

## **Consolidated Responses for the PAFPNet Discussion for the month of April 2015**

**Date: 07/04/2015 – 27/04/2015**

### **"Livestock Production in the Changing Environment of Pacific Islanders"**

The PAFPNet topic for the month of April, ***"Livestock Production in the Changing Environment of Pacific Islanders"***, focused on two questions on livestock development in the Pacific region. The two questions highlighted the key constraints of livestock production in the Pacific with suggested solutions to address the challenges. The key objective of this query was to encourage stakeholder participation towards the improvement of national livestock production.

Livestock production, like crop production, is fundamental for food security in the Pacific. However, feedback on the discussion forum identified that the focus on livestock development is weak and measures must be taken to strengthen emphasis and progression in this area.

The high cost of livestock feed was highlighted as one of the major constraints in the livestock industry. According to the discussion, the main reason for high cost of stock feed is due to its importation. As a result of local stock feed shortage, importing feed is essential to cater for livestock population. PNG said stock feed cost is literally killing the industry. Expensive feed leads to higher production costs, thus contributing to higher price for local meat supply which further leads to cheaper consumer alternatives (canned meat etc). In addition, although local feed is available, the quality of it is very poor; hence the substitute of imported feed. The quality of feed can either have a negative or positive effect on livestock animals. Therefore, having feed quality that is well below the average standard can have an adverse effect on the sustenance of livestock.

The unavailability of land has been identified as another major livestock restriction especially in smaller Pacific Island Countries (PICs). Members made mention that limited land space is seen as a hindrance to the growth of the livestock sector. The competition for land among other infrastructural development alongside population pressure puts a limiting cap on expanding livestock development. Another contributing factor to this issue is the immense price tag placed on land purchase. It is either too expensive for farmers to buy or is inherited with the obligation of land sharing amongst multiple farmers.

The livestock sector is also suffering as a result of inadequate facilities, equipment unavailability and poor road access. These issues need to be addressed as they play a major role for livestock water supply system, slaughtering, sanitary treatment, health, management and livestock sector service access.

Other problematic factors agreed on by our participants, affecting the livestock sector, were the out-dated animal health and development policies and the lack of professional veterinarians and veterinary services. Without practical policies and legislations implemented/renewed and the initiation of training for the veterinary profession, the livestock sector will continue to lack funding support for livestock development in the PICs.

Measures were also discussed as possible solutions to the livestock constraint. Contributors on the forum suggested that in identifying and producing local feed formulations, this would reduce reliance on alternative feed imports. Other suggestions included carrying out surveys of available local feeds as an initial step to establishing a local feed resource database as well as creating feed marketing systems to improve farmer access to livestock feed.

Recommendations for the land issue included adopting viable production systems and technologies that would include the best traditional practices to improve production. Outside intervention from private and public sector for financial support and sponsorship was also seen as being key to improving the functionality of the livestock industry.

Similarly members agreed on placing more emphasis on implementing and initiating additional training for livestock farmers in the rural areas to help maximize livestock production. This would include knowledge sharing as a means of strengthening and expanding Paravet training. Policy development was also reviewed in the discussion to help increase access to funding for market infrastructure and access to market information, which would assist farmers to improve the trade of their livestock products.

This query triggered a lot of valuable information to help in the development and progression of the Livestock industry here in the Pacific. Revamping the involvement of livestock stakeholders is essential to undertaking the constraints faced by this industry. Overall, all members found it crucial that all existing legislations and policies related to national livestock development, objectives, scope and strategic outcomes be reviewed and updated to help foster a more sustainable livestock industry.

The assessments of the consolidated responses were gauged from the questions below:

- 1. List down 5 of the most important key constraints to livestock production in your country? (eg livestock feed etc)***
- 2. How could (your) government, commercial sector, farmer organisations or other stakeholders address the 5 key constraints indicated above?, e.g. development of livestock policies, promoting demand, livestock training exchanges/study tours, etc.***

Please visit the following link PAFPN discussion: [http://www.spc.int/lrd/pafnet-publications/cat\\_view/137-all/136-pafpnet/491-discussion-queries](http://www.spc.int/lrd/pafnet-publications/cat_view/137-all/136-pafpnet/491-discussion-queries)

Responses from:

- [Mr. Nichol Nonga, Secretariat of the Pacific Community \(SPC\), Fiji](#)**
- [Ms. Renee Orange, Ministry of Agriculture and Fisheries \(MAF\), Samoa](#)**
- [Mr. Lawrence Duponcheel, Northern Marianas College-Cooperative Research, Extension, and Education Service, CNMI](#)**
- [Professor Alan Quartermain, Division of Agriculture and Rural Development, School of Science and Technology, University of Goroka, PNG](#)**
- [Mr. Ilagi Puana, Secretariat of the Pacific Community \(SPC\), Fiji](#)**
- [Ms. Kate Blaszak, World Animal Protection Organization \(WAP\)](#)**

7. [Andrew Tukana, Secretariat of the Pacific Community \(SPC\), Fiji](#)
  8. [Mr. Potaisa Hombunaka, Department of Trade, Commerce and Industry, PNG](#)
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  11. [Mr. Hauhouot Diambra-Odi, College of Natural and Applied Sciences, Guam](#)
  12. [Mr. Eroni Tamani , Ministry of Agriculture, Livestock Research Section, Fiji](#)
  13. [Mr. Barney Kega, Department of Livestock & Veterinary Services, Solomon Islands](#)
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  19. [Mr. Sala Tuiafiso Sagato , Ministry of of Natural Resources and Environment, Samoa](#)
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**1. Mr. Nichol Nonga, Secretariat of the Pacific Community (SPC), Fiji**

Thank you for highlighting livestock production which is an essential part to food security and livelihood.

