

RABBIT PRODUCTION IN BURKINA FASO

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Introduction and Background

In West Africa rabbits are kept since the colonial era and rabbit production is promoted in several countries. In 1981 the Government of Burkina Faso (the former Upper Volta) in cooperation with the Government of the Federal Republic of Germany (GTZ) started a project to promote rabbit production in Bobo-Dioulasso. Bobo is a town with 290.000 inhabitants in the south-west of Burkina Faso.

The aims of the Rabbit Project are :

- improvement of provision of the population with animal protein
- generation of income by selling the surplus rabbit production
- genetic improvement of the local rabbit population
- utilization of agricultural and agroindustrial wastes and by-products
- utilization of labour capacities
- promotion of local crafts by construction of rabbit houses and manufacture of rabbit equipment

A breeding station was set up. The new rabbit stock rapidly spread beyond the Bobo region and was exported to other parts of Burkina Faso and the Ivory Coast. An attached extension service was organized which advises the producers on management techniques. In 1984 the project assisted rabbit producers of Bobo in organizing a producers' association which in 1986 comprised 360 members.

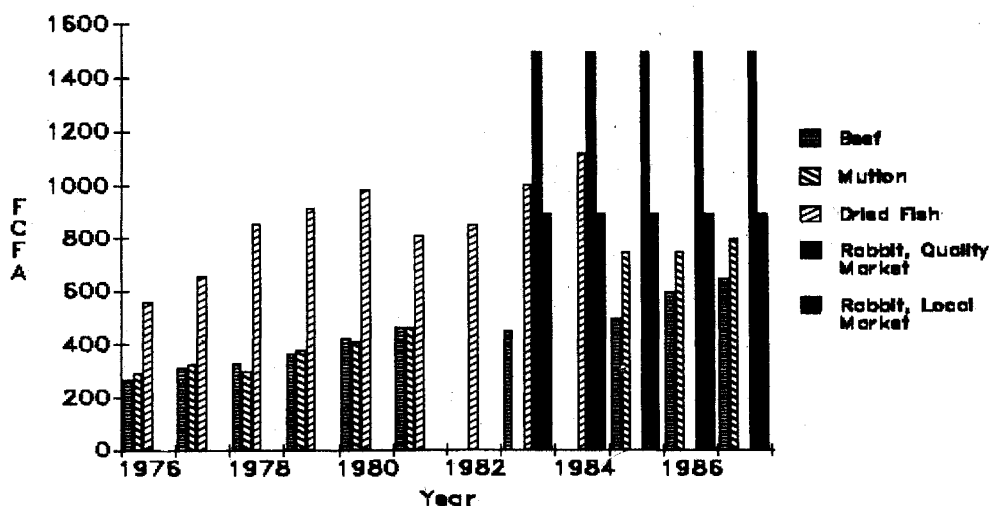
Between 1979 and 1983 the number of rabbit husbandries in the Bobo area increased from 167 to 215. About 70 percent of those husbandries were urban or peri-urban small-scale family units keeping 4 to 20 females /BANDE, 1983/. The rising importance of rabbit production is illustrated by rising sales of commercial rabbit feed (table 1).

Table 1 : Quantities of Commercial Rabbit Feed sold in Burkina Faso, t (AFAB, 1986)

Year	1982	1983	1984	1985	1986
	34,267	70,823	104,031	111,430	132,137

The expansion of rabbit production was favoured by an attractive economic situation: once or twice a year (before religious holidays) merchants from Ivory Coast came and bought rabbits from all over the country. They payed up to 1250 F CFA (50 F CFA = 1 French Franc) per kg liveweight, a price exceeding the price for other meat animals. Producers did not use to sell rabbits when they reached slaughter weight but would keep animals for extended periods awaiting these favourable sales opportunities. The prolonged feeding period was justified by the high prices fetched. The development of meat prices between 1976 and 1987 is given in figure 1.

