

Post Mortem Analyses of Mokwa Cattle Ranch, Niger State

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Abstract: Mokwa Cattle Ranch (MCR) was established in 1964 specifically for fattening purposes, under a bilateral agreement between the German and Nigerian governments. It had full compliments of infrastructures, facilities and machineries at European Union standards and handed over to Nigeria in 1974. It was established to make full use of the molasses that is produced at the nearby Sugar Company at Jebba. Its total land area is 6,885 out of which 2,780 hectares have been prepared for grazing and cropping and 4,108 hectare remains as rangeland. With a capacity of 10,000, by 1973 its herd had attained 3,000 cattle. MCR carried out investigations in pasture establishments and its Green Panic grass of 200 hectares could be harvested six times in the rainy period and fed 3,000 cattle in 1973. Its feeding regimen for rainy seasons' with natural pasture gave 0.300 and Green Panic 0.500 kilograms per day weight gain. Gross margin was N28.60 per animal per day. MCR has been facing systemic decadence and in 2004, it was closed again. The latest consortium that took over has stopped operations. Failures of MCR are attributed to: rising obsolescence, negative impacts of macro-economic instruments such as foreign exchange rates (limiting capacities to import spare-parts), inflationary pressures (costs of direct and indirect inputs), interest rates (costs of funds) and poor management capacities and its deliverance by Nigerians. It is recommended that the system of banks supervisions by the Central Bank should be imposed on boards of parastatals with visible and stringent sanctions' implications.

Key words: Mokwa Cattle Ranch (MCR)

INTRODUCTION

The Mokwa Cattle Ranch (MCR) was conceived in the First Republic by the Northern Nigerian Government and was commissioned in 1964. It was a product of bilateral agreement between Nigeria and Germany who managed MCR upto 1974 when it was handed over to the defunct Interim Common Services Agency-ICSA-(managers of such assets after the division of the Northern Region into six States in 1967). ICSA handed it over to Nigerian Livestock and Meat Authority (NLMA) in 1971 later, handed it over to Niger State Government that in turn, handed it to its Local Government Authorities (LGAs). Its core goal was to increase the supplies of beef through Feedlotting operations in an integrated Ranch. It has its pastures and rangeland fields, water supplies, electric generating sets, veterinary and laboratory services. A standard abattoir of European Union standard for the slaughter, processing and packaging of its products was also an integral part of the complex.

After the handing over and to date, successive efforts to maintain, sustain and reactivate it after more than four closures were not successful. Late in 2004, another closure was witnessed arising from rising costs of fuels (diesel and petrol) making deliveries using trucks very expensive. These were aggravated by the need to

generate electricity because of the epileptic services provided by NEPA. Diesel fuel was retailing at N65.00 per litre at the time of preparing this paper. Therefore, for electricity generation alone and using a 350 horsepower diesel engine, one litre or, N65.00 is required every minute or N3,900.00 per hr^[1]. Consequently, MCR became uncompetitive and was closed down.

Macro-economic policy instruments such as foreign exchange, inflation and interest rates were stable. The stability allowed the German managers to manage MCR much more optimally. Also, the railways, utilities provision, notably electricity were optimal. These were attested to by former employees of MCR indicated that during German management period, electricity supply was much more regular (more than 18-24 against 6-10 hrs daily). Consequently, most haulage was done using the railways that was cheaper by 50.00% per volume than diesel trucks utilization. Lastly, the Germans were able to maintain inventories of genuine and standard spare-parts and maintenances of machineries, tractors, generating sets and cold rooms were comprehensive and timely because of stable foreign exchange rates' regimes.

MCR has an installed capacity to fatten over 10,000 beef cattle, slaughter, process and package and market it per annum. MCR is located at Mokwa three kilometres along Mokwa-Kainji road (off Mokwa-Ilorin highway). Choice of Mokwa was based on these realities

and are: firstly, it is near Jebba bridge whereby all cattle being transported by rail, trucks and on hoofs mainly from north eastern and western states converge at its bridge. The town has a railway substation allowing for beef cattle bought from the hinterland, feeds and machineries procured to be destined to it directly. Lastly, the Nigerian Sugar Company at Bacita-Jebba (58 km away) is a source of molasses that can be railed to MCR.