Q 1. 5 Key constraints in livestock production in PICTs

These are only some of the challenges identified that continuously hamper livestock development and production in the region..

i. Policy and legislation

- Out dated animal health and production legislation and policies – need to review and address the current issues e.g. climate change, disasters etc
- Low priority in PICTs given to livestock issues and lack of resourcing of livestock programmes in the PICTs.
- Failure in many governments to recognise the public health significance of livestock in the region
- Livestock farming not attractive as business /career especially to young people

ii. Infrastructures

- Limited national and regional diagnostic capacities to support livestock production e.g. analyse feeds, diseases diagnosis and other analysis.
- Lack of food hygienic facilities e.g. abattoirs /slaughter facilities for food hygiene processes
- Lack of capacity on proper organised livestock marketing systems in place that farmers could use to sell their products
- The low priority that livestock gets in national / provincial development plans and activities.

### iii. Feed /nutrition

Feed caters for about 70 – 75% of expenses in any livestock production and especially for pig and chicken production.

- High costs of compounded or balanced feed (most imported) , resulting in high cost of local products and local producers cannot compete with imported products .
- Poor quality local feed a factor
- Identity of potential local feed stuff that is not directly in competition with human consumption
- Limited availability (seasonal) and capacity to incorporate locally available feedstuffs in feed rations.
- Researches and trials done on regional stock feed inaccessible for people to use, the need to collate the data and utilise the information for locally formulated feed.
- Storage and processing capability for locally available feeds resources

### iv. Genetic Resources

- Limited quality existing genetic materials for breeding and production
- Poor access to improved genetic material
- Lack of facilitation of quality genetic material within PICTs for breeding and production
- Unknown diversity of animal genetic resources (AnGR – farmed and feral) in PICTs
- Conserving of specific animal genetic resources for future utilisation

### v. Production Systems

- Limited land availability for livestock farming and livestock feed crop production especially in smaller PICTs since competition for land for other developments and population increase.
- Environmental impact and issues on livestock production systems
- The need to identify, support and promote useful traditional production systems especially in in-situ situations.
- Ability of farmers to adopt appropriate technologies to enhance existing production systems.
- Limited animal husbandry technical knowledge, skills and methods in production systems for farmers(e.g. east-west housing orientation, distance dwelling houses, wind direction, water ways, elevated site)

#### Other constraints

### i. Animal Waste Management

- Animal waste becoming a health hazard and pollution potential to water sources, marine ecosystems, environment, CC GHG emissions etc
- Educate rural populations through awareness of the risks of animal waste.
- Select and share information and adopt proven appropriate technologies to minimise and control the risks associated with animal waste disposal.

ii. Human Resources Development

- Limited or shortage of qualified veterinarians and the difficulty in retaining the few regional qualified veterinarians available
- Limited of opportunities to train veterinarians and livestock specialists to provided extension support to farmers
- Low priority for veterinarians and livestock specialists to continue training
- Lack of a regional system of co-operation in provision of veterinary advice / services in the region.

iii) Data and information

- Limited data and information accessibility to allow decision-makers to make informed decisions for policies and development plans and users to adopt for actions.
- Past researches and trials conducted on the various aspects of livestock health and production in the region are not easily accessible and available for use.
- Lack of proper managed data base systems, most data are recorded on paper and paper get lost.
- Lack of interest from livestock farmers to record data because it is usually of no use to them or do not know how to use them.

Q 2. How could (your) government, commercial sector, farmer organisations or other stakeholders address the 5 key constraints indicated above?, e.g. development of livestock policies, promoting demand, livestock training exchanges/study tours, etc.

These constraints are not straight forward and simple issues to solve, many of these are complex and are present in all countries. The constraints have been identified and although may not have been documented they have been there for decades and there is no simple solution to many of these. All PICTs over time have tried and still trying their best to address and overcome these constraints. To address the particulars in the constraints will lead us to solving some of the livestock constraints.

Governments, private / commercial sectors and farmer organisations need collaborative and corporative efforts to address these areas

- i) Policies / Legislations - Many countries do not have up to date policies and legislations. The need is to do reviews of the current policies, develop new policies and legislations to capture present day issues such as climate change, natural disasters, diseases etc.
- ii) Infrastructures - To have a successful livestock industry the industry need to have supporting infrastructures such as diagnostic capacities labs, feed analysis labs, food hygienic facilities (abattoirs ), Market infrastructures where farmers can sell their produce

- iii) Feed / nutrition - When livestock get good and balanced feed they will grow health and produce more. Happy and healthy animals will produce quality and quantity products, Feed caters for about 75% of production expenses, but the availability of local feed stuffs are lacking and many farmers depend on imported feed which are expensive. Thus the expensive livestock products from local producers which prevents our local farmers to compete with imported livestock products . Need to identify and produce local feed formulations to reduce feed imports.
- iv) Genetic Resources – There is great need to have access to good quality genetic breeding stock for breeding and production. Need, (appropriately private sector stakeholders to do this part) breeders and stock distributors who can supply quality stock to our farmers. Perhaps govt agencies or institutions and private / commercial sector people can act as facilitators to information on where, who and when to go to for these quality breeding stock. The conservation, development and utilisation of our local animal genetic resources is essential for future breeding and production.
- v) Production Systems – Land is the most limiting factor to livestock production in many countries even the larger countries. Livestock compete with other developments for land and usually livestock gets a low priority. Need to adopt new appropriate practical production systems and technologies including best traditional practices to improve production.

Perhaps the bottom line is; Address the constraints fully and we will have solved some of the problems

I have listed more than 5 but others can use these to discuss the way forward for livestock production. Some points may be repeated in other areas.