Figure 1: Meat Prices in Burkina Faso 1976 to 1987 (STATISTISCHES BUNDESAMT, 1984, 1986; BURKINA FASO, 1985; own market survey in Bobo-Dioulasso)



In order to assist in stabilizing the irregular outlet for rabbits and avoiding the prolonged feeding periods the Rabbit Project started buying rabbits from producers in 1982. The cash income enabled producers to finance improvements in housing and equipment. Prices paid by the Rabbit project kept pace with the price offered by ivoirian merchants. They were almost stable at 1000 F CFA per kg liveweight between 1982 and 1984. Development of producer- and sales prices and number of rabbits purchased are given in table 2.

Table 2 : Number of Rabbits purchased by the Rabbit Project, Producer Prices and Sales Prices per kg Liveweight (1983 to 1986)

Year	1983	1984	1985	1986
Number	n.a.	n.a.	2460	2235
kg Live-weight	787	4438	5880	5410
Producer price	1000	1000/900 1)	900	900/800 2)
Sales price	1000	1000	1000	1000

1) lowered to 900 F CFA / Kg Liveweight in december 1984

2) lowered to 800 F CFA / Kg Liveweight in october 1986

Carcasses were sold to hotels and restaurants or exported to Ivory coast. Starting in 1983 the demand of rabbit meat tended to decrease, mainly because of economic difficulties in the Ivory Coast and Burkina Faso. In the Ivory Coast they were due to declining world market prices of cocoa and coffee. In Burkina Faso, salaries in the public and para-public sector were reduced, the per capita amount of cash and savings and therefore the spending power was lowered /LE MONDE, 18.07.84, 23.02.85 / STATISTISCHES BUNDESAMT,1986 /. One third of the french expatriates living in Ivory Coast returned to France in 1983/84 /FRANKFURTER RUNDSCHAU,19.01.1983, 30.04.84 / LE MONDE, 20.03.84 /. As a consequence the demand for expensive fresh rabbit meat and the local ivoirian rabbit production declined. This situation was even more severe because at the same time imported deep-frozen rabbits were available at lower prices and influenced the marketing for fresh rabbit meat negatively.

For better understanding of rabbit production patterns, of productivity of rabbits under conditions prevailing in Bobo, of source and prices of feeds

and of the use and marketing of rabbits a survey was done with producers assisted by the Rabbit Project's extension service. Preliminary results are reported in the present paper.

Material and Method

Between november 1985 and january 1987 a field survey was carried out in a sample of 41 rabbit producing units covered by the project's extension service in Bobo Dioulasso and its surroundings. Once per month reproductive performance and liveweight gain of fattening animals was recorded. The producers gave information about quantity, origin and prices of feeds, labour requirements for feed procurement and husbandry, volume of sales and household consumption. A survey on meat consumption on the consumer market in Bobo by 80 random interviews was carried out.

Results

Unit size, housing facilities and feeding practice of the 41 units varied considerably. The basic diet of rabbits in the units consists of bran and dried brewers' grains which are household- or kitchen wastes or can be cheaply bought. These feeds are complemented by collected green fodder during the rainy season and by homegrown or purchased legume hay during the dry season. Feedstuff prices paid by the producers can be seen in table 3.

Table 3: Prices of Feedstuffs in Bobo per Kg Dry Matter (AFAB, 1986; own survey)

Feedstuff	Origine	Mean Price	Variation
		F CFA/ kg DM	F CFA/ kg DM
Wheat Bran	industrial	25	
Millet Bran	private	12	10 - 15
Maize Bran	private	12	10 - 15
Maize	storage	80	10 - 100
Millet	storage	70	50 - 80
Cottonseed Cake	industrial	32	30 - 35
Groundnut Cake	industrial	55	
Brewers' Grains	industrial	1000 / m	5 - 10
Brewers' Grains	private	10	5 - 15
Soja	private	100	
Oyster Shell	privat	55	
Commercial Rabbit Feed	industrial	75	75 - 85
Groundnut Hay	private	100	50 - 150
Brachiaria Hay		29	27 - 30

In table 4 and figure 2 expenditures for feedstuffs used by the 41 units were grouped and summed over the surveyed units.

