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Managing the human resources on tropical dairy farms

This chapter presents a template of how to access and manage the labour capacity required for effective management of tropical small and large-holder dairy farms.

6.1 Smallholder farms

The workforce on most smallholder farms consists mainly of the farmer himself and his wife's labour input, when available. Adolescent children may also be called upon to contribute some part-time labour. Depending on the herd size, the farmer may also employ additional workers for routine chores such as harvesting forages, feeding stock, milking cows or cleaning out cowsheds.

After considering the diversity of staff and their skills, employed on large-scale operations, it is apparent that in order to manage a productive and profitable dairy farm of any size, there are many skills required. Therefore, a successful smallholder farmer is a very competent person with many skills in both production technology and business.

6.2 Large-scale dairy farms

The size of the workforce on larger farms depends on the intensity of the production system, the herd size and how the farm sources its forage supplies. For example, with contract grown forages, less farm labour is required.

Large dairy production systems succeed or fail, generally, for two main reasons:

1. The ability of management to have appropriate goals and plans in place, make appropriate decisions, develop appropriate Standard Operating Procedures (SOPs), motivate their staff, as well as monitor operations well.
2. The capability and ability of staff to successfully implement the SOPs and be focused on the business being successful.

The initial procedures for the selection of management and operational staff, is immensely important in achieving success. Appropriate Position Descriptions (PDs), including levels of experience (and to a lesser extent qualifications), are critical to attract and retain the most appropriate staff. Following their appointments, induction and review programs need to be developed. All staff must be trained to carry out the SOPs developed for each role. In a new large-scale dairy development, it is especially important that this training be completed before the cows commence milking.

The logistics of human resource programs are then:

- develop PDs and reporting structures
 - PDs include job title and summary, responsibilities, expectations and physical requirements for the job
- advertise positions, interview and select staff on merit
- develop staff induction and review procedures
- develop staff Standard Operating Procedures (SOPs)
- train staff before heifers calve down and enter the milking herd
- upgrade staff numbers as cow numbers increase
- set goals and establish standards
- establish expectations and clearly communicate them to staff
- recognise and reward good employment outcomes
- weed out poor performers
- treat employees fairly and consistently
- seek feedback from employees.

The following is a detailed list of staff positions (and their PDs) required to fully staff a very large-scale dairy farm, with say 1000+ milking cows. It is assumed that this farm is owned by a collection of investors and has a management board to provide guidelines for corporate management as well as strategic goals for farm management decisions. The day-to-day farm management decisions would normally be left to the Farm Executive, which generally consists of senior farm staff, with or without guidance from specialist consultants.

1. **Farm Manager;** Reports to Farm Executive:
 - ‘hands-on’ manager of people, budgets and farm image
 - previous large-scale tropical or arid dairy management experience essential

- dairy nutritional experience desirable
 - university degree level desirable but not essential
 - finalises the annual operating plan developed by the farm executive
 - Farm Executive to consist of Farm Manager (usually the chairperson), Veterinarian/Herd Manager, Feed Manager and Forage Production Manager
 - responsible for overseeing the Veterinarian/Herd Manager; Feed Manager and Forage Production Manager and the Administration Assistant (see Figure 6.1)
 - directly responsible for managing the milking staff.
2. **Administration Assistant;** Reports to Farm Manager:
- must have previous administrative role experience
 - office management training preferable
 - must be very computer literate
 - liaises with all stakeholders and manages farm financials
 - inputs business and herd data into farm database and farm management system
 - depending on herd size, monthly cash throughput and total staff numbers, there may be more than one office-based administrative assistant
 - at least one of these staff should have accounting and business experience to work with the Farm Executive in preparation of annual budgeting and business review plans.



Figure 6.1: All farm staff must realise that because milk is over 85% water, cows must have a lot of drinking water every day, up to 150 L/cow/day. On many smallholder farms the cows are rarely provided with sufficient clean water. This tethered cow in Indonesia is only offered drinking water in the form of a concentrate slurry, hardly enough.

