**INCOME AND EMPLOYMENT GENERATION ABILITY OF NATIONAL
DIRECTORATE OF EMPLOYMENT (NDE) POULTRY FARMING PARTICIPATION IN
OGUN STATE**

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ABSTRACT

This paper focuses on the performance of NDE scheme poultry farming participants of Ogun State of Nigeria. Primary data were collected on the poultry production activities of the participants, and were analysed using descriptive statistics, budgetary technique and markov chain process. Results of the analyses indicated that poultry farming was profitable, and the return to management was higher than the income earned by peers in the civil service job. The participants turn-over rate (desertion from the scheme) was low as a result of relative satisfaction with the level of income earned. The mean poultry farm size kept by the participants was higher than the target set by the NDE programme while employment generation capacity was lower. Increase in mean poultry farm size was predicted until the year 2020 when equilibrium will be attained and about 99% of the participants will be having poultry enterprise size of more than one thousand birds if the prevailing production and business environment persists. Increased poultry farm size is suggested for the participants to achieve the employment generation capacity target of five regular labour.

Keywords: Employment, Income, Poultry Business, NDE.

INTRODUCTION

Unemployment problem is national and critical in Nigeria with its attending negative consequences. Unemployment exists in both urban and rural areas of Nigeria. Adeniyi

(1988) indicated that the manifestation of unemployment is more visible in urban sector, than rural sector and that the roots of the problem are in the rural areas. The urban sector harbours many individuals that migrated from the rural sector in search of jobs that are not there. The rural sector itself experiences fluctuating unemployment condition when at certain period of the year there will be scarcity of labour and at another period, people are unemployed. Alimi (1988) observed that unemployment situation resulted from imbalance in labour supply, demand and wage rate emanating from rapid population growth rate, faulty educational system, rural-urban migration and rigid wage structure. Different categories of people are concerned and affected by unemployment situation. Government is concerned because unemployment of labour in a 'land surplus' economy is an indication of inefficiency in resource-use, loss in GNP, and can bring about socio-political unrest if educated youths are affected. High level of unemployment weakened the bargaining power of trade unions. A situation of rising level of unemployment leads to declining or static demand for organisation's product which is a source of concern to the employers. For the unemployment victim, it means idleness, loss of self-respect, poverty, family disintegration etc.

The need to generate employment in order to prevent the adversity that unemployment can bring and the idea that opportunities abound in the rural sector specifically in agriculture brings about the adoption of strategies for generating agricultural and rural employment.

The National Directorate of Employment (NDE) poultry farming scheme of the NDE Agricultural programme established in the late 1980's has as its major objective the creation of self employment to its participants who in turn will generate employment to other citizens. The continued participation in the NDE poultry farming scheme by the participants depends on the ability of the scheme to meet the participants' objective, which is the ability of the poultry farming enterprise to generate enough income to the participants. The general objective of this study was therefore to determine the extent to which the NDE scheme's objective and the objective of the participants are met. This becomes necessary to prevent waste of the scarce government resources committed to the programme. The general objective will be achieved through the following specific objectives:

- i) determining and comparing the mean poultry farm size and the labour absorptive capacity of the participants' enterprises with the target set.
- ii) estimating the participants turn-over rate.
- iii) determining the profitability of the poultry enterprise and the perception of participants on the level of income earned.
- iv) Identifying the trend in poultry farm size over time and the constraints to retaining large or having larger poultry farm size.

RESEARCH METHODOLOGY

The data used in this study were essentially primary data collected from the (forty-two participants) beneficiaries of the NDE poultry farming scheme in Ogun State of Nigeria. The list containing the names and the locations of the farms of National Directorate of Employment (NDE) poultry farming participants was collected at the NDE State Office. As at the time of this study (1994) only forty-two participants were recorded at the

NDE State Office as existing poultry farming participants. All the existing poultry farming participants were designed to be interviewed. Pretested structured questionnaire was used to collect information from the participants. The data collected included socio-economic characteristics of the farmers and the farms, price and quantity of inputs used and output produced, perception of the participants about the scheme, number of participants classified into desertees and non-desertees, and farm sizes in 1993 and 1994.