MCR occupies a total land area of 6,885 hectares out of which 2,780 are fully prepared for grazing and cropping, while 4,108 remains as rangeland. MCR is within the Southern Guinea (Sub Humid) eco-climatic zone. The vegetation is the Southern Guinea Savannah with *Andropogon gayanus* (Gamba grass), *Hyperennia rufa*, *Hyperennia discoluta*, *Pennisetum polystachyon* as the dominating grass cover. The average rainfall is 1000-12000 mm per annum spread over six months from May to October (Unpublished: Completion Report^[2]). In these Reports, the objectives of MCR was stated as:

... is the production of quality beef by fattening young Zebu bulls at pasture during the rainy season and by additional industrial by-products (feedlot operation) during the dry seasons. The finished animals are then slaughtered and processed in the project-owned abattoir and the products sold in the densely populated areas of southern Nigeria. Experiments have been carried out in all fields of cattle management, cattle feeding and processing....

To achieve these objectives, MCR was organized into four departments and are:

- Ranch Operation that consists of three units: Animal Husbandry and Health, Crop and Fodder Production and, Rangeland Management and Tsetse flies control.
- The Abattoir Operation with three units also: Beef processing, Packaging and Distribution.
- Engineering Services with the responsibility of maintenance of machines, workshop equipment, vehicles, farm machineries and buildings.
- Central Administration that coordinates the activities of the various departments.

MCR is equipped with standard (European Union) abattoir capable of processing 100 bulls per day and a residential complex consisting of a senior and junior employees complete with a swimming pool, tennis court, a workshop complex with modern machine room. Office complex and independent water supply system serviced by five deep boreholes. The complex is connected to NEPA National grid line and has standby generators. These supply power to residential quarters, the cold rooms, offices and laboratories, boreholes among others.

MCR was handed over to the Local Government Authorities of Niger State acquiring it for seven million Naira. However, like most public owned and managed establishments MCR suffered operational problems resulting in capacity under utilisation, inadequate funding and dearth of managerial expertise, lack of spare parts. This situation persisted and in 1995 had accumulated loss of N18.00 and a loan liability of almost N20.00 million. Investigations also show that maintenances' cultures were sub-optimal under LGAs management. These aggravated the obsolescence of machineries and technical facilities. This led to the inevitable decision by the Government of Niger State to privatise MCR. Some consortiums took it over but the latest has suspended production in 2004. This gave impetus to the study.

It should be emphasized that most machineries, tractors and other technical facilities were installed between 1965-1975 and of German design and origin. This is a long time for the life span of most of it and consequently, required replacements rather than refurbishing in order to attain the goal of maintenances' costs minimizations. However, the unfavourable and unstable macro-economic instruments (rising foreign exchange, inflation and interest rates) did not facilitate its attainment. Therefore, cannibalisations of machines' parts and suboptimal maintenance lead to reduce capacity while not necessarily reducing total production costs.

Justifications: The estimated cattle population and its slaughter Figure for 2004 were 15,986,425 million and 1,923,781 million, respectively. This gives an offtake of 12.03 percent and these Figures, vis-à-vis Nigeria's human and natural resources are viewed as low. If cattle population cannot be extensively expanded so that offtakes rises, intensive cattle production through Feedlotting (or fattening) can increase beef supplies from the same stock. The rationale for this will be the need to minimize or eradicate meat derived protein deficits. Also, the scope for adding values to beef by processing it into corned beef; minced meat and other food processing inputs will prevail.