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## **2. Ms. Renee Orange, Ministry of Agriculture and Fisheries (MAF), Samoa**

1. List down 5 of the most important key constraints to livestock production in your country? (eg livestock feed etc)

1. Effective training and dissemination of knowledge – A lot of farmers do not know how to farm livestock. Across the board, knowledge on how many animals per acre, types of grasses, how to tell if your animals are thriving on their feed and what to do if they don't, water requirements of animals, welfare, record keeping, breeding management and also rationale behind culling, selling or slaughtering. The knowledge is available; in Samoa there is the USP Agriculture campus, and the livestock division of MAF. So there is a gap – training is ongoing, but the knowledge doesn't seem to be getting to its target audience. This is an area MAF is working on, and hopefully after we update our training methods we will see a difference in the next few years.

2. Land area – As a small island, we are starting to find that several farms are filling up to their stocking capacity on a pastoral system. High producers are often those that are feeding supplementary feed in addition to grass. Farmers with small amounts of land are unable to reach economically viable numbers of livestock. In addition, buying land for farming is expensive. Most farmers are farming on inherited or family land; some herds are comprised of animals belonging to several farmers all grazing the same paddocks. Agroforestry is a real asset as it will help make maximum use of land.
3. Unsustainable farming practices – Again this will also come down to training and awareness. Practices such as slaughtering breeding animals, and slaughtering without preg testing so we end up with people slaughtering pregnant animals.
4. Nutrition – The majority of skinny animals that the animal health team are called to treat are skinny because of poor nutrition – poor pasture quality, overstocking, no water.
5. Infrastructure – poor road access to many large farms, fencing, no stockyards for the majority of farmers, no water pipes on farm or troughs to hook them up to. Makes slaughtering, treatment, handling and management very difficult and inefficient.

2. How could (your) government, commercial sector, farmer organisations or other stakeholders address the 5 key constraints indicated above?, e.g. development of livestock policies, promoting demand, livestock training exchanges/study tours, etc.

1. The Livestock division of MAF needs policies and SOP's so all sections are giving the same message across the board. It would be good to see our commercial farmers starting some community oriented programmes to help get subsistence farmers involved, and teach them through practical situations. Using multiplier farms as model farms for other farmers to visit. Packaging our extension services based on the type of producer was a recent idea brought on board by the extension consultant with the World Bank SACEP project which we think will work really well for our wide-range of clients.
2. Farmer cooperatives where several farmers use the same land perhaps? Not sure how that would work in practical situations. Understanding of how much stock the land and pasture type can take and then assessing the amount of supplement needed to support extra animals. I do not believe that Samoa should move towards complete intensification to combat the land area problem. I think once we reach capacity, stop there and work on efficiency – optimum number of females:male , good nutrition to optimize production, records and implementation of a breeding program to make sure all females on farm are giving offspring.
3. Training and awareness are the key to combating unsustainable production practices and poor nutrition.

These are my opinions but am looking forward to reading others as I have only been working in the sector for a year now.

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### **3. Mr. Lawrence Duponcheel, Northern Marianas College-Cooperative Research, Extension, and Education Service, CNMI**

Included below are a few of the top constraints for livestock producers from Saipan, Tinian, and Rota. Although each island has their own set of priorities and restraints, I did my best to create a list of constraints that is fair to all, based on content from the attached visioning and strategic planning documents, that we put together with livestock producers from each island, as part of the Marianas Grazing Academy program. If you should have any questions or concerns, feel free to let me know and I'll do my best to work things out. Please see the list below:

#### **Top Constraints for Livestock Producers in the CNMI**

1. Lack of meat processing facilities, policies, equipment, and trained staff.

The availability of meat processing facilities would greatly improve the marketability of locally grown meats to schools, stores, hotels, and so forth. Furthermore, having meat processing policies would allow for greater marketability and commerce locally, regionally, and for export. Trained staff, such as meat inspectors, veterinarians, butchers, and processors would provide for jobs and additional support for the animal husbandry industry.

2. Water collection and distribution infrastructure and Ag. Water policies.

Water infrastructure, accompanied by agricultural water rates, would greatly increase the productive capacity of farmers, while reducing production costs, and encourage integration of crop and livestock production systems.

3. High Cost of production

The high cost of shipping, handling, and fuel for transportation have contributed to an ever increasing cost of production. Products such as feeds, medicines, fencing materials, farming implements, and so forth, are expensive, with no reprieve in sight.

4. Equipment Availability

Many small-farm stakeholders do not control or own large parcels of land, or are producing on leased lands, making purchasing tractors and other such equipment, impractical. Many small-scale farmers therefore rely on government subsidized tractor services or private owners of tractors to satisfy their equipment rental needs. Although, often times, the demand for tractor services is far greater than the supply, resulting in lost productive capacity.

5. Limited trained staff in Animal Husbandry, pasture management, and animal health



There is a strong need for training in the areas of animal husbandry and animal health, to ensure that animals and pastures are well-taken care of, healthy, and of a sufficient quality to support processing and marketing efforts.

#### 6. Land and pasture availability

Many livestock producers throughout the region are either producing on leased government, military, or private lands, limiting their potential and productive capacity.

#### 7. Funding

Many of the island nations throughout the Pacific Region have either limited or no access to state and federal funding that could go towards mitigating against the constraints mentioned above. Many of the islands outside of the Marianas do not receive USDA funds. Furthermore, even islands like Tinian, which is part of the Commonwealth with the US, are currently black-listed. These municipalities cannot receive any federal funding at this time, greatly limiting their ability to acquire federal funding.

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#### **4. Professor Alan Quartermain, Division of Agriculture and Rural Development, School of Science and Technology, University of Goroka, PNG**

Livestock Production in the Changing Environment of Pacific Islanders

Key constraints in PNG

1. Lack of policy for livestock development at all levels of Government - local, district, provincial, national. Without sensible policies there can be no effective Government support and it is pointless to ask for funding or complain about lack of funds.
2. Social and cultural constraints and requirements.
3. Limited effective research.
4. Absence or deterioration of necessary infrastructure, especially roads, transport and abattoirs.
5. Limited animal health services.