The data were analysed using descriptive statistics, budgetary technique and Markov Chain Process. Frequency tables were drawn and means of quantitative characteristics were computed. The budgetary technique emphasized the costs and returns to the poultry farming enterprise. The opportunity costs of the resources employed were determined and used as costs. The levels of profit and profitability index were estimated. The return to management (Kay, 1981) was computed and compared with the income of the peers employed in civil-service. The Markov chain process was used to identify the trend overtime of the poultry farm size assuming the prevailing poultry business environment and condition persist (Champernowne, 1953; George, 1969; Agbadudu, 1984; Williams and Oramah, 1989).

RESULTS AND DISCUSSION

Out of the forty-two NDE poultry farmers interviewed, six of them practiced mixed farming (arable cropping and poultry) and as such were dropped from further analysis. Thus, data from thirty-six respondents were analysed.

Socio-Economic Characteristics of Respondents

The thirty-six respondents consisted of 91.67% male and 8.33% female which indicates that this physical agricultural production enterprise ownership is basically male dominated (Table 1). They kept either broilers or layers or both.

TABLE 1: SOCIO-ECONOMIC CHARACTERISTICS DISTRIBUTION OF NDE POULTRY FARMERS (N = 36)

CHARACTERISTICS	DISTRIBUTION (%)
Sex	
Male	91.67
Female	8.33
Age in years	
25 - 29	69.44
30 - 34	16.67
35 - 39	13.87
Mean (years)	29.22
Literacy level	
OND	5.56
NCE	8.33
HND	27.78
DEGREE	58.33
Poultry Farming Experience (years)	
2 - 4	13.89
5 - 7	44.44
8 - 10	33.33
11 - 13	8.34
Mean (years)	7.08
Poultry Farming Occupation	
Full-time	83.33
Part-time	16.68
Other Occupation of part-time farmers	
Civil Service	66.67
Trading	33.33
Reasons for Taking to Poultry Farming	
Interest	41.67
Self-Employment	27.78
Practice Profession	22.22
No other job	8.33
Sufficiency of NDE Agricultural Loans	
Yes	63.89
No	36.11
Obtained Satisfactory Farm Income	
Yes	88.89
No	11.11

None of the farmers was younger than twenty-five years and none was as old as forty. About 70% of them were younger than thirty years. The mean age of respondents was 29.22 years indicating that the participants were young men and women that would possess the physical energy which farming in the

developing countries requires barring ill-health. All the respondents were graduates of tertiary institutions which was the policy of NDE programme. Degree holders accounted for about three-fifths of the total respondents. The high literacy level of respondents would afford them the opportunity to pick

information on modern farm practices easily and unaided too, thereby enhancing their performance. Only about 8% of the respondents had over ten years of experience in poultry farming, and a total of about 40% had more than seven years indicating that this proportion had been involved in poultry farming before the inception and their joining NDE poultry farming scheme. The mean years of experience was about seven years showing that most of the respondents obtained their experience from the NDE poultry scheme. Significant proportion of the respondents (83.33%) took poultry farming as full-time. Other occupations engaged in by part-time poultry farmers were trading and civil-service to supplement income from poultry farming. About two-fifths gave interest in poultry farming as reason for joining the NDE scheme. Additional 50% gave either self-employment motive or practice of own profession as reason for taking to poultry farming. With about 90% giving favourable reason(s) for joining and in the presence of necessary incentives the NDE poultry farming scheme is likely to succeed.

Farm Size

Distribution of poultry farmers by their poultry farm size is as shown in Table 2. About 45% of the farmers had poultry farm size of less than six hundred birds in 1993 with a mean of 487.5 birds. The proportion of farmers in this category declined to 36.1% with mean poultry farm size of 500 birds in 1994. The proportion of farmers and mean number of birds kept by farmers in the category of 600-999 birds were higher in 1994 than in 1993. The percentage of farmers in this category and the mean poultry farm size for the category were 38.9% and 757.1 birds respectively in 1994 and 33.3% and 733.3 birds respectively in 1993. Similarly the minimum of 1,000 birds category of farmers recorded both higher proportion of farmers and higher mean poultry farm enterprise size in 1994 than 1993. In the aggregate, the mean farm size increased from 855.2 birds in 1993 to 944.4 birds in 1994. This indicates an improved performance (enterprise size) within each class and in the aggregate in 1994 over 1993. In each of the two years, the average farm size (number of birds) was higher than the target of five hundred birds set by the NDE Scheme.

