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# Sensitivity analysis in the rearing of beef cattle in the State of Pará

Diogo Claudio da Silva[1], Weder Ferreira dos Santos[1*], Layanni Ferreira Sodré Santos[1], Adriano Silveira Barbosa[1], Antônio Henrique Camilo Ribeiro[1], Vanderlan Carneiro Dias[2], Joênes Mucci Peluzio[2], Maria Dilma de Lima[2], Cícero Antônio Sobreira Fidelis[3], Renato da Silva Vieira[4], Laura Carneiro Silva[1]

[1,2]Federal University of Tocantins, Gurupi, Tocantins, Brazil.
[3]Agronomy Department, Federal Institute of Pará, Avenue Couto Magalhães, 1649 - Universitário, 68540-000, Conceição do Araguaia, Pará, Brazil
[4]Department of Veterinary Medicine, Luteran University Center of Palmas, Avenue Teotônio Segurado 1501 Sul Palmas – TO, 77.019-900, Palmas, Tocantins, Brazil.
*Corresponding Author

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***Keywords*— Cattle culture, Cost management, Farmer.**

***Abstract*—** *Brazil, a major meat producer and exporter, has the largest commercial herd in the world with about 215 million heads, as Pará is in the 4th position in number of cattle in the country, with 22 million heads. In the country 80% of the farms are beef cattle, having reared in all Brazilian municipalities, mostly calf production, many producers do not have the records of information on the cost of production and the viability of the business, sensitivity analysis and important instrument, and of total importance because it helps to know the results, profitability for decision making. Thus, this objective was to make a sensitivity analysis, for this we made a case study, where zootechnical indexes were raised, the support of the property and made a projection of the herd, during the period of 10 years, to find the revenue and verified the expenses both fixed as the variable, and also investments in the infrastructure to find the expenses of the property in the period, the economic indexes were found and sensitivity analysis was made, in a rural property in Santa Maria das Barreiras, in the State of Pará. Concluding that project is robust and feasible, with attention to expected profitability.*

## I. INTRODUCTION

Brazil has consolidated itself as a major producer and exporter of meat in the international market, the country has the largest commercial herd in the world with approximately 215 million heads, Pará has the 4th largest herd in the country, with a carca of 22 million heads and the largest of buffaloes with 556,000 animas, the municipality with the largest herd in the country and São Felix do Xingu with 2.2 million heads [1 and 2], being very expressive the breeding of animals for both small, medium to large producers. Beef cattle represent 80% of the country's herd being very important for the country [3].

The creation of beef cattle and an activity that is present in almost all Brazilian municipalities, being commonly used in cattle farming the production of calves, or fattening, or even producers that can produce the complete cycle of production, creates, recreates and fattening, always seeking the highest profitability, with

this the country has been gaining leadership in the world trade in meat [4], in 2019 livestock farming contributed 32% of the PIB national level, with about R$ 494,8 billion sum of goods and services generated [5].

Knowing what the production costs and total importance for an efficient management of the property, and fundamental for the planning of activities, facilitating in decision making, as much as and when to invest, as well as control enabling greater profitability, it is necessary to plan the property as a rural company [6].

It is necessary that the producer has information that allows a greater knowledge of resources, bringing ease to the same in decision-making on the continuity or discontinuity of production, whether it will continue producing calf (calf) to sell, or hold a little more and sell garrote (recreates), or even the sale of fat ox (fat tenuin), and also the complete cycle (creates , recreates, fattening), this entrepreneur must seek knowledge to facilitate in his administration, with this seeks his profitability and should note that in most properties revenues are obtained in a few months, and expenses are dissolved throughout the year [7].

Producers are, and should be seen as managers of their rural companies, and for their survival in the current market should be updating and adapting, with the use of management practices to guide them and better production and satisfactory results for their production chain, always observing the property as a company, one different from the other with its peculiarities and reality of it , regardless of the size of the area, and notorious compression on management and the entire production process, knowing the quantity and how it will produce and the cost of the product it will offer, and when it will be available for sale, this will be essential to manage the resources of the rural company, obtaining the desired results [8].

One of the problems observed in some producers and lack of registration of information about their cost of production, the rural entrepreneur should be attending to the new technologies that passes facilitates their observation of spending as control of their property, thus leaving more competitive before the current market. It can adopt the best strategies for your activity, with lots of market observation and trends [9].