What can we do?

1. Stakeholders, and especially the university agriculture departments, must contribute to policy making that is evidence-based with research backing and capable of delivering achievable strategies. I and my students at the University of Goroka have suggested that policies must focus on: species that we have and know can produce, smallholder producers, making maximum use of local resources, animal welfare (see earlier discussion topic), provision of necessary infrastructure, strengthening animal health services, and support for proven research and extension agencies.

2. We operate within cultures that have traditionally valued exchange of goods and services, livestock and food, and this has required reciprocity over sometimes a lengthy time frame. These values are somewhat at variance with commercial business norms. We need to research these issues and think outside the box in terms of developing compromise solutions, even new ways of doing business. There are few if any social scientists involved in livestock research, perhaps only conventional economists.

3. An example of possibly effective research which is not being done is to consider more effective use of plant proteins in livestock (monogastric) feeding. Good work is being done on making better use of local feed resources for pigs and poultry but are there blocks to adoption that must be overcome?

4. We must be able to get produce to market and process our products humanely and hygienically. This requires planning to ensure effective use of what will always be restricted funds for capital works. There must be livestock sector input into such planning.

5. I believe that no Pacific Island country can afford university level veterinary training. So I think we will always have to rely on a limited number of veterinarians and basic veterinary laboratory services. Hence we will need to rely on para-veterinary services and the training of farmers in the recognition of health problems, reporting, basic first aid and the wise use of drugs.

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#### **5. Mr. Ilagi Puana, Secretariat of the Pacific Community (SPC), Fiji**

I totally agree with Prof and others who have so far contributed. I just want to bring the issue of urban drift and import-dependent food security trend in the region as some of key constraints to farming in the islands. The statistics of labour movement from rural to urban or city areas is very alarming in most of our countries. Young would-be farmers are flocking to urban centres in big numbers in hope of finding work for wages but as we know most become jobless and resort to criminal activities for survival. Another issue is dependency on imported food. Local food production is becoming too expensive so more and more urban dwellers are going for cheaper imported food products such as canned meat and fish. Even people in rural areas are also turning to imported foods. However, these foods are in most cases lacking in their nutritive values and therefore nutritionally poor in quality. The high rates of non-communicable diseases and anaemia in our island population is a clear evidence of the current trend of changing dietary pattern in our countries. The high dependency on imported meat products and ever increasing rate of urban drift situation in our countries coupled with high cost of local meat production is a real constraint to livestock production or farming in the region.

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#### **6. Ms. Kate Blaszak, World Animal Protection Organization (WAP)**

I'm not sure I can accurately answer question 1 for a PIC, but I've noted some general constraints for the region, as I understand them.

1. List down 5 of the most important key constraints to livestock production in your country? (eg livestock feed etc)

- Poor animal management and welfare (including health) – related to the following
  - Feed – availability, quality, competitive price or profitability of business (especially smallholder/home farms or few animals)
  - Lack of knowledge and training (generally for good livestock management, disease and welfare)
  - Lack of good, best practice examples and a range of humane farming systems in country or region (they don't have to be sophisticated, just systems based on good welfare and sustainable production)
  - Lack of other resources – easy access to clean water, dry, low cost bedding substrate, enough or suitable transport trucks, unloading facilities, veterinary services (particularly in smaller PICs), basic shade/shelter for smallholder systems
  - Lack of infrastructure and ability for value added products – eg. lack of slaughterhouse, equipment and training for humane slaughter, lack of good processing of meat, milk, eggs
  - Lack of sound market drivers: ie. undeveloped or small scale markets with a lack of good connection of farmers to their markets - hindering profitability and competition, especially for smallholders.

2. How could (your) government, commercial sector, farmer organisations or other stakeholders address the 5 key constraints indicated above?, e.g. development of livestock policies, promoting demand, livestock training exchanges/study tours, etc.

- Provide best practices case studies (e.g.. Pig farming), guidelines (eg. Dairy welfare guidelines from India), other case studies – poultry, beef. (Nov 2014, Jan 2015 and as they arise)
- Provide training resources for welfare generally, humane slaughter (DVD, technical notes) - to SPC and PICs (Nov 2014)
- Provide policy guidance, support and advice (2014 and ongoing – via SPC, PICs on request) Model Animal Welfare Legislation document, workshop on developing Pacific RAWs and specific advice/guidance as requested. We will also consider the Pacific in planning our Regional Humane and Sustainable Agriculture strategy to 2020. We also support the process of the UN Sustainable Development Goals – which will have certain indicators encouraging and monitoring livestock production.
- Promote or assist in contacts for business to business study tours
- Encourage implementation of OIE welfare standards as a minimum at least – beef, broilers, slaughter, transport etc...
- Provide direct advice to SPC on the Paravet meat hygiene manual, and next welfare manual and veterinary faculty in Fiji (later in 2015)
- Advise via SPC (or on request) on the benefits, linkages and importance of animal welfare to good livestock production, profitability and market access and protection.

Please feel free to ask any questions. I have also added the IFC – 2014 document, if not already sent, which explains well the linkage and basis of good animal welfare and livestock production and marketing.

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## **7. Andrew Tukana, Secretariat of the Pacific Community (SPC), Fiji**

1. List down 5 of the most important key constraints to livestock production in your country? (eg livestock feed etc)

- Feed
- Appropriate breeds/blood lines
- Management (husbandry practices)
- Livestock waste
- Capital Costs

2. How could (your) government, commercial sector, farmer organisations or other stakeholders address the 5 key constraints indicated above?, e.g. development of livestock policies, promoting demand, livestock training exchanges/study tours, etc.

