction.org/region_nepal_masf_project))