The rancher usually does not have the complete knowledge about costs and production factors, which would facilitate his decision making risk analyses are important, in economic assessment, allowing a numerical visualization involved in a rural company, within the risk analysis [10].

The economic feasibility analysis of an investment may be possible through the use of specific methods or complementary analyses, such as risk analyses, which work with probabilities and scenario simulations, which allows identifying the risks of the enterprise, taking into account a large set of variables [11, 12 and 13].

Thus, the economic feasibility analysis of an Investment Project can occur through the Multi-index Methodology, using various return and risk indicators, such as Net Present Value (VPL), Payback, Internal Rate of Return (TIR), so that these provide that the analysis performed is more reliable, when considering the uncertainties of the different scenarios and the probabilities of risks that should be weighed [14, 15, 16 and 17].

The sensitivity analysis and used to estimate the effect that a change in price, production level, cost of capital opportunity, or the combination of these factors causes on the final economic result. Sensitivity analysis and a convenient and fast method of determining the approximate impact, on the change in one or more of the productive factors, had caused the final economic result [18].

In view of the above, this study aims to know the sensitivity analysis in a breeding of beef cattle in the state of Pará.

## II. MATERIAL AND METHODS

The experiment was conducted at the Vitoria site located in (08º18’32”S 50º36’58”W) in the municipality of Santa Maria of Barreiras - PA, in the transition from the cerrado biome to the Amazon. Access to property takes place via highway PA 150 to km 20 (sense Redenção x Casa of Taboa), enters the right following by 60 km of unpaved highway in the vicinal 31, after the farm Chupé more 9 km.

The predominant climate (Figure 1) in the region is classified according to Köppen as Aw, tropical with dry season in winter [19].

The property contains 113.60 ha, of legal field that are occupied with artificial pastures in most with urucloa brizantha and panicum maximum.

The topography of the property and predominantly plant, has some areas of lowland, much of the area of the property and mechanized approximately 90% with tire tractors.

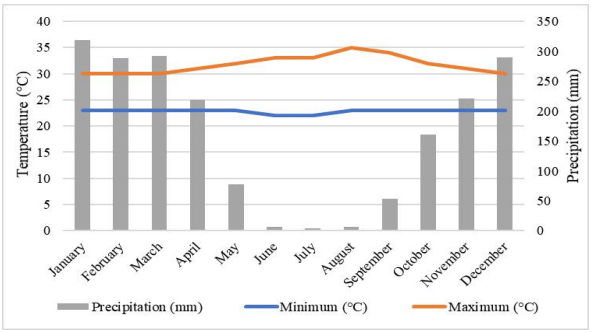


*Fig. 1: Precipitation climatological averages, minimum temperature and maximum of the municipality of Santa Maria of Barreiras, Estado of the Pará in the year of 2019.*

Fonte: Climatempo [20].

Soil analysis was performed on the property (Table 1), so that calage and fertilization can be done correctly, later.

Table 1 - Results of chemical and physical analysis of soil in the layer 0-20 cm corresponding to the area in Santa Maria of Barreiras – PA.

*Table 1: Results of chemical and physical analysis of soil in the layer 0-20 cm corresponding to the area in Santa Maria of Barreiras – PA.*

| Ca | Mg | Al | H+Al | Argila | Silte | Areia |
|---|---|---|---|---|---|---|
| | $cmol_c\ dm^{-3}$ | | | % | % | % |
| 1.3 | 0.8 | 0.3 | 2.5 | 21 | 6 | 73 |
| P | S | Zn | Mn | Fe | Cu | B |
| | | | $mg\ dm^{-3}$ | | | |
| 6.7 | 2 | 1.5 | 30.6 | 245 | 1 | 0.23 |

Font: Solocria [21].

The property includes a small river called rust and two medium-sized dams that supply the demand for water from the property, while the demand for the home is provided by a semi-artesian well used this water for human consumption and small domestic animas.

It includes 10 divisions of pasture and corridors to facilitate management, as well as a remanga to close the herd, each pasture has trough for placement of mineralized salt and access to water, in the dams or watercourse already described.