### Feed:

Feed is a constraint as it can be costly for the farmer if he uses compounded feed, thus raising the cost of production, the poor quality of the feed can also be a constraint, e.g. you could purchase compounded feed from a feed mill with low quality and your livestock do not grow even though you've incurred that cost. As a farmer I would look for alternative feed resources which are available locally, thus reduce my cost of production, the government on the other hand could look at reviewing or developing livestock feed policies to support and promote the production of least cost feed rations for livestock farmers as well as have some regulation on the quality of the feed that are being produced by feed mills and sold to the public.

### Appropriate breeds/blood lines:

We have local breeds which are not high producers and we have improved breeds but inbreeding has occurred giving rise to poor production. As a farmer with improved breeds I would ensure that I renew the blood line after a few years to improve production outputs. The government could support with policies to improve bloodlines and breeds within the country as whole, e.g. importing new bloodlines and carrying out artificial insemination in the country, etc.

### Management (husbandry practices):

This is something that is normally learnt via trial and error for farmers that have had no formal livestock training, thus as a farmer I would try and improve on my management and husbandry skills via going online for husbandry information, some information and advice could also be sought from the livestock officers within the government offices. The government on the other hand should continue to support and increase the number of trainings on livestock husbandry specialist areas, e.g. pig farrowing management, through their policies and programs, etc.

#### Livestock waste:

Livestock waste is a big issue, as it can cause pollution to the land, air and waterways increasing the potential for the transmission of zoonotic diseases. As a farmer I would be concerned about livestock waste, so before starting a livestock farm, I would look for ways to dispose livestock manure appropriately, e.g. doing composting, settling ponds, etc. The government should support this by having more awareness on the harmful impacts as well as some of the benefits of livestock waste, they could also improve on the enforcement of regulation on those farms that are not disposing livestock waste appropriately, in addition to giving advice on how waste will be addressed for new farms that are starting up, etc.

#### Capital costs:

Costs for starting up livestock farms are quite difficult to obtain, so as an individual I need to make some savings before being able to invest in a farm, as loans are quite difficult to come by. Commercial banks in Fiji, do not normally give loans for farming. The development bank on the other hand do give unsecured loans but at high interest rates affecting the ability for the farmer to repay those loans. Government policies should support making loan conditions easier for those interested in farming for those farmers that have shown interest and meet the requirements from the development bank, e.g. those that have available land to farm, and potential markets to tap into, etc.

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### **8. Mr. Potaisa Hombunaka, Department of Trade, Commerce and Industry, PNG**

1. In breeding has rendered the current stock inefficient.
2. Stock Feed cost is literally killing the industry .

Way forward:

1. DAL currently working with QDPI to improve stock but Funding support lacking to conduct a thorough National Insemination Program to improve the stock.
2. Reputable Private Sectors with Financial Resources to partner with Government to revive the Cattle Industry under PPP Policy
3. Stock Feed must be grown and processed in country rather than importing to lower cost of production. Again Private Sectors with Financial Resources to partner with Government under PPP Policy.

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## 9. Mr. Uatea Vave, Ministry of Agriculture, Tuvalu

These are my views to the two questions

1. List down 5 of the most important key constraints to livestock production in your country? (eg livestock feed etc)

i) The lack of Feeds (Pigs, Chicken and Ducks)

- Very expensive, need to import
- Poor local feeds, lack of proteins
- Late of shipping schedules

ii) Poor husbandry ,management

- due to the lack of knowledge on animal husbandry
- not interesting in animal husbandry
- expensive of husbandry techniques etc..

iii) Not enough land

- especially in Funafuti, farm owner least land for farming
- only concentrate on small farming
- overcrowded

iv) Animal Act expired

- need to revise and update
- need to establish animal welfare in the PIC for big island

v)Lack of Knowledge and Skill

- Need farm training, tour and site visit
- lack of interest on doing farming

2. How could (your) government, commercial sector, farmer organisations or other stakeholders address the 5 key constraints indicated above?, e.g. development of livestock policies, promoting demand, livestock training exchanges/study tours, etc.

Our Government needs to revise our animal act, it been very old, and plus our government need to revise legislation of animal on the island , there too many stray dogs without any masters

SPC to organised tour for our young livestock farming to see new technology of animal husbandry, so that they may gain knowledge ans skill in order for them to do their own farm

We also need Paravet training to continue to young farmer, not only agriculture staffs but to extend to others in the future

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## 10. Dr. Gibasa Asiba, Northern Region National Agriculture Quarantine and Inspection Authority (NAQIA), PNG

1. List down 5 of the most important key constraints to livestock production in your country (e.g. livestock feed,

etc.)

1. Political willingness,
2. Lack of livestock development policy,
3. Lack of basic management knowledge,
4. Land ownership issues,
5. Market access.

2. How could (your) government, commercial sector, farmer organizations or other stakeholders address the 5 key constraints indicated above? e.g. development of livestock policies promoting demand, livestock training exchange/study tours, etc.

1. The government of the day must put equal emphasis on all the income earning investments, rather than concentrating on only those that create more and short term benefits, e.g. at present concentrating on non-renewable natural resources like minerals, oil and natural gas. There must be stringent policies in agricultural related development/activities including livestock production.

2. There must be national livestock development policy in place outlining the objectives, scope and strategic outcomes. It should spell out the objectives and outcomes in detail. The policy should include research, development, multiplication and distribution. It should also cover the implementing agencies and yearly budget allocation.

3. There is a need for training and should include formal and informal training. From personal experience many small holder livestock farmers lack good basic management practices. Also training is not adequate if there is no regular technical support/visit from the livestock professionals. There must be regular visits to the farmers by livestock extension officers to assist them with their problems, etc. Encourage farmer training and farmer exchange/study tours.

4. Land ownership is a problem and is very difficult to solve as in PNG land is not owned by an individual, family group, clan or tribe, but many clan, tribe and all the individual inclusive.

