Short Term Solution to Meat Shortage: Production of Poultry, Pigs & Rabbit (with emphasis on poultry production)

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THE need for the production of enough food for the ever growing populations of the earth has been a subject of great concern all over the world. The shrinkage in the availability of animal protein for human food is a really critical component of the global problem on food production, especially in the developing countries. In Nigeria, the current meat shortage problem which attained near disaster level during the past year, was precipitated by a combination of global and regional factors.

A brief look into records of the World Animal Review³ will reveal the global trend. Thus world net meat production achieved about 50% increase during the period 1950-1970. This result was due mainly to increased output per animal rather than to numerical increase in livestock population. Accompanying table 1 however shows that the improvement was contributed from the developed agricultural countries of the world. In Africa, there was a net decline in the meat output figures.

estimates on livestock population showed the following range: Cattle, 8.5-11.1 million heads; goats, 22-26.0 million; sheep, 8.0-8.1 millions; pigs, 0.5-0.9 million; poultry, 50-86.1 millions.

These figures supported by imports of live cattle from neighbouring West African countries have therefore remained the chief but hardput source of meat to Nigerians until very recently. The recent drought caused serious depletion in the livestock populations of the affected regions while increased demand and the non-availability of cattle for importation finally precipitated the current meat shortage crisis.

As an emergency solution to the crisis, the government ordered the importation of chilled meat into the country but on the long term basis, the Federal and State governments proposed major projects aimed at expanding and developing livestock production and the relevant infrastructures. The FAO report on agricultural Development in Nigeria (1965-80) shows that a lot of improvement will be expected

TABLE 1

World and Regional Average kg per caput Meat Production: [1950-1970]

	1950	1970	Balance/Decit
Europe	25.2	50.00	24.5
North America	79.4	109.00	+ 29.6
Oceania	133.6	164.4	+ 30.8
Near East	9.5	11.1	+ 1.6
Latin America	38.2	35.9	- 2.3
Africa	12.0	11.1	- 0.9
Far East	5.8	9.3	+ 2.5
World Net	18.5	26.2	+ 7.7

In Nigeria, however livestock population data over the same period 1950-1970 indicated a 30-50% increase in the figures for cattle, sheep and goats³. Recent

in the quantity and quality of meat supply⁴. By 1980 an increase of 55%, 90%, 70%, 206% and 237% will be expected on the meat supplies from cattle,

goats, sheep, pigs and poultry respectively. From all indications, not even the lowest figure of 55% can be an easy target to meet.

The recent drought, apart from worsening the supply and demand position has added to the problems of animal production by its devastating effects on livestock (ruminants in particular) and their grazing grounds. Since relatively speaking, poultry and pigs were less affected by the drought and in view of the advantage of the relative ease of production, production of poultry and pigs would appear to hold forth better hopes for the achievement of the 1980 meat production objectives. If indeed the importation of chilled meat is an emergency solution while the projects on beef production are intended for long term solution, it will be seen that local production of poultry, pigs and rabbits has an important place as a short course to the long term solution to meat shortage problems.

Constraints

However the attainment of 206% and 237% production increase, in pigs and poultry respectively by the target date of 1980 constitutes an enormous task which would require great human and material resources. For example the projected level of poultry production will bring large scale and intensive poultry farms to many parts of the country. In which case infrastructural facilities and feed production in particular would require corresponding levels of improvement before that date. Large scale intensive poultry production invariably escalates disease risks in poultry and this risk should raise the important question of the availability of poultry disease experts. As of now there are only about half a dozen of such experts in all the Universities and government ministries put together. Hitherto the recognised constraints to the expansion of animal production in Nigeria include:

1. Nomadism — which is not very amenable to intensive production and disease control.
2. Climate & vegetation
- *3. Diseases

4. Low production efficiency in local animals
- *5. Inadequate availability of grains & feeds
6. Lack of effective coordination of planning and execution of live-stock projects
7. Ecological limitations
- *8. Lack of manpower in terms of quality and quantity.
9. Cattle tax — 'Jangali'

Of these factors only 3 (Nos 3, 5 and 8) constitute major constraints to large scale revolution of poultry production in Nigeria but then these 3 factors are not only formidable but also represent key factors in determining the efficiency of poultry production. Nutrition, disease and production efficiency are all closely inter-related and should therefore command special attention in large scale revolutionisation of poultry production. The recognised disease problems of poultry in this country include:

Fowl Typhoid, Fowl cholera
Infectious coryza
Mycoplasma infections (esp. CRD)
Newcastle disease, Tumours, Pox,
Infectious bursal disease (Gumboro)
Aspergillosis and Coccidiosis.