Table 4: Expenditure in Cash and Labour Time for Group of Feedstuff as Percent of Total, (summed over 41 production units)

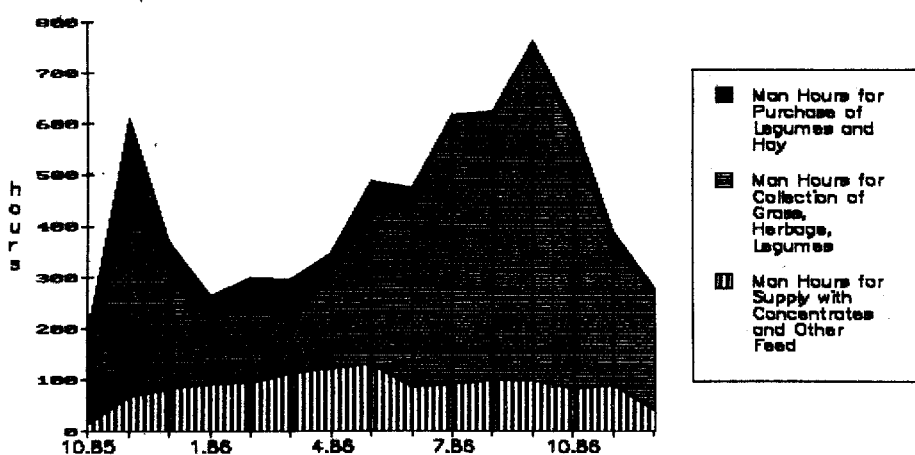
	Dry matter	Costs 1)	Man Hours for Feed Procurement	Transport Costs for Feed Procurement 2)
Medicaments, Salt, Water		10.70	.10	.40
Commercial Rabbit Feed	17.30	47.00	7.60	29.70
Brans	41.30	14.30	7.10	11.80
Oil Seed Cake	2.60	3.30	.30	3.40
Homegrown Legumes	8.80		18.30	6.40
Bought-By Legumes and Hay	14.10	19.90	7.40	28.00
Collected Grass and Herbage	9.10		45.00	15.30
Cabbage and Fruits	.70	3.60	2.40	2.70
Brewers' grains	4.40	1.20	3.10	2.30
Collected Leaves	1.80		8.70	
Total Percent	100.00	100.00	100.00	100.00
Total Quantity	120089	3709551	6479	254141
Unit	Kg	F CFA	Man Hours	F CFA

1)cash expenditure

2)fuel cost or transport fare

Components of rabbit rations are given in table 4. The contribution of groups of feedstuffs to the rabbit rations is different in terms of quantity, costs or labour requirement. The main part of dry matter consists of brans whereas brans comprise only 14 % of the total costs for feed. Commercial rabbit feed accounts for 17 % of the dry matter, but for 47 % of the costs, and bought-by legumes and hay account for 14 % of the dry matter but 20 % of the total costs. Collected grass and herbage account for 18 % of the dry matter but their collection in the rainy season and the collection of legumes in the harvest season account for 63 % of total labour (figure 2).

Figure 2: Total Man Hours for Feedstuff Procurement (summed over 41 production units)



The random interviews on the consumer market gave an idea of the spending power of 'the average Bobo family'. Housewives had an average of 325 F CFA per day to buy meat for a family consisting of an average of 11 members (96 answers). They prefer to buy beef or dried fish which are the cheapest sources of animal protein. The most favoured meat (in terms of taste-preference) however is poultry and mutton, sometimes fresh fish. People who had already tasted rabbit meat in the past, compared its taste with chicken. They were ready to spend about 1000 to 1500 F CFA for an animal of 2 kg liveweight. Those who had never tried rabbit meat considered it as luxury meat because of the known high price level as already observed by / DIALLO 1986 /. They could not appreciate the taste and would not spend more than 750 F CFA per animal, about the price of a "lièvre sauvage" (wild hare).

