SMALL RUMINANTS: IMPLICATION AND RESEARCH STRATEGY FOR RURAL POVERTY REDUCTION

TERNAK RUMINANSIA KECIL: IMPLIKASI DAN STRATEGI PENELITIAN UNTUK PENGENTASAN KEMISKINAN DI PEDESAAN

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ABSTRAK

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INTRODUCTION
In Indonesia, small ruminants like sheep and goats are important for a larger part of the rural population (Sabrani and Knipscheer, 1982). Nearly ninety nine percent of small ruminants are found in the hands of small holders in the village (Soedjana, 1993) and they kept primarily for meat production (Bradford, 1993) and the number of goat raised per farm is relatively small (Soedjana, 1993) about two till ten head (Sodiq et al., 2001; Adjisodarmo, 1991b). The common productive systems for small ruminants in Indonesia are cut and carry, where forage and other feeds are brought to continuously housed animals (Djajanegara and Setiadi, 1991; Sodiq et al., 1998; Sodiq, 2000) and grazing under tree crops, along roadsides in temporarily idle croplands, etc. (Bradford, 1993).

Indonesia has about 13 million goats, of which 54 percent are raised on the island of Java (Dirjen Peternakan, 2003), with the major breeds are the Kacang and Peranakan Etawah goats (Djajanegara and Setiadi, 1991; Sodiq and Abidin, 2002a; Edye, 1983). The Kacang is an Indonesian native small goats. To improve local breed the government imported Etawah goats from Jamnapari and north India. The Kashmir, Angora and Saanen goats have also been introduced in the past, but only the Etawah goat has adapted to the condition of the Indonesian farming system (Edye, 1983; Djajanegara and Setiadi, 1991).

There are three general types of the native sheep to Southeast Asia (Gatenby et al., 1994): Small coarse woolled sheep, Fat-tail sheep of Eastern Indonesia, and Long-tail woolled sheep of Thailand. In Indonesia, there are two distinct types: thin-tailed and fat-tailed, with some strain differentiation within each.
Merino, Suffolk, Suffas, Dorset and, more recently, the Barbados Blackbelly, St. Croix–Virgin Island white hair sheep, were introduced to Indonesia (RIAP–SRCRSP, 1990; Utoyo, 1995). The most numerous group of thin-tailed type is the Javanese Thin-tail (JTT), the predominant type in West Java, which is the province with the largest sheep population (Merken and Soemirat, 1979; RIAP–SRCRSP, 1990). The JTT sheep has some strains or local sub populations that are named after the local regions where they are prevalent, such as Garut and the Priangan sheep (Iniguez, 1990; Iniguez et al., 1993). The Garut is popular as a fighting sheep and differ from the common thin-tailed sheep in its larger size and convex facial profile (Edey, 1983).

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The world population of goats is 674 millions, of which 94% are found in the developing countries (Devendra, 2000a). The population of small ruminants in Indonesia represents the largest population of small ruminants in South East Asian countries (Devendra and McLeroy, 1982; Utoyo, 1995), and there are many farm families involved in the production of small ruminants (Wahyuni and Suparyanto, 1991; Priyanto et al., 1991; Devendra, 1993). This is suggested that small ruminants fit well within the farming systems in the rural sector. Most importantly, goats can provide ready cash as liquid assets to meet unexpected household needs of the farmer, presents insurance against crop failure, and a method of investing labour input (Djajanegara and Setiadi, 1991; Atmadilaga, 1991). The contribution of rearing small ruminants to the total farming income is substantial, and was about 17.1, 26 and 14.8 percent for the three categories of lowland, rubber plantation and upland areas respectively. The important implication of these figures is that goats provide a vehicle to improve the income of poor and destitute farmers (Sabrani and Knipscheer, 1982; Adjisoedarmo, 1991b).

Traditionally, goat production has always been perceived as the poor mans' domain (Lebbie, 2000). There are some roles of goat rearing relation to the poverty reduction and development (Zhanyuan, 2001): (a) an effective way to increase farmers' income in poverty-stricken areas, (b) the realistic way to re-employment of rural surplus labor in poverty stricken areas, (c) promote economic development of poverty-stricken areas, and (d) helpful for agricultural structure adjustment and ecological protection in poverty-stricken areas.

There are some ways of livestock contribution to the livelihoods of the poor (LID, 1999): (a) Livestock are often one of the important household cash income sources for the poor, (b) Livestock are one of the few natural capital assets owned by poor household, (c) Livestock are pivotal to farming system practised by the poor, (d) Livestock allow the poor to gain private benefit from common property resources independents of private land holdings, and utilise feeds that have few alternative uses, (e) Livestock support security by diversifying risk and acting as a buffer to crop yield, (f) Livestock are particularly important for women, and (g) Livestock provide a multitude of other benefits.