WHO/FAO recommended a minimum of 13.14 kg per caput/year of beef derived protein intake and therefore, assuming 67.31% (94 million people) have effective demand for beef, 1,235,160 tons would have been required in 2004. However, because no fattening took place supply was only 249,990.00 tons resulting to deficit of 985,170.00 tons. Assuming that 30.00% of the slaughtered 1.923 (or 576,900) cattle are fattened, a daily weight gain of 0.30 kg

Table 1: Costs of production and gross margin calculation

Variables	Costs/Returns
5.00 kg. Of molasses @ N0.010/kg	N0.050
4.00 kg. Grass silage @ N0.004/kg.	N0.016
2.00 kg. Cottonseed @ N0.036/kg.	N 0.072
0.05 mineral salt lick @ N0.140/kg.	N0.007
Total Feed input	N0.145
Representing a gain in live weight per day and animal of 0.750 kg@ N0.340/kg.	N0.255
Difference: N0.255 – N0.110 = gross margin return per animal per day of N0.110	

Table 2: Growth rate under different fattening conditions

Seasons	Grasses/Feeds types	Weight gain kg/day)
Rainy Season	i) Natural pasture (gamba)	0.30
	ii) Artificial pasture (Panic)	0.50
Dry Season	i) Natural pasture (gamba)	0.00
	ii) Artificial pasture (leguminosoe)	0.10
Feedlot	i) Maize silage and cottonseed	0.30
	ii) Molasses, grass, silage or hay and cottonseed or dried brewers' grain	0.75

for 154 days and beef extraction rate of 130 kilograms of boneless beef per animal, yield (supply) of 410,198.38 tons is feasible in a year. Therefore, the deficit could be wiped out if fattening is extended to 75.00% of the slaughtered Figure. These would lead to prices` stability of direct and indirect inputs for fattening arising from rising operational scales. (Unpublished Completion Report of Mokwa Ranch, 1974:12-36 and Annual Report of Federal Department of Livestock and Pest Control Services-FDL and PCS, 2004. 1-26. Tables 1-2 and Annual Report of the Central Bank of Nigeria^[3].

Therefore, a veritable means of increasing meat production is through fattening and, the higher the percentage of fattened beef cattle the better. Hence, there is the necessity for integrated ranches such as MCR to remain successful. It will not only increase meat production, provide employment and linkages with other activities, but also, technological development leading to continuous improvement (and transformation) of the livestock sub-sector. Ranches such as MCR are needed for developing integrated and modern methods of pastures and rangeland production, animal husbandry and where abattoirs are integrated in it, processing, packaging, marketing and linkages with suppliers of its direct and indirect inputs. These justify the need of postulating how to avoid the pitfalls of MCR.

Objectives of the paper: The broad objective of this study is to show historically, that MCR was well planned and its operations under the Germans were successful. There are two other objectives and are:

- To show the contribution of MCR to applied research and development in the areas of integrated feedlotting operations.

- To postulate reasons for the failures of MCR and thereby make recommendations.

MATERIALS AND METHODS

This is a contextual study and its materials were drawn from the following sources:

- Completion Report as submitted to the Federal Government in 1974.
- Contact and interactions with MCR employees. Because of its epileptic performances, core historical, annual statements of accounts, comments by its Boards and supervising ministries were not available.
- Collation of available information from former employees and published materials of the Interim Common Services Agency (ICSA) and the defunct Nigerian Livestock Meat Authority (NLMA) now embodied in the National Livestock Projects Department of FDL & PCS.

OPERATIONAL BACKGROUND OF MCR

The chronological settings of MCR^[2] are presented below:

- 1964: Beginning of MCR-surveying, bush clearing and layouts settings.
- 1965: Construction works: facilities and infrastructures and purchase of first set of cattle.
- 1967: Completion of fences, erection of additional farm buildings and cattle holding facilities.
- 1968: Stock totals 600.
- 1969: Setback due to diseases (epidemics).
- 1970: Construction of abattoir.
- 1971: The Nigerian Livestock and Meat Authority (NLMA) takes over the ranch from the Interim Common Services Agency (ICSA).
- 1972: Stock passes 2,000 mark. More amounts of agro-industrial by-products, especially molasses are used with farm produced forage. Completion and official opening of the abattoir.
- 1973: Stock passes the 3,000 mark. Revenues meats operational costs.
- 1974: Handing over of project. Termination of German assistance.