Of 2223 rabbits produced in Bobo by the 41 units between november 1985 and january 1987 1678 (75%) were sold, 422 (19%) were used for family consumption and 133 (6%) were used as gifts. Of the rabbits sold 52 % were sold via the project and 23 % directly to the neighbourhood or on the local market. Missing data of emergency slaughter or salvaged animals which had gone into consumption may cause an under-estimation of the rate of family consumption. In most cases rabbits were sold to satisfy financial needs of the families (school fees, medicaments, clothing etc.) or to buy rabbit feed. During the survey period the tendency of producers to sell rabbits to the project seemed to decline whereas family consumption increased with the narrowing marketing possibility.

As marketing became more difficult during the survey period of the 41 rabbit producers 10 gave up and 9 experienced a regression in the number of animals and restricted their feed purchase.

Discussion

Most of the commercial rabbit feed and roughage is bought in small quantities due to a constant lack of cash. According to the AFAB about 80 percent of compound feeds (poultry mash, pellets for small ruminants, cattle, pork and rabbits) are sold in rations at a weight of less than 10 Kg. Frequent travels for feed procurement may result in rising transport costs per kg dry matter or unit of nutrient.

In Bobo the most cash-demanding factors in rabbit feeding are commercial rabbit feed and roughage. Commercial rabbit feed can be substituted largely by brans and brewers' grains which are cheaply available in sufficient quantities. Roughage can either be expensively bought-by or a lot of work has to be invested for its supply (figure 2). The number of rabbits kept is limited by the labour capacity of family members for fodder collection and the available quantities of crop-residues and kitchen wastes. Farmers in Bobo cultivate about 0.64 ha of groundnuts /CHATELIN, 1985/ which provides them with estimated 500 kg dry matter of groundnut hay (5000 rabbit feed days). This quantity is sufficient to feed 21 to 24 animals during the 7 to 8 month of the dry period. About 50 % of 95 rabbit units observed in Bobo and its surroundings in november 1987 did not exceed 25 animals /ADELHELM et al, 1987/. This leads to the conclusion that about 25 animals (ca. 5 does) are a reasonable size of unit under the existing production conditions.

People who had never tried rabbit meat were ready to spend a price similar to the price for chicken which varies between 650 and 1500 F CFA depending on liveweight (2 to less than 1kg) and month (rise before religious holidays). For the 'average' consumer whether he had tasted rabbit meat or not, rabbit meat is (at the present price level) a meat for special occasions or feasts. The small daily budget for meat purchase is not sufficient to buy rabbits, since they are sold as entire animals and not as carcass cuts. The project aims to popularize rabbit meat by selling rabbit meat prepared in a customary way on sandwiches. The demand for sandwiches is high, apparently because small quantities are sold and the unit price is low. This would lead to the conclusion that the main limiting factor for increasing local rabbit meat consumption is the present price level. If rabbit meat is to reach the target group of the project, which is the local african consumer, at long-term it should be offered at the price level of local poultry meat.

Traditionally in West African agricultural societies the social, cultural and savings function of livestock was more important than the income function, although smallstock were always considered as a ready source of cash. At present rising financial liabilities tend to increase the off-take rate for sales: 53 % of observed cattle in the north of Ivory Coast was destined for sale, 34 % for social purposes, 8 % for family consumption (most of which were emergency slaughter) and 5 % were used for traction on the producer's

farm/SCHLEICH, 1985//SCHLEICH et al., 1987/. The proportion of sheep sold, used for social commitments and consumed by the family was 78, 16 and 6 % respectively/BASSEWITZ, 1983/.

The proportion of these sales of cattle and sheep are similar to those recorded for rabbits in the present study. In contrast, less rabbits are used for social purposes and more for family consumption compared with cattle and sheep. The reason is certainly that the small carcass makes one rabbit a suitable family meal, but on the other hand a rabbit has less social significance.