5. Within the livestock policy, there must be a section that will deal with the market access. It should include both local and overseas markets. For example, encourage the supermarket chains to purchase locally produced animal products; create a system with the large commercial farms to closely operate with small farmers and easy access for small farmers to slaughtering points. Make

deals with other countries and territories within the region for market access, e.g. Melanesian Spearhead Group member countries.

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**11. Mr. Hauhouot Diambra-Odi, College of Natural and Applied Sciences, Guam**

Please find here some comments to add to the discussion forum on livestock production on Guam and Micronesia:

Majors constraints to livestock production are:

1. Lack of trained personnel in animal production and health
2. Lack of local research to address local needs of animal producers (feeding, reproduction and health)
3. lack of available feedstuffs in large quantities (no commercial production of grains, no by-products from industry, no pasture)
4. Lack of slaughter houses to ease the bottleneck in production
5. Environmental issues such as odor nuisance, water pollution and manure management
6. lack of economy of scale to warrant profitability

Local government and university or colleges are not doing enough to promote animal production in the Pacific Islands. Small farmers are for the most part left alone without assistance.

A regional organization with serious interest in sustainability beyond the rhetoric will be helpful.

Thank you.

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**12. Mr. Eroni Tamani , Ministry of Agriculture, Livestock Research Section, Fiji**

My response

1)

1. Livestock feed;
2. poor breeds (inbred offspring)/poor genetics;
3. lack of knowledge of the farmers;
4. low interest and commitment;
5. land availability and edaphic factors

2)



1. The current discussion on the Feed Bill is a good start
2. Breeding policies and classification of farms
3. More specialized training
4. Incentive policies by government to create interest through communal engagement
5. Land use policies to be formulated in consultation with all stakeholders

These are what I think in a broad sense to the questions.

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### **13. Mr. Barney Keqa, Department of Livestock & Veterinary Services, Solomon Islands**

The five main constraints of livestock production in the Solomon Island experience includes

1. High stock feed costs
2. Lack of proper slaughter facilities and appropriate legislation.
3. Cheap imported products especially poultry meat increasing annually
4. Limited livestock and veterinary services and capacities.
5. Lack of large scale commercial sector involvement in production.

In the case of high stock feed government to promote research into locally available feed ingredients and advocate with commercial feed suppliers to be distributors of these feed. The government can also pursue a regional approach involving research institutions, commercial feed producers, and livestock producers.

Government can promote and support private sector involvement in slaughter facility development, where animal health and meat inspection can be done on livestock slaughtered for public consumers.

These facilities must be based on domestic consumption. There are existing local facilities which can be developed to an acceptable extent where government meat inspectors can be engaged.

Firstly government can promote the opportunities for large scale commercial livestock production to existing large commercial livestock production. Government can support through cash or non-cash initiatives, providing an enabling environment for such investors. On the other hand small-holder production can be strategically developed around the key commercial players. At the same time strengthen linkages between large commercial holdings and rural small-holders, processors and markets. The aim of all stakeholders must be to increase domestic product.

Government to prioritize training of livestock and veterinary service staff training in the various disciplines of animal sciences. While at the regional promote upgrading of the SPC and PICT para-vet program.

Promote a strong animal health and production department to focus on livestock programs - research, animal health, and technical services phasing out of the agriculture livestock mix adopted in the past decades.

I do hope these brief ideas support and willing to discuss

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**14. Mr. Peter Manueli, Agricultural Consultant, Fiji**

Here are a few ideas for your discussion

5 Most important constraint to livestock production

1. Availability of feeds
2. Poor quality feed
3. Lack of breeding stock and cost of breeding stock
4. Poor husbandry
5. Hi costs of farm development (fences, buildings, etc)

1 Improve feed availability -

Carry out a survey of available feeds as a first step to establish the feed resource base

Encourage planting of feeds (pastures, root crops etc) to fill the gap

Encourage the development and adoption of ideas /knowledge to make more use of feed ingredients that are not widely used currently

Establish feed marketing systems to improve feed availability to farmers

Subsidize the costs of imported feed ingredients

2. Poor quality feed

Establish a feed analysis capability to allow analysis / evaluation of feedstuffs

Carry out an inventory of locally available / used feed resources

Evaluate local feed resources to determine their nutritive values

Identify and implement low cost technologies to improve the nutritive values of locally available feeds

Importation of feed concentrates to improve the quality of local feeds

Establish local feed mills to make balance feeds from locally available and imported ingredients

Establish and enforce feed legislation that sets standards for locally manufactured feeds to protect farmers

### 3. Lack of breeding stock and poor quality breeding stock

Market survey to identify the breeding stock requirements (quality and quantity)

Establish multiplication farms to build up stocks for sale to farmers (government and smallholder)

Introduce and enforce legislation to prevent the slaughter of breeding females (especially in species with low reproductive rates)

Establish breed improvement programs based on locally adapted breeding stock

Limited introductions of exotic breeds to upgrade local breeds

### 4 Poor husbandry

A survey of animal welfare problems to identify key issues

Training for livestock officers (paravet training)

Develop advanced paravet training modules (ruminant production, pig and poultry production)

Enact and enforce animal welfare legislation

Extension/awareness programs that target key husbandry issues

Livestock market develop to improve farmer incomes leading to improvements in welfare

### 5 High costs of Farm Development

Subsidies for key inputs (fencing materials etc)

Improve availability of inputs in rural areas (reduce transportation problems/issues for farmers)

Develop / adopt local technologies and techniques to replace high cost imported inputs

Develop and adopt improved standards for farm infrastructure - buildings etc to improve their durability and reduce costs over time

Identify and adopt alternative production systems that are less dependent on high cost inputs (e.g. rotational grazing systems that reduce dependence on imported anthelmintic drugs)

1. List down 5 of the most important key constraints to livestock production in your country? (eg livestock feed etc)

1- Availability of land for installing farmers due to urbanisation on main island Tahiti (75% of total population), and legal status of land in other islands (multiple owners from the same large family called indivision in french)

2- access to market of the products. Only one abattoir on Tahiti which results in difficult access to the facility for animal produced in other islands. Meanwhile shops, restaurants, schools and hospital will only accept meats that have been inspected and stamped for consumer safety. This is largely accentuated by the number of islands stretched over a vast surface of sea.

