

## **THE SMALL-SCALE RABBIT PRODUCTION MODEL: A GUIDE TO HUMAN DEVELOPMENT**

**LUKEFAHR S D**

Dept. of Animal, Rangeland and Wildlife Sciences, MSC 228,  
Texas A&M University, Kingsville, TX 78363, USA  
*Corresponding author:* [s-lukefahr@tamuk.edu](mailto:s-lukefahr@tamuk.edu)

### **ABSTRACT**

One of the challenges in developing successful meat rabbit projects for people living in poverty (representing about half of the human population) is the reality that many factors must be considered. Across countries and cultures, some factors are very critical (e.g., suitable breeds, feedstuffs, housing, marketing, and training methods); however, in others the choices or decisions may be very different. The implication is that there are very few, if any, general recommendations that are appropriate for all situations. The impetus for developing the Small-Scale Rabbit Production Model (SSRPM) was to serve primarily as a tool for project managers to address key issues, especially when planning and implementing projects. In brief, for the sake of simplicity the model is divided into three dimensions: internal, intermediate, and external aspects, which relate to farmers, project managers, and the environment, respectively. At the internal level, farmers make decisions with regards to appropriate choice of breed-types, feedstuffs for diets, materials for housing, etc. In contrast, at the intermediate level, managers (i.e., usually representing a development organization) embrace the project components of feasibility, design, implementation, monitoring, and evaluation, all of which guide or direct the project. This includes the clear establishment of a project goal with specific objectives. The external level of the environment encompasses ecological, market, social aspects.

In other words, to be successful the rabbit project must benefit the environment, increase farmer's income, and be supported at every stage by the local community. Of course, much flexibility should exist when applying the SSRPM. However, there are certain basic essentials such as farmers receiving training by a competent expert (ideally on demonstration farms), frequent on-

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farm visits following training, rabbit production being sustained on small farms with minimal off-farm inputs, regular family consumption of rabbit meat, maintenance of records, and active markets for surplus rabbits. Another key aspect is the training and development of local farmer leaders who will ultimately continue the project after phase-out, and that the project has a multiplication effect by spreading to other communities in time.

**Key words:** Appropriate technology, Development, Poverty alleviation, Rabbit, Sustainability



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## Introduction

For rabbit scientists who are engaged in development projects with the aim of alleviating poverty, it is a challenge to know how to best approach each new project because every project has a unique set of conditions. However, a set of guidelines for making critical decisions at either the planning or implementation stage of project development has both been recommended and adopted, which is known as the Small-Scale Rabbit Production Model (SSRPM). This model was proposed by Lukefahr (2004) at the 8<sup>th</sup> World Rabbit Congress which was held in Puebla, Mexico. In Section 1 of the second edition of the book by Lukefahr (2010), *Developing Sustainable Rabbit Projects*, a detailed description of the SSRPM is provided for the reader.

One recent paper by Oseni and Lukefahr (2014) extolled the appropriateness of this model for projects in Sub-Saharan Africa, which is the poorest region of the world. Likewise, certain aspects of the SSRPM have been applied in the form of project monitoring and refresher training of farmers in Haiti, which is the poorest country of the Western Hemisphere (Lukefahr et al., 2012). In addition, SSRPM aspects involving community participation and farmer training were adopted in Indonesia where an ambitious and highly successful rabbit programme has been developed for rural families at the level of small- and medium-scale production (Raharjo, 2010). The purpose for this paper is to provide an overview of the SSRPM.

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## The Small-Scale Rabbit Production Model (SSRPM)

As a brief overview, the SSRPM is divided into three dimensions: internal, intermediate, and external, which are a set of aspects that relate to farmers, project managers, and the environment, respectively. In the book, *Developing Sustainable Rabbit Projects*, by Lukefahr (2010), figures and tables that relate detailed information to the internal, intermediate, and external dimensions of the SSRPM are available.



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At the internal level, farmers make decisions with regards to appropriate choice of breed-types, feedstuffs for diets, materials for housing, etc. In contrast, at the intermediate level, managers (i.e., usually representing a development organization) embrace the project components of feasibility, design, implementation, monitoring, and evaluation, all of which guide or direct the project. This includes the clear establishment of a project goal with specific objectives. The external level of the environment encompasses ecological, market, social aspects. In other words, to be successful the rabbit project must benefit the environment, increase farmer’s income, and be supported at every stage by the local community.

A schematic of the SSRPM is shown below in Figure 1 (Lukefahr, 2010). An analogy is made to that of a wheel because even one weak inter-connective link or spoke could likely, albeit sooner or later, cause the project to fail. The SSRPM is described below by each of its dimensions.