Besides the above-mentioned, a lot of chick mortalities often arise from faulty brooding and nutritional deficiencies. The disease problem is of-course not a static situation; strange cases are being encountered and these emerging diseases tentatively include:

Infectious bronchitis, Laryngotracheitis,
Infectious synovitis, Hock problems in turkeys
Reticuloendotheliosis.

Only a few of these diseases are at the moment being controlled in Nigeria, the remaining majority still need to be fully studied as a prerequisite to the formulation of suitable control programmes.

While talking of disease control in poultry production, it may be necessary at this stage to consider the suitability of the local indigenous fowl, in view of its hardiness and other suggested qualities.

One may therefore look into some of the theoretical considerations on the choice of the local or exotic chickens in the context of a programme for increased or commercial poultry production. The points to be considered include the following:

A: Intensive/Commercial production of local types of fowl.

Argument for: 1. Adaptability to local climatic & environmental conditions.
2. Relative resistance to disease
3. Low nutritional requirements

Against: 1. Inclination towards broodiness
2. Low production rate
3. Inadequately defined resistance status
4. Lack of breed or strain classification

B: Upgrading the local chicken by crossing with improved exotic breeds.

Argument for: 1. The crosses are expected to combine the traits of hardiness of the local with traits of high productivity from improved exotic breeds.
2. Possibility of improved feed conversion efficiency.

Arguments against:

1. There are no defined egg or meat breeds or strains amongst the local chickens and so this is a first hurdle to be cleared.
2. If indeed the local chickens possess traits for disease resistance, this still has to be defined in order to differentiate between low and high resistance strains.

For instance, there have been reports of the local fowl being comparatively resistant to experimental salmonella infection and coccidiosis,^{2, 5} whereas there have been outbreaks of Newcastle disease causing 100% mortality in some cases but little or no mortality in others.

3. Possibility of producing crosses with other undesirable traits.
4. Danger of compromising high productivity for hardiness.

C: Expanding and improving poultry production by using exotic commercial strains of chicken. This third choice is quite rational because given the right conditions the exotic strains will stand the test of economic production in Nigeria. It attracts to itself a standard of production, housing and management which permit the use of modern disease control methods.

Recommendations

Commercial production of poultry is not without its problems. The following recommendations may therefore be considered along with current efforts aimed at improving production.

1. Intensification of all efforts on the production of poultry, pigs and rabbits in those areas of the country where ecological factors are most favourable and in States and cooperative farms.
2. Defining the areas of manpower needs e.g. in poultry production:
 - Nutrition
 - Disease diagnosis and control
 - Housing and Management expertise
 - Production of animal drugs and vaccines.
3. Planning to forestall problems of grain, protein and feed supplements, by local production of these essential materials.
4. Establishing poultry disease diagnostic and research centres at four or more regional locations.

5. Establishing standard hatcheries and multiplication centres in suitable locations within the country.
6. Organising short term courses for prospective and practising poultry farmers to improve their knowledge and skills in the husbandry and management of poultry.
7. Reorganising the marketing of poultry meat and eggs with regulations and provisions for storage and price control.
8. Providing incentives on the importation and eventually the manufacture of machinery and tools for poultry production
9. Use of Mobile veterinary clinics to attend to disease problems at various state levels.
10. As each of the backyard mini flocks remains an important element in the household economy, special efforts will be needed to study and control their disease problems. It cannot however be overemphasised

that the existence of numerous inaccessible backyard or range flocks constitute a dangerous loophole in disease control.

REFERENCES

- ADENE, D.F.: Observations on fulminating Newcastle disease outbreak in Nigerian chickens. (Unpublished data).
- AIRE, T.A. & OJO, M. OLA. 1974: Response of white leghorn and Nigerian cockrels to experimental salmonella infections. *Trop. Anim. Hlth. Prod.* 6, 111 - 116.
- Anonymous 1973: World animal Review No. 5. (Quoted by K. B. David West: "A review of livestock development in Nigeria": 12th Meeting of the N.V.M.A.)
- Anonymous: F.A.O. report on Agricultural Development in Nigeria—1965 - 1980.
- AYENI, A.O. 1976: Resistance of the Nigerian local fowl to cecal coccidiosis. Presented at the 1976 annual conference of the N.V.M.A./W.A.B.