From reports and discussions it was clear that MCR was involved in several investigations. It had a functional laboratory with drugs and reagents procured internally or

imported from Germany. Apart from Nigerian counterparts (understudying the Germans), experts from Germany and Britain in the following areas: veterinarians, laboratory scientists, pastures/rangeland, accountants and administrators were brought in from Germany. It maintained working relationships with the Institute for Agricultural Research at Ahmadu Bello University, then, has an outstation in Mokwa. It also liaised with the National Veterinary Research Institute at Vom, Plateau State. Consequently, it is being assumed that applied research prevailed at MCR and corollary to it, recognition of its needs.

To show how these sources of knowledge were integrated and used, MCR^[2] was able to calculate gross margins for its Feedlot Operations. It is shown below.

It should be emphasised that non-access to the statements of accounts of MCR, did not allow for other explicit costs such as taxes, costs of funds, depreciation, wages, overhead and other costs to be included in the above analyses.

Following Kahlon and Singh^[4], the Operating Costs ratio was 56.863%. The balance, 43.137% can be used to cover other costs and allows for rational profits' levels. The Operating Cost ratio of the last consortium that managed MCR was 89.10 leaving 10.90% of the gross margin to account for other costs. These results are indicative of relative poor scopes for profitability of MCR.

The mode of fattening adopted was based on the use of natural and cultivated pastures. In the rainy season, natural pastures are used. In the dry seasons, supplementation using fodder, molasses and cottonseed were used. Groundnut cake was found to be readily perishable. Inventory management was optimum as most goods and machineries were transported by railways being far cheaper than using trucks. Spare-parts for the cold rooms, tractors, machineries, laboratory facilities and its required drugs and reagents were stocked so that sudden requirements do not impose downtimes on the production lines. All facilities were within trouble-free working conditions requiring only regular and mandatory maintenances. Therefore, projected productivity levels were attainable because of optimality in management and applications of its investigations/research results. An example of it is presented below^[2].

SOME CAUSES OF FAILURES

The issue of possible growing costs of maintenances and thus obsolescence have been inferred above. Suffice it to say that it continued to impact upon operations and gross margins. The previous reactivation of MCR was with a loan request of N213,971,952.00 in 1995 when one USA\$ was N84.00. This facility was at 3.50% interest rate

with a service charge of 1.50% per annum, with a moratorium of five years and repayable in fifteen years. It also included tax holiday of seven years and exclusion from V.A.T. and excise duties for machineries and equipments for it. Projected inflation rate used was 11.00 and interest rate trend at maximum of 5.00%, respectively. Bulls were to be fattened to 300-350 kg having been bought at N70.00 and boneless beef sold at N190.00 per kg. Offal, hides, among other non-boneless parts of the carcasses were sold separately.

Depreciation was the straight-line method and at 10.00% per annum. Access was not possible to the valuations of fixed and movable assets of MCR and therefore, its net worth as of 1996 when it started operations again cannot be presented. Statements of accounts and auditors' reports were not available. Application of questionnaires was not useful as responses were low just 12 out of 100. This is because respondents do not want to be seen as availing documentations that can be traced to them and thereby used against them.

Macro-economic instruments effects: The major macro-economic instruments that affected MCR were the monetary and fiscal policies of Federal Government. As already stated, these are foreign exchange, interest and inflation rates. These were not consistent and thereby, imposed inflationary pressures on the economy through continual rises of the prices of direct and indirect goods and services used. In the context of MCR, it is postulated as triple Fs' negative effects arising from upward movements/rates of Forex, Fuel and Funds costs. Forex problems in Nigeria are synonymous with devaluation and thereby inflation and rising interest rates starting and sustaining vicious cycles of inflation and re-devaluation on continual basis affecting detrimentally, the triple Fs'.