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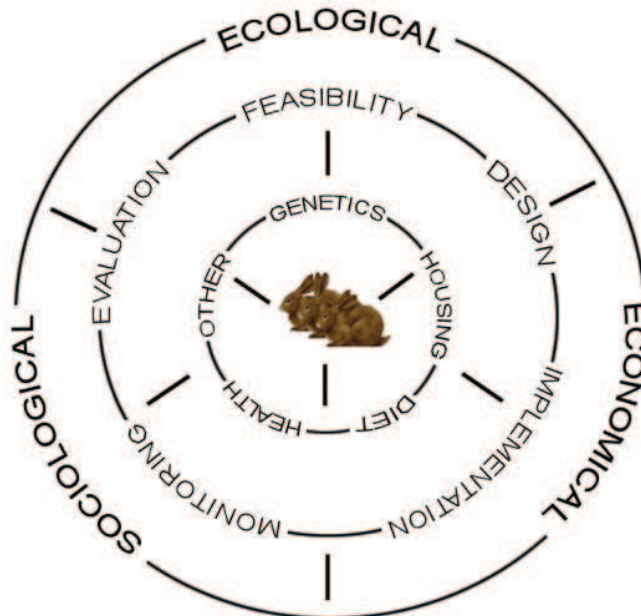


Figure 1. The small-scale rabbit production model (SSRPM) wheel of sustainability.



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**Internal level of the SSRPM**

The internal dimension lies at the core of the SSRPM. The more lug nuts that are used to secure the wheel best ensure that the farmer's enterprise moves forward to achieve more progress. This level relates directly to the farmer involving decisions that are important to the farmer to realize both a sustainable and successful operation. More specifically, the decisions revolve around the availability and use of local resources that include breeding stock, feedstuffs, materials for hutches and other equipment, remedies to prevent and treat diseases, etc. Ideally, these resources should be available locally and at low cost. This important aspect cannot be overemphasized. In my first programme experience in Cameroon (1983-85), this low-cost feature was realized which made rabbit production not only a low-risk, investment enterprise but a very profitable one for experienced farmers (Lukefahr and Goldman, 1985).

Initially, the feasibility study should determine (conducted by a programme staffperson or hired consultant), among other things, that critical resources are locally available and accessible to farmers at low cost. Through training, farmers are taught how to best utilize local materials (such as bamboo or raffia palm to construct hutches) and sound management practices to prevent diseases and local remedies to treat diseases. Breeding stock should be provided after training on an in-kind loan basis so that farmers do not have to pay cash. Hardy crossbred rabbits found in villages tend to be more suitable for backyard production than recently imported purebreds. Later, they will pass-on on young rabbits to other trained farmers as the programme expands.

Farmers should also be trained on how to establish forage plots using species that are adaptable to the region. Some rabbit projects have integrated rabbit production with gardening (i.e., rabbit-garden model), involving the recycling of gardens and kitchen "wastes" as rabbit feed and rabbit manure as organic matter. A successful feeding programme also requires good planning. The farmers should use several different feeds (e.g., several forage species, edible weeds, garden wastes, and kitchen scraps) on a given



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day, which will vary from season to season. In addition, alternate feedstuffs requiring processing (e.g., hay, silage, and molasses blocks) may also be important which will also need to be taught during training. Of relevance, the trainer could either be a competent rabbit expert or a highly successful rabbit producer who is capable of teaching.

**Intermediate level of the SSRPM**

Between the internal and external levels of the SSRPM exists the role of programme management or the project manager (i.e., usually representing a private or governmental development organization) who guides the farmer's project and connects (like a tire with solid spokes) the activities of farmers within the context of ecological, social, and market environments. Specifically, one set of farmer's decisions concerns those that involve the environment, hopefully benefiting rather than harming her. Through training, programmed staff will teach farmers about appropriate practices that enhance sustainability of local resources. Also, programme staff will closely involve the community (e.g., mostly through regular meetings) to ensure that the project is fully accepted. Of course, the programme must also take measures to open and(or) expand markets for rabbits, well before farmers have rabbits to sell. More details are provided in the next section.

A major role of project managers is to execute the project components of feasibility, design, implementation, monitoring, and evaluation, all of which guide or direct the project. This includes the clear establishment of a goal with specific objectives for the project's participants. Lukefahr (2007) published a paper exclusively on the stages of project development. This paper was previously presented in 2006 on the occasion of the 3<sup>rd</sup> Rabbit Congress of the Americas held in Maringa, Brazil.

Any potential project must be initiated with the full support of the community. Ideally, the community held meetings where it was discussed and later decided that a rabbit project was the best solution to improve the quality of their lives (Bunch, 1982). With the community's blessings, the development organization should then conduct a feasibility

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study to determine that the project is indeed justified. Many developmental organizations like Heifer International have developed feasibility or standard proposal forms which are available upon request (<http://heifer.org>). Herein, many relevant factors, such as suitable feedstuffs, sustainable practices, technical support, role of women, and potential markets are considered. One important consideration is that the project directly involves women. In the state of Querétaro, Mexico, Gomez (2008) reported on a women's rabbit project that, following training, provided packages of 5 does/1 buck and 15 cages. In this novel project, women were the heads of households. Rabbit meat was regularly served to their families and income was increased. If the report reveals that no major constraints exist, then starting a rabbit project is justified.