TABLE 2: FARM SIZE DISTRIBUTION OF POULTRY FARMERS

Farm Size (Number of Birds)	Percentage (%) of Respondents				Mean farm size	
	1993	1994	1993	1994	1993	1994
200 – 399	2.8	0.0				
400 – 599	41.7	36.1	44.5	36.1	487.5	500.0
600 – 799	27.8	27.8				
800 – 999	5.5	11.1	33.3	38.9	733.3	757.1
1000 – 1199	2.8	0.0				
1200 – 1399	5.5	5.5				
1400 – 1599	2.8	2.8				
1600 – 1799	0.0	5.5				
1800 – 1999	2.8	0.0				
2000 – 2199	0.0	2.8				
2200 – 2399	5.5	2.8	22.2	25.0	1775	1877.8
2400 – 2599	2.8	5.5				
Mean Values	855.2	944.5			855.2	944.5

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Farm Budget

Table 3 shows the result of the analysis of the costs and returns that accrued to the NDE poultry farmers on per farmer basis. The total revenue per poultry farmer was found to be ₦308,483.97, while the total cost incurred per farmer was ₦225,104.27. Cost of poultry feed ₦171,270.70 constituted the greatest share of the total costs representing about 76 percent. Cost of purchased chicks (stock) was next in amount accounting for 6.42%. Cost of hired labour and medication constituted 5.91 and 4.36 percent respectively. Miscellaneous costs, which included costs incurred on water, marketing, fuel and transportation represented 2.14 percent of the total costs. The costs incurred and the revenues earned by each poultry farmer was greater than the loan amount (capital) obtained from NDE. This is simply because within twenty weeks on the

average day old chicks had become matured and started to produce eggs which were sold to generate cash income. Also broilers enterprises were operated more than once in a year. The cash generated was reinvested in the business by using it to buy feeds, drugs etc. and earned more cash income. This made the capital turnover per annum to be greater than one and the cumulative costs higher than capital (loans obtained). The profitability index was 0.37, indicating that the NDE poultry farmer earned 37k on each Naira expended. The higher sales turnover (₦308,484.97) resulted in a net profit (return to management) of ₦83,381.70 per farmer per annum indicating that the poultry enterprise was profitable. Nearly all the farmers (88.89%) interviewed expressed satisfaction with the profit level of the enterprise.

TABLE 3: AVERAGE COSTS AND RETURNS TO NDE POULTRY FARMERS IN 1994

Items	Value (N)	Cost component as % of total cost
Gross Revenue	308,484.97	
Variable Costs:		
Chicks	14,452.08	6.42
Labour - Hired	13,294.50	5.91
- Family	338.91	0.14
Feed	171,270.79	76.02
Medication	9,807.44	4.26
Egg trays	1,130.56	0.50
Repairs	1,072.78	0.48
Interest on loans	920.42	0.41
Miscellaneous	4,819.17	2.31
Total Variable Cost	217,106.65	96.45
Gross Margin	91,378.32	
Fixed costs		
Rent on land	180.00	0.08
Depreciation on Tools/Equipment	7,817.62	3.47
Total Fixed Cost	7,997.62	3.55
Total Net Income/Return to Management	83,380.70	
Profitability index	0.37	

This is expected as the profit earned by NDE poultry farmers was higher than the salary (income) of their colleagues in the State and Federal Civil Service. On the average, their colleagues who joined the State and Federal Civil Service the same time they (poultry farmers) joined the NDE scheme earned ₦23,358.56 and ₦38,187.678 per annum respectively, which was less than fifty percent of their counterpart (poultry farmers) annual income.

Participants' Turnover Rate and Employment Generation

The participants turnover rate, which is the rate at which participants desert the programme, was low (12.5%). Only six out of the forty-eight participants admitted into the NDE poultry farming scheme deserted.

The average level of labour input used per poultry farmer per year was 1085.071 Mandays. The average level of labour input of regular labour per farmer per year was 350 Mandays. This gives an employment generating index of 3.10 (1085.071/350). It implies that on the average an NDE poultry farmer could generate employment for himself and another two persons. This is far below the NDE programme target of each poultry farmer generating employment for at least five other persons. In order to achieve the NDE's target of labour generation, (5 additional persons), while using the same (present) level of technology, there is the need to increase farm size, as the larger the scale of operation, the higher the quantity of labour that would be required.