Exchange rates movements: MCR financial portfolio was predicated on an exchange rate of N84.00 to one USA\$. This never stood still and it was N140.00 in 2004. The exchange rate movements between 1974 and 1986 were that it was single digit (range: N1.317-1.99 to one USA\$). Single digit continued at higher rate from 1988 and terminated in 1989 when it hovered between N6.5829-N 8.0895 to one USA\$. It hit the three-digit mark of N111.00 in 2000 and by 2004, it was N140.00. The impacts of these were instability in prices and importation of spare-parts became much more difficult. This is because most of the machineries, especially farm tractors and its implements, laboratory equipments and processing ones are Germany-made. Thus, its spares must be imported from Germany, then a relatively stronger than the USA-Dollar currency (Statistical Bulletin of CBN^[5]).

Inflation rates movements: The trends in inflation rates movements for 1970-2003 (SY-CBN, 199:156, CBN, 2003:35). The Figure indicates high positive skewness (coefficient of 1.44) with relatively high peakedness (Kurtosis coefficient of 1.56). These imply that inflationary pressure has been rising since 1970 (moving average trend). While there are troughs and peaks, there were no clear benchmark that can be used for future calculations. Therefore, it is assumed that effects of FOREX were negatively impacting on the trend making it an exogenously imposed pressure.

Interest rate movements: Interest rates on loans and overdraft facilities also followed the same trend-single digits upto 1984 and hovering between 15.00 and 22 between 1984-1988 and henceforth upto 30.00%. Unless when facilities are drawn from the Nigerian Agricultural and Cooperative Bank (NACB), there were no guarantee of stability of the interest rates and book values of loans were growing at times exponentially (SB-CBN, 1999:34). Although, the last facility was at 3.00% per annum, may look low, for a portfolio of portfolio of N213,971,952.00 the annual repayments are apparently not so. This is because if the consortium will regard this amount as working capital and provide 50.00% of it. At this interest rate, it will have to set aside N3,209,579.30 per annum from its gross margins for loans servicing. Service charges of 1.50% is not even included as the agreement embedded it in the tax holiday.

Salaries and wages movements: It should be mentioned that the negative effects of these macro-economic instruments lead to not only prices of direct and indirect goods and services used. It also impacted upon the cost of labour. Even though MCR was said to be paying relatively lower than those of the Civil Service, as the latter was reviewing its wages structures, the former followed (albeit later and lower-communications with former employees).

The civil service ranges of wages and salaries for 1974-1997 and upto 2003 (junior and senior employees) were N720-2,484 to N1,860-3,354 and N2,496-13,968 to N4,050-15,960 for each of the two categories between 1974 and 1984. These more than double from 1992-1999 and quadrupled those of 1974 (SB-CBN, 1999:175. and CBN Annual Reports: 1999-2003). Former employees of MCR, insisted that for Federal Civil Servants, earned on the average three times for junior employees and double by LGA employees. They also asserted that since 1998 to 2004, their wages was roughly doubled only. The authors, having no access to the accounting books of MCR, had no means of verifying these assertions. Also, former and few existing employees were not ready to state these in writing. Thus, these negative macro-economic effects

escalated the difficulties of MCR-leading to its continual closures.

Hence, macro-economic stability is important for enterprises especially those in the livestock sub-sector due to long gestation periods and continuous cash-flow requirements for animal feeds and health management. Further, risks and uncertainties are relatively higher in livestock enterprises such as losses arising from epidemics, theft and dislocations in logistics of feeds and water supplies (can lead to lower productivity). These are not the case with crops production where off-season periods prevail during which variable costs are minimal. Matters are not helped by the managerial styles of Nigerians especially of government-owned (or controlled) ventures; corruption and poor transparency from junior to senior employees are limitations to sustenance and operations of ventures.