3 access to food supply, especially for poultry and pig production that will depend on feed imported or produced in the plant located in Tahiti

4- production costs are important and amplified by distances inputs have to cover to get to the farms plus the small size of farms that won't allow substantial scale savings. This is important because local products will not sustain concurrence with imported products

5 a low level of confidence in locally produced products regarding quality as well as regular availability

2. How could (your) government, commercial sector, farmer organisations or other stakeholders address the 5 key constraints indicated above?, e.g. development of livestock policies, promoting demand, livestock training exchanges/study tours, etc.

1 work on land ownership legal frame to help people gain access to land

2 organize new abattoirs in key points (pb of operating costs and qualified inspectors vs throughput)

3 work on transports by sea or air to help farmers from other islands than Tahiti access to feed and transport their production

4 work on regulations to mitigate price difference between imported and locally produced food....

5 promote local products and enhance public confidence through research and communication

6 help farmers modernize their plants and practices as to improve their cost effectiveness and the quality of their products

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## 16. Mr. Mangau Navian, Livestock Department, Vanuatu

1. List down 5 of the most important key constraints to livestock production in your country (e.g. livestock feed etc)

This would be?

- I. High transportation cost of moving purchase young animals from source to farms and mature animals from farms to market especially on outer and remote islands.
- II. High cost of processed feeds e.g. meat and bone meal for piggery, copra meal, poultry feeds for layers and broiler such as starter, grower and layer, and some other livestock feeds.

- III. Geographical locations of islands make it quite difficult for farmers to have access to livestock sector services e.g. Roads, advices and training from livestock department officers, livestock market base, and other assistance from government.
  - IV. Low level skills of raising animals and mostly traditional based way of raising animals on subsistence and small farms whereas commercial farms have advance skills and knowledge of raising animals. Commercial farms include animal husbandry practises, medical treatment programs (vaccinations), artificial insemination, pregnancy diagnosis, pasture improvements and management and so on.
  - V. Limited funds for traditional farmers to start new farms or extend subsistence farm to commercial and market oriented farms, besides financial institutions such as banks and lending schemes have tough criteria's on obtaining loan which restrict interesting farmers on obtaining loans for farm development.
2. How could (your) government, commercial sector, farmer organisations or other stakeholders address the 5 key constraints indicated above?, e.g. development of livestock policies, promoting demand, livestock training exchanges/study tours, etc.

- I. High transport cost - early this year fuel (petrol, diesel, kerosene etc.) has reduced by its authority which in then could lower transport and that is something which government do in negotiating with fuel authorities to bring the price down. Member of parliament (MP's) of each islands also assist their people financially in transporting their livestock product to main markets in Port Vila (Marobe market)
- II. High cost of processed feeds – when more feeds supply established prices decline and meat & bone meal from abattoir decline especially when animal sell to abattoir are at low price, thus farmers rely mainly on local food such as coconut, taro, cassava and corn as feeds for non-ruminant animals and local pasture (grasses & legumes) for ruminant animals. Farmers also obtain information and advice on feeds formulation with raw products from livestock department and food experts.
- III. Difficulty with access to livestock services – due to problems with access of livestock sector services, livestock officers make them available in disseminating update information and trainings on livestock husbandry and other practices to interested farmers around remote islands by conducting regular visits to these islands. Rural butcheries also established on some rural areas to eliminate transportation cost to abattoirs in urban areas.
- IV. Low level skills

Livestock department and livestock industry working groups organize trainings on animal husbandry practises on main centres and local farmers around near centres are invited as participants of these trainings and at the end of each trainings farmers gain additional knowledge on animal husbandry and other farming practises. Livestock department of Vanuatu identifies key farmers around rural areas away from Port Vila and on remote islands of Vanuatu and these key farmers are regarded

as “model farmers” where trainings and demonstration are normally done on their farm and nearby farmers come in to attend it.

V. Funds difficulty ( loans )

It was quite hard to obtain a short (medium) term loan from banking agencies for purchase of livestock equipments and breeding animals due to tough regulation and requirements made by them so government of Vanuatu has established the “Agricultural development bank” to assist interested farmers financially in starting of new farms. We also have overseas funding agencies (donors) like AUSAID, NZAID, ACIAR, SPC and so on who provide great financial assistance to the countries need in developing livestock industry across the country.

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**17. ‘Ana Pifeleti, Ministry of Agriculture, Forestry and Fisheries (MAFFF), Tonga**

Malo e lelei and my comments are and related to constraints to Animal Production in Tonga are:

1. Commercial production of poultry and pigs is severely limited due to the lack of reasonably priced, locally available feed mixtures.
  2. All animal production is constrained by the limited access to potable water for drinking.
  3. Animal constraint – tethering of cattle, sheep and goats, free ranging of chickens and pigs are all limiting factors to optimal production
  4. Lack of available remedies to treat prevalent disease constraints is a very limiting deficiency
  5. Lack of trained clinical and extension staff and lack of knowledge of farmers of welfare and husbandry requirements for livestock
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**18. Mr. Tomasi Canuwale, Ruel Foundation, Fiji**

Yes I have few points that I believe would somehow help in this line of query for the Animal Production in Fiji and in the entire pacific region.

