DYNAMICS OF VILLAGE POULTRY PRODUCTION IN THE KEITA REGION OF NIGER

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ABSTRACT

The dynamics of the village poultry population was studied in the region of Keita in Niger. A weekly survey was carried out for 8 weeks in the dry season and 8 weeks in the rainy season in 47 families chosen at random in five villages. The principal species raised were: chickens, guinea fowl, pigeons and ducks. In 85% of cases, poultry was owned by men and in 15% by women. Pigeons were kept by children. Feed and housing were rudimentary. Mortality was essentially due to predation of chicks and of growers while other losses were through trampling, drowning and rain. Mortality due to disease was negligible during the periods of the survey. Mortality and predation were responsible for 83% of offtakes from chickens and 43% from guinea fowl. A greater proportion of guinea fowl (57%) were consumed and sold than chickens (14%).

Key Words: Poultry, Village, Niger, Dynamics.

INTRODUCTION

In the country of Niger, village production accounts for a large proportion of total poultry production. It makes a significant contribution to protein needs of villagers as well as providing some income. There have been practically no studies of village poultry in this country, except for that of Prost (1987) in the department of Maradi. Further study of village poultry in Niger could be useful with a view to determining the constraints to village poultry production and proposing possibilities for development.

In order to determine whether interventions such as vaccination are economically worthwhile in village poultry in Africa, it is important to have some information on the numbers of different poultry species, and the different outputs and losses. Thus, it was

considered worthwhile to undertake this preliminary survey of village poultry production in Niger.

MATERIALS AND METHODS

The study was carried out during 2 periods of 8 weeks, the first, in the dry season in February and March 1991, and the second in the rainy season in August and September 1991. Forty seven families were chosen at random in 5 villages not further than 6km away from the central market of Tarwada.

Three types of questionnaires were used. One form was used initially to record the characteristics of the farm: the species raised and type of poultry house. Then each farm was visited weekly and a second form was used to record numbers, input and output of each species and age category. The species studied were chicken, guinea fowl, duck and pigeon and the age categories were eggs, chicks, young and adults. Chicks were defined as birds up to the age of 2 months and young were defined as birds aged between 2 and 4 months. A third form was used to record the movements of poultry and their prices in the weekly market. The results were analysed using the database programme Panacea.

RESULTS

Figure 1 shows the relative importance of the different species. Nearly all households have chickens and 66% have guinea fowl. Feed, which was given by practically all households, but only rarely, consisted principally of cereals: millet and sorghum. Where pigeons were present there was always housing for them. For other poultry, there was a house in 77% of households. This consisted of a cone-shaped structure about 1.2m in diameter and 1m high made out of clay.

Table 1 shows the division of ownership of

RELATIVE IMPORTANCE OF DIFFERENT VILLAGE POULTRY SPECIES IN NIGER.
CH. = CHICKEN; G.F. = GUINEA FOWL.

TABLE 1. OWNERSHIP OF POULTRY IN THE HOUSEHOLDS SURVEYED.

Species	% of Men Owners	% of Women Owners	% of Children Owners
Chicken	83.33	16.67	0
Guinea Fowl	85.75	14.29	0
Duck	75	25	0
Pigeon	0	0	100

TABLE 2: MEAN POULTRY POPULATION PER FARM.

SPECIES	Adult Male	TYPE			Mean Total	Min./ Farm	Max/ Farm
		Adult Female	Young	Chick			
Chicken	0.90	2.75	4.41	3.92	12	1	64
Guinea Fowl	3.28	6.4	4.81	5.28	20	3	50
Duck	1.16	1.29	1.75	1.63	6	2	10
Pigeon	15.94	15.78	2.21	2.38	36	24	68

TABLE 3: MEAN PERCENTAGE MORTALITY OBSERVED PER MONTH.

Species	Adult	Type	Young	Chick	Total
Chicken	0.47		4.83	12.32	17.92
Guinea Fowl	0.63		1.78	5.1	7.60
Duck	0		2.38	11.90	14.28
Pigeon	2.29		5.96	2.06	10.31

FIG. 2.
PERCENTAGES OF DIFFERENT OUTPUTS AND LOSSES FROM EACH SPECIES.

FIG. 3.
DISTRIBUTION OF MORTALITY CAUSE IN CHICKENS AND GUINEA FOWL.

the different species amongst the family. Men are said to be owners in the majority of households for all species, with the exception of pigeons which are left exclusively for children. Table 2 shows the mean population of the different ages of the different species over the 2 periods of observation; only the farms having the species in question are taken into consideration in the calculation of the means. Chickens laid an average of 0.92 eggs per week during the period of observation with a hatching rate of 56%. Guinea fowl laid an average of 4 eggs per week, but only during the second period of observation which corresponded with the rainy season.

The different losses and outputs are shown as percentage of total outgoings for the different species in fig. 2. The division of the total mortality, including that from predation, amongst the different age categories is shown in table 3. Also, Fig 3. shows how this mortality is distributed by cause, for chickens and guinea fowl, the most commonly kept species. It can be seen that during the period of the survey predation accounted for a very high proportion of total mortality and rain also accounted for a significant proportion. The study of the market revealed that 54% of the chickens and 66% of the guinea fowls brought to the market were sold. The average price was 250FCFA for a chicken and 300 FCFA for a guinea fowl.

DISCUSSION

The average numbers of poultry kept per family were similar to those reported by Aini (1990) for South East Asia. The low production rate observed compared to that reported for Mali by Kane (1990) could be due to lack of adequate feed. The results show that once birds attain adult age they have a much better chance of survival than chicks and the young. It would seem that provision of suitable housing could significantly reduce the high losses observed due to predation, rain and trampling of chicks. However, in this case it is clear that supplementary feeding would be necessary in order to have the benefit of increased numbers. It can also be seen from

Fig. 2 that guinea fowl suffered lower mortality probably due to better adaptability than the other species.

The relatively low proportion of losses due to disease can be explained by the fact that a large outbreak of Newcastle disease was reported to have taken place just before the first period of observation. Clearly, in order to have an accurate idea of total losses, observations would have to be carried out continuously for at least a year.

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