Actual and Projected Pattern of Change and Equilibrium Values of Flock Size Kept

The movement of the poultry farmers from one flock size to another between the two periods for which data were collected is shown in Table 4. The Table also shows the categorization of the flock size kept by the NDE poultry farmers and the number of farmers in any given pair of category during the two periods (i.e. 1993 and 1994). The first row of Table 4 shows that 13 of the 16 poultry farmers who kept less than 600 flock size in 1993 remained in that category in 1994. The remaining three poultry farmers in this category in 1993 moved to a higher flock size category (600-999). The second row shows that none of the poultry farmers who kept between 600 and 999 flock size declined to a smaller (less than 600) flock size category, while only one of them moved to a bigger (over 1000) flock size category. Similarly, the third row shows that all the poultry farmers that kept a minimum of 1000 birds remained in that flock size category. That is none declined to a lower flock size category. The corresponding transition probability matrix for the above transition matrix is presented in Tale 5. The entries along the principal diagonal show that about 81% of the poultry farmers who were in the less than 600 flock size category in 1993 remained in that category in 1994, while about 19% moved to the next higher flock size category (600-999) by 1994. About 92% of those in 600-999 flock size category in 1993 remained in this category in 1994 while about 8% moved to a higher (over

TABLE 4: TRANSITION MATRIX FLOCK SIZE CATEGORIES

Flock Size 1993		1994 600-999 (S ₂)	1000 + (S ₃)	Total 1993
	< 600 (S ₁)			
< 600 (S ₁)	13	3	0	16
600 - 999 (S ₂)	0	11	1	12
1000 + (S ₃)	0	0	8	8
Total 1994	13	14	9	36

TABLE 5: TRANSITION PROBABILITY MATRIX FOR FLOCK SIZE CATEGORIES

Flock Size 1993		1994	1000 + (S_3)
	< 600 (S_1)	600-999 (S_2)	
< 600 (S_1)	0.813	0.187	0.000
600 – 999 (S_2)	0.000	0.917	0.083
1000 + (S_3)	0.000	0.000	1.000

1000 birds) category, all of those who kept over 1000 birds in 1993 remained in their flock size category, all of those who kept over 1000 birds in 1993 remained in their flock size category in 1994. It is evident from Table 5 that there was a high tendency for the poultry farmers to maintain their flock size and no decline in flock size was observed. These farmers need be given further incentives to increase their flock size to as much as they want. By so doing, poultry products which are veritable sources of animal protein, would be available.

Projection of the structure which the flock size of the NDE poultry farmers would eventually assume if the trend observed on the field during the two periods (i.e. 1993 and 1994) continues through time, shows that equilibrium will be attained in the year 2020. At equilibrium, about 99.4% of the poultry farmers would be keeping at least 1000 birds flock size. A small proportion (0.002) could keep less than 600 birds (Table 6). This results show an upward trend in the flock size of the poultry farmers through time. While the proportions of those in less than 600, and 600-999 flock size categories declined from 0.445 and 0.333 to 0.002 and 0.004 respectively, the proportion of those in 1000 and above bird flock size will grow from 0.222 to 0.994. The mean flock size of the poultry farmers through time also shows this upward trend in flock size of the farmers (Table 6). At equilibrium, the mean flock size will be 1870.6 birds per farmer compared to about 855.2 birds per farmer at the initial/starting year (1993). The medium flock size starts being in the 1000 +

birds category from 1998. This reveals that in the long-run, not less than half of the poultry farmers could keep over 1000 birds. This finding shows that the NDE poultry farmers have a great potential to boost local food (poultry product) production. However, their problem areas need to be looked into and promptly addressed for these potentials to be fully realized.

Problems Encountered by Poultry Farmers

Investigation revealed that poultry farmers encountered a number of problems. Getting customers to purchase their products was difficult because some of the farms were located in areas where accessibility was poor, and they have to incur additional costs on transportation to take the products to the markets, and to carry inputs to the farms. There was lack of a reliable water source (bore hole/deep well/pipe born water) for the birds. NDE officials' input supplies systems were characterized by late delivery, poor quality and wrong specification. Lack of social amenities such as pipe borne water, electricity etc. prevented some participants from residing at their project sites thus reducing level of supervision. In order to alleviate the intensity of the problem encountered, accessibility to rural areas should be improved by construction of motorable feeder roads. General rural development should be a working national policy to make living in the rural areas attractive. NDE scheme should assist the poultry farmers in sinking non-seasonal deep wells and also ensure supply of timely and high quality inputs.

