



Technical assistance

The SPC Animal Health and Production Service currently works to support the development of animal health and production capacity in the region and the strengthening of animal disease surveillance and emergency response preparedness. It has also entered into an agreement with the United Nations Food and Agriculture Organization (FAO) and the World Organisation for Animal Health (OIE) to collaborate in the implementation of the Global Framework for the progressive control of Transboundary Animal Diseases (GF-TADS).

Further reading/information

Delgado C., Rosegrant M., Steinfeld H., Ehui S. and Courbois C. 1999. Livestock to 2020: The next food revolution. Washington, DC: International Food Policy Research Institute.

FAO, OIE, WHO, UNSIC, UNICEF, and World Bank. 2008. Contributing to One World, One Health: A strategic framework for reducing risks of infectious diseases at the animal-human-ecosystems interface. Consultation document, 14 October 2008. http://www.oie.int/downld/AVIAN%20INFLUENZA/OWOH/OWOH_14Oct08.pdf

Morris J. 2007. The importance of the pig in Pacific Island culture. Suva, Fiji Islands: Secretariat of the Pacific Community.

Thornton P.K., van de Steeg J., Notenbaert A. and Herrero M. 2009. The impacts of climate change on livestock and livestock systems in developing countries: A review of what we know and what we need to know. *Agricultural Systems* 101:113–127.

World Bank. 2009. Minding the stock: Bringing public policy to bear on livestock sector development. Report No. 44010-GLB. Washington, DC: The International Bank for Reconstruction and Development/The World Bank.



Local genetic resources should be characterized and conserved



Training to increase laboratory capacity in the region



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Native breeds of livestock are well adapted to local conditions

Livestock in the Pacific

Purpose

This brief focuses on four questions:

1. How important is livestock production in the Pacific?
2. How is the demand for livestock products expected to grow in the Pacific?
3. What are the main challenges to livestock production in the Pacific?
4. What policies are recommended to promote livestock production in the Pacific?

Key messages

- Livestock production in the Pacific region is an integral part of the social and cultural systems, with livestock featuring prominently in most traditional ceremonies.
- The livestock sector contributes significantly to the economies of the Pacific Island countries and territories (PICTs) in terms of food security, employment opportunities and foreign exchange savings.
- Demand for livestock products has grown significantly in the recent past, driven by population increases, increases in disposable incomes, rapid rates of urbanisation and the growth of the tourism industry. The growing demand for livestock and livestock products creates significant opportunities and challenges for PICTs through:
 - creating opportunities for employment, income generation and increased food security;
 - contributing to environmental pollution through the use of inappropriate waste disposal methods, especially in areas with high livestock densities;
 - the threat of exotic diseases to the animal and human health status of PICTs; and
 - the necessity of adapting existing farming systems to deal with the challenges of climate change.
- Raising awareness of the current status of the livestock industries, their challenges and their potential for growth is essential for the development of appropriate technical and economic frameworks for the sustainable growth of the livestock sector.
- A lack of up-to-date information on the structure of local livestock industries, including social and cultural uses of livestock, makes it difficult to plan effective livestock sector interventions.



Cattle grazing under coconuts in New Caledonia

Table 1. Livestock numbers in PICTs

PICT	Chickens (000)	Pigs	Cattle	Goats	Ducks (000)	Beehives
American Samoa	68	64,208	300			20
Cook Islands	24	15,900	300	3,600		
Federated States of Micronesia	18	23,000	125	50	1	
Fiji Islands	1,656	92,251	156,074	251,765	70	3,000
Guam	5	635	112	124	5	265
Kiribati	36	39,851				3
Marshall Islands	15	15,000			6	
Nauru	2	880			<1	
Niue	10	1,527	30			800
Northern Mariana Islands	11	1,483	1,395	276	<1	
New Caledonia	400	25,447	111,308	8,130		1,971
Palau	14	2,500	15	25	1	
Papua New Guinea	3,900	1,700,000	92,000	2,500	14	
Pitcairn	N/A	N/A	N/A	N/A	N/A	N/A
French Polynesia	293	33,644	8,037	27,286	2	1,642
Samoa	497	257,658	48,751	20	1	10,000
Solomon Islands	400	97,000	3,000	300		
Tokelau	2	1,050				
Tonga	178	113,580	10,354	2,741	1	900
Tuvalu	14	10,202			3	
Vanuatu	368	88,694	211,152	8,792		
Wallis and Futuna	63	30,100	60	7,000		551
Total	7,973	2,614,510	643,013	312,609	108	19,149

Sources: Data are extracted from census reports and country reports to various Secretariat of the Pacific Community (SPC) meetings.

Livestock production systems

Livestock in the region are reared in a number of environments that range from the tiny fragile coral atolls to resource-rich large islands (see livestock numbers in Table 1). A number of production systems have been adopted to exploit the available resources and opportunities, ranging from low input smallholder/subsistence-based systems with small numbers of animals common in village production systems to large commercial operations based on the use of imported commercial feeds and exotic breeds of animals on some of the larger islands.

Despite their small sizes PICTs have some of the largest pig and chicken densities in the world. These densities reflect the importance placed on livestock keeping and contribute to problems of feed supply and waste management. High livestock and human densities also increase the threat of zoonotic disease outbreaks in PICTs.