Question 1: Answer

\* The fear of consistency of availability of marketing

\* The lack of knowledge of the farmer in the breeding and nurturing of their live stock

- \* The mismatching of the type of animals with weather and environment, weather to suits the animal farming eg. Dry weather will meet the Goat and Cattle while in wet area will comfort the Piggery and poultry farm
- \* Lack of Commitment of Farming officers in supporting the Farmer and all his/her effort
- \* Lack of farming supporting equipment to assist the farmer in their respective livestock farmer
- \* The unavailability of technical assistance especially to unskilled, low education and upcoming and young farmers

#### Question 2: Answer

- \* The Government, NGOS and Stakeholders should ensure the availability of marketing strategies and make policies and guidelines available to farmers for their information in the process of their farming
- \* More educational activities and programs from stakeholders and government and NGOs towards each farmer and their initiative
- \* More vibrant and knowledgeable officers in the field and government and NGOs should ensure that this area is well catered for
- \* Government and NGO's with Business bodies should assist the young and aspiring farmers on their farming choices and area
- \* Business and Financial Institution should be ready to assist young, aspiring, unskilled and low education people such as loan scheme policies to be friendly and this is to do with criteria that only can accommodate well educated, experienced and skilful young farmers

I do hope that the above have contributed to what it requires for us in this line of query

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#### **19. Mr. Sala Tuiafiso Sagato , Ministry of Natural Resources and Environment, Samoa**

With regards the questions I feel that raising livestock in the small islands of the pacific is depends

1. Environment
2. Heath
3. Availability of local and imported feedstock
4. Land availability
5. Lack of proper understanding on how to raise animals with minimum constrains.

Environment is becoming number one issues for raising any animals, cattles require large area of land, goats and sheep also need more land.

Local chicken can be easily raise but imported chickens requires special feeds and cost of theses feeds is quite expensive.

With regards the second question I have no real answer to it as I am only raising cattles and pigs for personal use. But I so feel that those with vast background in livestock farming should have a better understanding on how to overcome some of the problems facing in raising livestock

Sala Tuiafiso Sagato

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**20. Ms. Takena Redfern, Ministry of Environment, Lands and Agricultural Development (MELAD), Kiribati**

>Mauri all,

Here are my responses to the questions:

1. List down 5 of the most important key constraints to livestock

> Production in your country? (eg livestock feed etc)

- Limited land space suitable for livestock production. Most of the household's livestock production on the main island in particular, are clustered and poorly arranged or designed. This causes a lot of inconvenience to the public.

- Scattered and isolation nature of islands. This impede fast movement of exotic/improved breeds to outer islands. Some islands takes more than a week to ship livestock.

- High costs of imported livestock feeds

- Lack of skills in livestock husbandry management

- Poor breed of livestock. Most livestock breeds are unimproved local breeds, Often times we have to import parent stock for livestock (pigs and chickens mainly) and this is very expensive.

- Limited support by government to promote local meat products

2. How could (your) government, commercial sector, farmer

> Organisations or other stakeholders address the 5 key constraints indicated above?, e.g.

> Development of livestock policies, promoting demand, livestock

> Training exchanges/study tours, etc.

From Gov't side, there is a need to:

- Develop or review sustainable land use planning policies or ordinance

- Develop agriculture and food security policies

- Provide/increase capacity building opportunities for livestock officers and private/commercial livestock farmers in the form of short term trainings/attachment at livestock farms nationally (at Government livestock farm) or regionally (at selected livestock farms in the region)



- Develop subsidy scheme for livestock production such as subsidy on feeds and live pigs. At often times, livestock farmers in the outer islands cannot afford to buy imported feeds hence ended up giving up their business in egg or meat production. In addition, high freight cost of live pigs to main island also one problem that faced by pig producers in the outer islands. With this subsidy, outer islands/rural livestock production and inter island trade of livestock products will be improved.
- Provide support to farmers' association in facilitating marketing of local livestock products.

These are what I can share about this topic and I believe that some of our issues and ways to address the issues are similar to some islands, especially the small atoll island nations of the Pacific.

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## **21. Dr. Kenneth Cokanasiga, Secretariat of the Pacific Community (SPC), Fiji**

A lot of our colleagues have articulated their views very effectively, in their contributions.

I would like to contribute to the forum from a different perspective, basically on the low production levels due to inaction. All the constraints mentioned so far, have been with us for years, and can be seen in heaps of technical reports, meeting/workshop reports and project papers. Yet, they are still here with us....and if nothing is done..."Inaction",.....they will be with us for the years to come.

Why then have these constraints remained with us, all these years?

How each country addresses these, will be different in different countries. The identified constraints have different levels of impact, so priorities will differ.

I want to share some questions below to help us think about possible ways of addressing the constraints identified, as it relates to different Pacific countries :

- Lack of commitment and guidance from govts/policy makers in authority?
- Are there clear policies, strategies in place to guide, promote and develop the sector?
- Given the primary concern of ensuring food security, and increasing community resilience, for Pacific island countries, are levels of govt investment into this livestock sector, and the agriculture sector in general, adequate?
- Are our officials, involved in this sector, adequately trained and, have the necessary skills and knowledge to effectively deliver on their expected roles?
- Lack of targeted research and development, to address identified constraints. Following on from this, are there mechanisms in place for producers and relevant stakeholders to engage meaningfully with govt, to ensure that their concerns are being addressed?
- Is there a silo type mentality in the sector, that limits the inputs from other sectors and players outside the sector, who may have a real role in assisting them overcome, or address, their constraints?
- Are there opportunities for partnership to develop this sector? What roles can the NGOs, CSOs, private enterprises be encouraged to play? Should only govt departments be involved in delivering some of the services needed by our livestock farmers?
- What incentives can be provided to other players to be involved in this sector, ..to deliver some of the traditional role of govt extension services, or R&D work, with targeted outputs?
- How can we attract overseas foreign direct investments into the sector, with their own expertise, technologies and resources, to help develop our livestock sector?

There obviously in no one answer, to the array of issues, that need to be addressed,.... but having a systemic approach, based on addressing what we can address, being committed to these, and with an engaging attitude, will help.