On the day 10/02/2021 the herd was performed and the approximate age of each bovine of the property was performed to collect the data to be inserted in the GERENPEC. Three equidae were used for the management of cattle (touching them), and it was requested with Agricultural Defense Agency of the Pará (ADEPARA), issue the property's health record.

Zootechnical indices, such as birth, mortality, such as weight approaching the animal category moving to UA, Diagnosis was used for property planning [22], as the property does not yet have a corral with precision scale, and due to the evaluation will be carried out for more than 1 year, and the weight of the animas try to vary over the years. For data analysis, the system was used (sheet) of Embrapa Gado from Corte GERENPEC 1.0 [23].

For the study of economic viability and sensitivity analysis, it was used by the Kassai [18].

## III. RESULTS AND DISCUSSION

In addition to the prices of the animals, field research was carried out with the Magnos Leilões, company based in Redenção - PA, with various producers and buyers of cattle (Middlemen) in the region of Serra Azul (Santa Maria of Barreiras), where the property is located, while the values of @ cattle, the Company's Quotes were used Scot Consultoria [24], as shownin the Table 2.

*Table 1: Marketing of breeding, fattening and slaughter cattle.*

| Specification | Epoch | Unit | Quantity | Value unit (R$) | Value full (R$) |
|---|---|---|---|---|---|
| Calf fat | 24 the 30 Months | @ | 18 | 274 | 4932 |
| Calf thin | 24 the 30 Months | Cb | 1 | 3900 | 3900 |
| Heifer | 24 the 36 Months | Cb | 1 | 3300 | 3300 |
| Garrote | 12 the 24 Months | Cb | 1 | 3000 | 3000 |
| Garrota | 12 the 24 Months | Cb | 1 | 2600 | 2600 |
| Calf | 7 the 12 Months | Cb | 1 | 2500 | 2500 |
| Heifer | 7 the 12 Months | Cb | 1 | 2000 | 2000 |
| Cow discarded | Fat | @ | 12 | 270 | 3240 |
| Discarded bull | 24 the 30 Months | @ | 22 | 274 | 6028 |

Source: Scotconsultoria [24].

Table 3 refers to the price by category of farm animals, for the analyzed property was chosen the nellore or anelorada, because and a breed that adapted very well, in several regions of the country, with resistance to high temperatures, good ability to use fibrous foods, fodder, less attacked by ectoparasites and rusticities compared to European breeds, in general have undergone genetic improvement, at least breeding (bulls), being an excellent animal for grazing [25].

*Table2 Cattle of offspring for cutting - herd formation.*

| Specification | Race | Unit | Quantity | Value unit (R$) | Value full (R$) |
|---|---|---|---|---|---|
| Reproducer P.O | Nellore | cb | 2 | 15000 | 30000 |
| Reproducer L.A | Nellore | cb | 1 | 10000 | 10000 |
| Mother (3 years) | Anelorada | cb | 1 | 3500 | 3500 |
| Heifer (2 the 3 years) | Anelorada | cb | 1 | 3200 | 3200 |
| Heifer (1 the 2 years) | Anelorada | cb | 1 | 2600 | 2600 |
| Heifer (7 the 12 Months) | Anelorada | cb | 1 | 2000 | 2000 |

Source: Field research.

The next Table 4 shows the prices of animals that are used in the management of the property, which has three equidae all horses, but more equidae were conducted that are commonly used in properties in the region such as the muares (Donkeys and Mules).

*Table 3Working animals.*

| Specification | Age | Unit | Quantity | Value unit R$ | Value full (R$) |
|---|---|---|---|---|---|
| Lover boy | 3 the 5 years | cb | 1 | 1,000 | 1,000 |
| Horse | 3 the 5 years | cb | 1 | 700 | 700 |
| Mare | 3 the 5 years | cb | 1 | 300 | 300 |
| Donkey (tame) | 3 the 5 years | cb | 1 | 1,000 | 1,000 |

Source: Field research.

The costs of deploying one kilometer of fence are in Table 5. On the other hand, the amount of expenses in the reform and maintenance of pasture is in Table 5, referring to 1 hectare, being carried out in a mechanized way.