In some situation, the livestock ladder may allow the poor to progress from modest livestock holdings, such
(ILRI, 2003). Investment in livestock has been prominent among the many tools used by rural people in the developing world to reduce risk and alleviate poverty (RDV, 2001; Dolberg, 2001). The Provincial Development Program of Central Java Province, Indonesia, introduced a new loan–in–kind project on small ruminants. The project could be used to introduce new technology and also increase farmer income (Adjisoedarmo, 1991a).

Livestock production provides a constant flow of income and reduces the vulnerability of agricultural production (ILRI, 2003).

RESEARCH STRATEGY OF SMALL RUMINANTS FOR RURAL POVERTY REDUCTION

Poverty is still large in a rural phenomenon. This means that substantial inroads in poverty can be made only if the livelihoods of the rural poor are improved (LID, 1999). Poverty and inequity are problems that constantly faced by the government, private sectors, and communities (CPA, 2003; Pradhan et al., 2000). There are two main approaches of poverty alleviation: (a) increasing income by improving productivity into which poor community and (b) reducing expenditure cost of basic needs such as access to economic activities. The key strategies of poverty reduction are (a) creating opportunities or creating job and business opportunity for the poor and (b) community empowerment. Relation to the targeting science and technology there are four important global priority thrusts, have been identified to reduce hunger and poverty (Dikson et al., 2001): (a) focus technology through participatory research and development, (b) introduce technologies to increase labour productivity in low potential areas, (c) promote technologies to increase land and labour productivity in areas of high potential, and (d) enhance the development and use of biotechnology.

There are some approaches to poverty alleviation through livestock (LID, 1999): (a) better disease control, (b) new production resources including animals on credit, fodder plants, (c) higher productivity through the use of improved breeds, feed processing, different production techniques, (d) improved storage and processing of livestock product, (e) access to markets through government livestock marketing corporation, development of livestock abattoir, investment in infrastructure, and (f) information on improved production and marketing techniques.

There are a number of important development strategies. This include considering the genetic improvement (Edey, 1983; Bradford, 1993; Peacock, 1996; Sodiq and Tawfik, 2004), clear production objectives, developing the avenues of production that are consistent with sustainability, continuing research and validation of research results (Soedjana, 1993; Bradford, 1993; Devendra and McLeroy, 1982; Koemono, 1991). The improvement of management system for smallholders in rural area (Sodiq and Tawfik, 2003; Sodiq, 2000; Sodiq, 2001; Adjisodarmo, 1991a.; Chaniago, 1993; Anggraeni et al., 1995): subdivision of animal sheds to enable better management, improvement of management during the perinatal period and training and provision of extension personnel knowledgeable could be take into account.

Goat research is organized at various level with divers key players,
products, including existing knowledge, technologies and policies. (b) Improvement or adaptation of existing tools, methods and approaches to make them better or more applicable to the particular circumstances of poor livestock keepers, and (c) Development of new technologies, tools, and approaches. The major opportunities for research to better target research are: (1) The characterization and quantification of linkages between livestock development and poverty reduction through strategic studies in target production systems; (2) The application of predictive output-orientated studies to evaluate the effects of poverty reduction interventions that exploit these linkages; (3) The development of ex ante impact assessment models to determine the effect on these linkages and interventions of extraneous factors such as climate change and urbanization; (4) The use of research products to inform research and development policies and investments.

An assessment of research activities confirms the continuing trend about emphasis on basic research and along disciplinary lines. The impotence of shifting research programs to give more emphasis to applied and adaptive efforts that respond to needs on farm, based on constrain analyses are emphasized, in which a systems approach and holistic focus is necessary (Devendra, 2000b).

CONCLUSIONS

In Indonesia, small ruminants are kept as an important component of farming activities, particularly by small-holders in the village. The potential of small ruminants to reduce rural poverty is enormous. There are some ways of small ruminants contribution to the livelihoods of the poor: livestock are often one of the important household cash income sources, livestock are one of the few natural capital assets owned livestock are pivotal to farming system practised, livestock allow the poor to gain private benefit from common property resources, livestock support security by diversifying risk and acting as a buffer to crop yield, livestock are particularly important for women, and provide a multitude of other benefits. The major opportunities for research to better target research are: the characterisation and quantification of linkages between livestock development and poverty reduction through strategic studies in target production systems; the application of predictive output-orientated studies to evaluate the effects of poverty reduction interventions that exploit these linkages; the use of research products to inform research and development policies and investments.

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