Next, the project is designed on paper, referred to as the project blue-print. A written plan for many major activities is drafted, for example, training, stock distribution, production, marketing, and farmer leader development as well as a budget and an activity timetable. This detailed plan should be flexible so that necessary changes can later be made. Once the project is designed on paper and later approved for funding through a grant, it can be implemented. Typically, the first activity is for the community to decide which farmers should first be trained. Many books and website resources are available that provide useful information on appropriate limited resource, farmer-focused training methods (Finzi, 2000; Djago et al., 2007; Lukefahr, 2010).

Following training, farmers establish a unit for their rabbit enterprise. Once approved, stock is provided and later production ensues. Here the next phase is critical which is project monitoring. Close and regular supervision of farmers is no doubt paramount to project success. Needless to say, well experienced staff should be involved in this activity. (If Extension agents are involved they should first be properly trained and have actual rabbit raising experience.) Early problems must be quickly identified and solved before they become major problems that could lead to project failure. Also, farmers should keep





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good records so that later the nutritional and economic impact can be accurately determined by the development organization in their evaluation report.

Upon formal termination of the project when funding ends, programme staff should perform a project evaluation report. This report makes a critical determination as to whether or not the project goal was realized; for example, for 100 families to consume rabbit meat on a weekly basis and increase their income by 50% by the end of two years. In addition, what lessons were learned in terms of what worked well and what did not work well so that future projects can be designed to achieve even greater impact. In some lesser developed countries, research and development centres have been established by governments where staff perform the role of training farmers, providing breeding stock and technical support, etc. (Oseni and Lukefahr, 2014); however, the historic record of such centres in general is that were initially successful but were short-lived. Typically, governments later close the centres due to a budget crisis.

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**External level of the SSRPM**

The external dimension is analogous to the rubber tire of a wheel. This is where the “rubber meets the road” in terms of project support. In brief, the project must be supported by natural and renewable resources in the environment. It must also be supported by the community so that it will later expand and benefit more families. And the project must monetarily reward farmers for their efforts through strong markets. If this external level bears any weaknesses (like a thin tread of a tire), the project will likely eventually fail. Again, the initial feasibility study should have also closely examined the quality or merit of these external factors.

In more detail, the environment is a major consideration for farmers to maintain low feed costs. Of course, this potential is much higher in a lush tropical vs. an arid desert environment. It is fortuitous that most developing countries exist in the (sub)tropical regions of the world. In addition, functional integration is a key approach to the recycling of





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nutrients among various agricultural enterprises on the farm in a conscientious effort to protect the environment. A key point is that subsistence farmers should not be dependent on expensive commercial feeds.

Successful projects are community-based or people-centered, according to Aaker (2007). Hence, social support by the local community is critical. As stated previously, the project should be community owned in the sense that the people feel fully responsible for the progress (or lack thereof) and anticipated impact or success of the project. If this is not the case, then when a problem occurs it is likely that the community will quickly abandon the project. Of course, the development organization should work closely with the community (usually through special and regular meetings) at every project stage. Eventually after the formal project is terminated, a project leader (i.e., a successful rabbit farmer) who was groomed by programme staff should emerge who will further multiply the project as it is introduced to more farmers both within and beyond the community (Lukefahr, 2010).

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In terms of economic support, farmers will not be interested in a rabbit project if there is no economic incentive. Examples of economic support are as follows. First, it is paramount that the programme takes necessary steps to expand markets by creating strong market demand. In some countries, even governments have sensitised the general populace on the health attributes and profit-potential of rabbit meat production as reported by Oseni and Lukefahr (2014). In Haiti, tremendous efforts have been taken to both create awareness and increase demand for rabbit breeding stock and meat which has been successful (Lukefahr et al., 2012). The use of surveys has also been widely used in Mexico (for example, Olivares et al., 2004; Rivera et al., 2004). An obvious point is that it is desirable that markets be gradually expanded to keep pace with the increasing supply. Likewise, it is not desirable if the market becomes flooded with rabbits that exceed market demand. A last point is that the price of rabbit meat should be competitive with other meats such as broiler chickens and ducks to attract new consumers.



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## Conclusions

The impetus for developing the Small-Scale Rabbit Production Model (SSRPM) was to serve primarily as a tool or guide for project managers to address key issues, especially when planning and implementing projects. Of course, much flexibility should exist when applying the SSRPM because every project represents a unique local situation.

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