TABLE 6: ACTUAL AND PROJECTED STRUCTURE OF THE POULTRY FARM SIZE AMONG POULTRY FARMERS

Year	Farm Size			Mean Size	Farm Size	Median Farm Size
	< 600 (500)	600 – 999 (757.1)	> 1000 (1877.8)			
1993	0.445	0.333	0.222	855.2		600 – 999
1994	0.361	0.389	0.250	944.5		"
1995	0.290	0.406	0.304	1023.2		"
1996	0.232	0.395	0.373	1115.5		"
1997	0.186	0.366	0.448	1211.4		"
1998	0.149	0.329	0.522	1303.8		1000+
1999	0.199	0.289	0.592	1430.0		"
2000	0.095	0.250	0.655	1466.7		"
2001	0.076	0.213	0.711	1534.4		"
2002	0.061	0.179	0.760	1593.1		"
2003	0.049	0.149	0.802	1643.3		"
2004	0.039	0.124	0.837	1695.1		"
2005	0.031	0.102	0.857	1702.0		"
2006	0.025	0.083	0.892	1750.3		"
2007	0.020	0.068	0.912	1774.0		"
2008	0.016	0.055	0.929	1794.1		"
2009	0.013	0.45	0.942	1809.5		"
2010	0.010	0.037	0.953	1822.6		"
2011	0.008	0.030	0.962	1833.2		"
2012	0.006	0.024	0.969	1840.8		"
2013	0.005	0.020	0.975	1848.5		"
2014	0.004	0.016	0.984	1861.9		"
2015	0.003	0.012	0.980	1858.3		"
2016	0.002	0.010	0.988	1863.8		"
2017	0.002	0.008	0.989	1864.2		"
2018	0.002	0.006	0.992	1868.3		"
2019	0.002	0.005	0.993	1869.4		"
2020	0.002	0.004	0.994	1870.6		"
2021	0.002	0.004	0.994	1870.6		"

Figures in bracket are the main flock size in each flock size category in 1994 and assumed to exist overtime.

SUMMARY AND CONCLUSION

The study examined the performance of NDE poultry farming participants of Ogun State in relation to the objectives of the scheme.

Both primary and secondary data were collected. Primary data were obtained from participants through the use of structured questionnaire, and secondary data from the records kept at the Ogun State NDE

secretariat. The data were analysed using descriptive statistics, budgetary techniques and Markov chain process.

Results of the analysis indicated that all the participants were graduates of tertiary institutions, aged between twenty five and forth years with a mean of 29.22 years. Significant proportion of them took poultry

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farming as full-time (83.33%), had favourable reasons for joining the poultry farming scheme (91.66%) and claimed to earn favourable farm income (88.89%). Their poultry farming was profitable with profitability index of 0.37 and return to management of ₦83,381.70 per farmer which was better than the income of peers in the civil service. The poultry farmers on the average exceeded the farm size target (500 birds) set for them in 1993 and 1994. The trend analysis indicated higher farm size over time until the year 2020 when equilibrium will be reached and about 99% of the farmers would be in the highest farm size class of 1000+ birds with a mean of 1870 birds, if the prevailing business environment persists. The employment generation ability of the participants (2 permanent labour) was lower than the target (5 permanent labour) set, and the target could be achieved with increased poultry farm size at the prevailing level of technology. The participants turnover was low which could be as a result of relatively satisfactory income earned from the farm. However, some of the farmers had problems of marketing of the farm products, transportation, reliable water source(s) for birds, unavailability of social amenities at the project sites which hampered success. Improvement in rural development and services provided by NDE schemes were suggested to reduce these problems.

From the foregoing, it could be concluded that the NDE poultry farming scheme could achieve the lofty objectives of generating reasonable income to the participants and providing employment. Effort should be directed at reducing or eliminating the constraints facing the participants in order to increase poultry farm size and output to increase its labour absorptive capacity and

make poultry products available to the populace.

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