3. **Veterinarian/Herd Manager;** Reports to Farm Manager:
 - previous large-scale tropical dairy management and dairy herd data management experience essential
 - formal veterinary training, preferably with dairy nutrition experience
 - responsible for developing and implementing
 - the Animal Health Plan (calves, heifers, cows, bulls)
 - a Herd Health Data Management System
 - a Genetic Improvement Program
 - an Animal Health Program (such as lameness and mastitis)
 - other programs such as for Cow Comfort, Milk Production, Reproduction (Oestrous Detection, Artificial Insemination and Pregnancy Diagnosis, Calving and Disease Management)
 - will assist in developing the Feed Management Plan
 - will oversee the animal management staff
 - responsible for the management of Assistant Herd Manager, Calf/Heifer Rearer and general farm staff.
4. **Assistant Herd Manager;** Reports to Veterinarian/Herd Manager:
 - competent stockman with previous dairy cow handling/husbandry experience essential
 - certificate/diploma level animal husbandry training desirable
 - carries out the adult cow shed management, moving cattle (for milking and other), oestrous detection and recording, AI, oversees the cleaning of stalls, managing bedding and managing floor cleaning
 - assists Veterinarian/Herd Manager as required.
5. **Feed Manager;** Reports to Farm Manager:
 - previous large-scale dairy nutrition and herd feed management experience essential
 - certificate/diploma level animal dairy herd feeding/nutrition training preferred
 - responsible for developing feed management plan, with assistance from Herd Manager/Veterinarian and Nutrition Consultant
 - responsible for feed budgeting (1–2 year plan), feed ordering, ration formulation, ingredient and feed testing
 - responsible for overseeing ingredient delivery, feed storage, feed mixing, feed delivery, feed push up, feed clean up, feed recording
 - oversees Assistant Feed Manager.
6. **Assistant Feed Manager;** Reports to Feed Manager:
 - previous dairy herd feeding experience necessary
 - formal qualifications not required

- responsible for assisting feed storage, feed mixing, feed delivery, feed push up, feed clean up, feed recording
 - assists Forage Production Manager when necessary.
7. **Calf/Heifer Rearer;** Reports to Veterinarian/Herd manager:
- previous dairy cow, calf, heifer handling/husbandry experience essential
 - certificate/diploma level animal husbandry training desirable but not essential
 - responsible for the feeding and management of calves and heifers, including health and growth monitoring (incl. weighing) and reporting (see Figure 6.2)
 - assists Veterinarian/Herd Manager as required.
8. **Forage Production Manager;** Reports to Farm Manager:
- previous forage production (for dairy herd) and tractor driving experience essential



Figure 6.2: Milk-fed calves are commonly fed their milk from a teat, or on many smallholder farms, direct from the cow. Calves drink water from a bucket, so why not milk as well? These calves in a Vietnamese dairy feedlot are fed calf milk replacer, which is cheaper than fresh milk, direct from a bucket.

- certificate/diploma agronomy level preferred
 - experience in growing and conserving forages (and other feedstuffs) for dairy cattle essential
 - responsible for planning, planting, tillage, irrigating, management, harvesting, and ensiling/conserving forage for farm
 - responsible for overseeing Forage Production Assistant.
9. **Forage Production Assistant;** Reports to Forage Production Manager:
- previous dairy cattle and tractor driving experience essential
 - no formal qualifications necessary
 - responsible for assisting in planting, tillage, irrigating, harvesting, ensiling forage for farm
 - when necessary, to assist in effluent management, feeding, shed cleaning and animal husbandry duties etc.
10. **Milkers;** Report to Farm Manager:
- no formal qualifications necessary
 - preferably with veterinary livestock assistant training
 - responsible for the effective milking and milking hygiene management, milking and parlour cleaning and herd recording data collection.
11. **Senior Stockman;** Reports to Veterinarian/Herd Manager:
- certificate/diploma level animal husbandry training desirable but not essential
 - responsible for routine animal husbandry tasks, including dehorning/disbudding
 - manages all foot trimming as well as other routine tasks as determined by Veterinarian/ Herd Manager.
12. **Farm Hands/Roustabouts;** Report to Veterinarian/Herd Manager:
- previous tractor and dairy cow handling/husbandry experience essential
 - no formal qualifications necessary
 - full-time positions, used on an as-needs basis
 - manage effluent disposal
 - assist in calf rearing, heifer management, cow management, bull management, barn cleaning, bedding management
 - also assist in forage production and feeding
 - often responsible for gardens and physical appearance around farm
 - could also back up milker roles.
13. **Maintenance Manager;** Reports to Farm Manager:
- previous farm machinery, equipment, building and animal handling equipment maintenance experience essential
 - certificate/diploma level machinery maintenance training desirable but not essential

- responsible for maintaining all farm machinery, equipment, buildings and cattle handling equipment
 - oversees upkeep of the grounds and gardens
 - role could also cover some security responsibility.
14. **Milk Chemist;** for milk analyses:
- full or part-time, depending on milk throughput and value-adding.
15. **Security staff;** Night (and day) shift security staff. They could also be responsible for biosecurity on vehicles and staff entering the farm complex.
16. **Expert Consultants;** report to Farm Manager:
- employed on an ‘as needs basis’
 - dairy nutritionist; to advise on ration formulation
 - veterinarian; to advise farm veterinary staff on specific problems as they arise
 - agronomist; to advise on forage production
 - irrigation expert; to advise on crop irrigation (effluent disposal and irrigation water)
 - silage expert; to advise on effective silage making and storage strategies
 - cow cooling expert; to advise on establishing and operating cow cooling equipment
 - milk processing specialist; to advise on the establishment and operation of value-adding programs, if considered as part of the business plan
 - accountant and business consultant; to provide the necessary expertise (if unavailable among office staff) for achieving future farm development.