Former employees who asserted that managerial capability was quite low when MCR was handed to the Local Government Authorities corroborated these. There were apparent scrambles for board membership and its chairpersonship. Remunerations were seen as relatively high with prevailing realities. Public Relations obligations became costs as important personalities related to board members and management employees were beneficiaries. In these situations, it was postulated that discipline levels declined and condonations of petty/minor misdemeanours aggregated into losses and difficulties of MCR.

Returns and costs analyses: During 1996-1997 production years before closure, MCR reported sales of N13,019,430.00. Salaries were N1,408,992.00 Utilities N1,088,400.00, Losses/Spoilage etc. N2,606,665.00, Public Relations (gifts, etc.) N673,300.00. Costs of procuring 2,311 bulls and its management up to becoming products was N4,414,010.00. Therefore, total visible costs was N11,600,359.00. Gross margin was N1,419,071.00 for the two years of N709,536 per year. These did not include depreciation, remitted to Inland Revenue income taxes, loan repayments and overheads for infrastructures and facilities maintenances.

Loans repayment plan at 3.00% per annum will require an outlay of N3,209,579.30 per annum. This gross margin could not cover it. With in view, forthcoming privatisation of utilities such as NEPA and Railways, prices of services of these utilities will further rise. Thus, MCR difficulties can only be imagined. Therefore, any rational investor may want to abandon such a project-and the best time to do it, is within the moratorium period. This was why no consortium managed MCR outside it. Again the Operating Costs Ratio reported at 89.10% was viewed as very high because it is far higher than rational levels that should be below 60.00% in order to cover other explicit and implicit costs not embodied in it.

CONCLUSION

This study ranks the failures of MCR into three. The first is obsolescence of plant, technical facilities and machinery of which its sustenance requires foreign exchange. And, with instability in exchange rates, becomes difficult to sustain. This is followed by negative macro-economic instruments' impacts on its cashflows. Lastly, poor managerial capacities and its deliveries by Nigerians that took it over. In order for ventures such as MCR to succeed, these issues must be addressed otherwise failures will always occur within the moratorium periods and remain as unavoidable vicious circles. Derivations of other conclusions are as follows:

- Investors willing to take over ventures such as MCR should be fully briefed on issues pertaining to obsolescence and other stream of liabilities.
- Close supervision of the boards and management of such ventures by the ministries should be in place (as it is done by CBN to banks).
- Macro-economic instability should be addressed so that its instruments are able to have positive effects on productivity and, prices of both inputs and outputs.
- Development and sustenance of infrastructures and facilities that are the responsibilities of Federal, States and LGAs – such as electricity and water.

Moratorium should be for at least ten years. Rebates or relief should be considered on *pro rata* basis for the negative impacts of macro-economic instruments. Life-expiry analyses when done should recommend complete replacements of machineries and technical facilities with new ones, instead of its refurbishing.

REFERENCES

1. Foley, G., 1990. Electricity for the Rural People. Panos Publication Limited. 9 White Lion Street, London, N1 9PD, UK., pp: 46-58.
2. Mokwa Cattle Ranch, 1974. Completion Report. Submitted to Federal Government of Nigeria and ICOSA. Published by the Federal Agency for Economic Cooperation, Division of Agriculture, Forestry and Food Economy, 6226 Eschborn, Stuttgarter, Strasse 10, Germany, pp: 9, 13, 14, 15-16, 19, 21, 24, 29, 31 and 47.
3. Central Bank of Nigeria, 2003. Annual Report of Central Bank of Nigeria. CBN Headquarters, Garki, Abuja, 88: 140-145.
4. Kahlon, A.S. and K. Singh, 1980. The Economics of Farm Management in India. Allied Publishers, Limited, New Delhi, India, pp: 92-93.
5. Central Bank of Nigeria, 1999. Statistical Bulletin. Central Bank of Nigeria. CBN Headquarters, Garki, Abuja, : 34, 156, 175, 188, 191.