In order to obtain a minimum productivity of rabbits a minimum of investment in housing, equipment and manpower is necessary. This is not true to the same extent for other small stock in African village conditions. Investments in housing or management techniques must be guided by commercial interest of the producer, independent of the number of rabbits kept. During periods of high product prices, keeping rabbits may be rewarding even with poor management. When product prices decline poorly managed units tend to be abandoned because rabbits are not valued to the same extent as other livestock for complying with social obligations.

Rabbits fulfill a savings function: money invested in animals cannot be claimed by family members /FRITSCH, 1975/. However it can be converted into cash. Ruminants are sold to satisfy actual cash needs as they arise and not when the animals are fat or when prices are high /SCHLEICH et al., 1987/. Rabbit producers of the survey did not behave in this manner. Apparently they had a defined expectation of the sales price. When this price could not be obtained sales declined except for those producers who were able to sell directly to their own clients. The reduced cash-flow could not cover current expenditures any more and therefore some producers reduced their stock number or feed purchases; others gave up completely. Those producers who had stored feeds or had access to cheap feeds maintained their stock number.

Successful urban rabbit production depends on a constant feed supply. This implies stocking of feeds to avoid purchase at excessive prices during periods of scarcity. Further extension work is needed to underline the importance of well established feeding schedules, cheap feed supply, cheap housing and good management which enable producers to produce economically even at lower product prices.

The survey gave some insight in

- production patterns
- utilization, procurement and costs of feedstuffs
- productivity of rabbits under existing production conditions
- utilization and marketing of produced animals

Further investigations are required to

- establish the possible contribution of rabbit meat to human nutrition
- determine the importance of the saving function in relation to the direct output function
- analyze changes in the societies' ranking of animal species for their social function
- determine whether an optimization of production according to a strictly economic input-output-function is possible
- estimate the long-term scope for rabbit production in relation to the level of sales prices on the local market and the rate of family consumption

Summary

A survey was done in 41 rabbit units chosen at random among units covered by an extension service in Bobo-Dioulasso in 1986. Reproductive and fattening performance of rabbits, feeding practice and use of animals was recorded. Surveys on local market and with producers gave information about meat consumption and feedstuff-prices. The most frequently used feeds were brans and all kinds of roughages, which came from the household as kitchen wastes or crop residues, were collected or purchased. The most cash-demanding feeds were commercial rabbit feed and legume hay. Of 2223 rabbits recorded 75 % were sold, 19 % were used for family consumption and 6 % for social purposes. The present high price level of rabbit meat compared with other meat and the sale of animals as entire carcass limits the local consumption of rabbit meat to certain occasions since the daily family budget for meat purchase is only 325 F CFA. Rabbit producers tend towards commercial production because of this high price level and because rabbits do not have the same significance for complying with social obligations as other livestock.

Resumée

Une enquête a été faite dans 41 élevages de lapins étant un échantillon aléatoire des élevages couvertes par un service de vulgarisation à Bobo Dioulasso en 1986. Les performances de la reproduction et de l'engraissement, le mode d'alimentation ainsi que l'utilisation des animaux ont été étudiés. Les enquêtes aux marchés locaux et auprès des éleveurs ont fourni des informations concernant la consommation en viande et les prix des aliments. Les aliments utilisés le plus fréquemment étaient des sons supplémentés de plusieurs sortes de fourrage, soit venant du ménage comme résidus de la cuisine ou résidus de la récolte, soit ramassés ou achetés. L'essentiel des dépenses pour l'alimentation était consacré à l'aliment complet de lapin et au foin des légumineuses. 75 % de 2223 lapins observés ont été vendus, 19 % ont servis à la consommation familiale et 6 % ont été utilisés pour les besoins sociaux. Le niveau très élevé des prix actuels pour la viande de lapin - comparativement à la viande des autres espèces - et la vente de l'animal comme carcasse entière limitent la consommation locale de la viande de lapin aux occasions particulières, parce que le budget quotidien familial prévu pour l'achat de viande n'est que de 325 F CFA. Les éleveurs de lapin s'orientent

vers une production commerciale due au niveau des prix élevés et due au fait que le lapin n'a pas la même signification pour la satisfaction des obligations sociales que les autres espèces.

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