The significance of the livestock sector in the Pacific

Livestock (particularly chickens and pigs) play a major role in the cultures and traditions of Pacific people. Pigs feature prominently in all significant traditional and cultural events and are commonly reared for these events. They are seldom slaughtered for home consumption. Ruminant livestock (buffalo, cattle, goats and sheep) were introduced to the region in the 1800s for meat and milk, and with the increase in their numbers they have been assimilated into traditional cultural practices, with cattle now rivalling pigs for importance in many PICTs.

The extent of livestock production in the region is difficult to quantify due to a lack of accurate data on stock numbers, productivity, slaughter numbers and the large and lucrative informal market for livestock (particularly pigs and cattle) for traditional social and cultural obligations. It is estimated that this informal market may account for up to 60 per cent of livestock slaughtered in the region. The total value of livestock products (excluding dairy products) produced in the region is conservatively estimated to be more than USD 518 million per annum.

The demand for livestock products

The demand for livestock products in the region is currently met from both locally produced products and imported livestock products. In a reflection of the global trend, demand for meat products has grown steadily (1.7 per cent per year) over the period 1972–2003 (Figure 1). This trend is expected to continue into the future and presents a major opportunity for the development of the livestock sector in the region.

Meat product import data from nine PICTs indicates that the demand for imported meat products is strong (Table 2), with 67,924 tonnes of meat valued at USD 159 million being imported in 2007. In addition to meat products, dairy products, eggs and honey valued at USD 65 million, USD 4.3 million and USD 0.1 million respectively were also imported.

Figure 1. Trends in average per capita meat consumption 1973–2003



Source: Data from FAO (<http://faostat.fao.org/>) for Fiji Islands, French Polynesia, Kiribati, New Caledonia, Samoa, Solomon Islands and Vanuatu

Table 2. Meat product imports for nine PICTs for the year 2007.

PICT	Meat imports (kg)	Value USD
Cook Islands	1,907,007	\$4,245,432
Fiji Islands	12,500,011	\$27,946,979
Kiribati	1,116,985	\$2,657,888
New Caledonia	10,845,700	\$30,305,110
Papua New Guinea	22,178,001	\$63,036,674
Samoa	10,151,742	\$15,490,308
Solomon Islands	915,750	\$2,351,727
Tonga	7,387,606	\$1,369,684
Vanuatu	922,116	\$1,909,355
Total	67,924,917	\$159,313,157

Source: Data from SPC trade statistics.



The Fiji sheep a breed with potential in the region

Challenges and constraints to livestock production

The large and growing demand for livestock products and the high levels of imports illustrate the potential for growth in the livestock sector. Growth in this sector would also bolster food security, contribute to savings in foreign exchange and create income generating opportunities in rural areas. However, as explained below, the expansion of the livestock sector is constrained by a number of factors, including nutrition, breeds, animal health, environmental impact, the effects of climate change and poor animal welfare.

Nutrition

Appropriate nutritional strategies are needed to ensure optimal reproductive and growth rates to increase the efficiency of production. In the face of high costs of imported feeds and variability in both the quantity and quality of available local feeds, nutritional strategies are required to improve local rations based on local feedstuffs improving the efficiency with which they are digested and reducing the losses of nutrients in animal wastes.

Breeds

Appropriate breeds should be used to meet the production goals of farmers within environmental constraints. Local breeds with their local adaptation are often more productive than exotic breeds in low-input systems. However, exotic breeds are better suited to intensive commercial production systems. Characterisation of the local breeds under local production systems is needed to develop appropriate breeding strategies.

Animal health

While PICTs are free from serious animal disease they have a number of endemic diseases that cause production losses. Competent animal health and production services are required to support the livestock industry. The strengthening of biosecurity, disease surveillance and emergency response activities is needed to maintain the current disease status and prevent the introduction of new diseases. The adoption of a 'One World One Health' approach is needed to deal with the increasing incidence of zoonotic diseases.

Environmental impact

The expansion or intensification of livestock production can result in environmental degradation through the discharge of raw wastes into the environment and overgrazing. Overgrazing may result in problems of erosion and weed invasion of pastures. The environmental consequences will be greater in PICTs with the highest livestock densities and careful planning of livestock development programmes is needed to ensure that environmental impacts are minimised.

Effects of climate change

Though livestock numbers in PICTs are comparatively small, local production systems will need to adapt to the changes brought about by climate change. This will require a change in production system to increase the efficiency of production, the introduction of adapted genetic material for both animals and fodder plants, the redesign of farms and infrastructure to cope with changes in weather patterns and sea levels, and the strengthening of disease surveillance to detect changes in the distribution of animal diseases.

Animal welfare

Improved standards of animal welfare can result in improved production efficiency. The adoption of good welfare practices is also important for countries with tourism sectors as most tourists have an expectation that animals and animal products are produced in a manner consistent with good animal welfare practices. Poor animal welfare practices may have a negative effect on a country's image as a tourist destination.

Initial policy recommendations

- Encourage livestock production by reviewing existing livestock development policies and promoting the integration of livestock into existing food production systems.
- Increase awareness among stakeholders, and in particular policy-makers, of the importance of livestock in the Pacific Island region and the growing demand for livestock products.
- Support research and development aimed at improving the efficiency of existing production systems and adapting to climate change to increase production from all levels of the livestock sector.
- Strengthen animal health and production services to support the development of the livestock sector.
- Strengthen biosecurity, disease surveillance and emergency response capacity to protect both animal and human health.



Cattle are an important source of draught power