*Table 4: Annual expenses and expenses in the creation system.*

| Specification | Unit | Quantity | Value unit (R$) | Value full (R$) |
|---|---|---|---|---|
| Manpower outsourced | day | 24 | 100.00 | 2,400.00 |
| Energy | Months | 12 | 300.00 | 3,600.00 |
| Pro-labor | Months | 12 | 1,000.00 | 12,000.00 |
| Transport | Months | 12 | 300.00 | 3,600.00 |
| Inputs livestock | year | 1 | 16,720.00 | 16,720.00 |
| Formation of mechanized pastures | hectare | 2 | 2,028.00 | 4,056.00 |
| Implantation of smooth wire fence | km | 2 | 12,900.00 | 25,800.00 |
| Full | | | | 68,176.00 |

Source: Field research.

In a property with beef cattle is of full importance of mineral supplementation of animals, providing in the trough the nutrients that can not remove from the fodder, it is advisable a strategic supplementation in the dry season, because the growth of the fodder decreases, as well as its nutritional quality, causing the animals to stop gaining weight or even lose weight in this period without supplementation , the consumption of mineralized salt and approximately from 100 g $UA^{-1}$ [26].

The medicines and inums used in a calf property in the south of the State of Pará are extremely indispensable, as shown in Table 5.

The estimated costs of all expenses on the property from the first year, such as used inums, pasture renovation and maintenance, installation such as fences, remangas, such as labor, products and energy spent, are present in the Table 5.

Explaining the herd present on the property, and their respective values. Herds are composed of matrices, bulls, heifers, heifers and calves, in addition to the working equidae expressed in Table 6.

*Table 5: Acquisition of animals for the breeding system.*

| Description | Race | Unit | Quantity | Value unit (R$) | Value full (R$) |
|---|---|---|---|---|---|
| Reproducer L.A | Nellore | cb | 2 | 10,000.00 | 20,000.00 |
| Mother (+ 36 months) | anelorada | cb | 82 | 3,500.00 | 287,000.00 |
| Heifer (13 the 24 months) | anelorada | cb | 36 | 2,600.00 | 93,600.00 |
| Heifer (0 the 12 months) | anelorada | cb | 24 | 2,000.00 | 48,000.00 |
| Calf (0 the 12 months) | anelorada | cb | 13 | 2,500.00 | 32,500.00 |
| Horse | 3 the 5 years | cb | 1 | 700.00 | 700.00 |
| Mare | 3 the 5 years | cb | 1 | 300.00 | 300.00 |
| Full | | | | | 482,100.00 |

Source: Field research.

The sale of animals in the first (Table 7) and second year (Table 8) will be low, because a large part of the herd are heifers that have become future matrices, in Table 7 are present the animals that will be sold annually as calves and discards, the expected birth rate, is 60% of the 1° to 3° year, as it is the beginning of activity, there will be no discards between the matrices in the 1° and 2° because they are young animals.

*Table 6 Expectation of animal sales in the first year.*

| Description | Race | Unit | Quantity | Value unit (R$) | Value full (R$) |
|---|---|---|---|---|---|
| Calf (7 the 12 meses) | Anelorada | Cb | 25 | 2,500.00 | 62,500.00 |
| Heifer (7 the 12 meses) | Anelorada | Cb | 25 | 2,000.00 | 50,000.00 |
| Cow disposal | Anelorada | Cb | 0 | - | 0.00 |
| Ox disposal | Nellore | Cb | 0 | - | 0.00 |
| Full | | | | | 112,500.00 |

Source: Field research.

In the first year will be sold 100% of the male and female calves, in order to generate more revenue, as well as to facilitate the management of pasture and reform of some pastures, in the second year will be 100% of males and 70% of females leaving the best to grow and to make replacement for the stock of matrices, which will be discarded later.

*Table 7: Expectation of animal sales in the second year.*

| Description | Race | Unit | Quantity | Value unit (R$) | Value full (R$) |
|---|---|---|---|---|---|
| Calf (7 the 12 meses) | Anelorada | cb | 25 | 2,500.00 | 62,500.00 |
| Heifer (7 the 12 meses) * | Anelorada | cb | 17 | 2,000.00 | 34,000.00 |
| Cow disposal | Anelorada | cb | 0 | - | 0.00 |
| Ox disposal | Nellore | cb | 0 | - | 0.00 |
| Full | | | | | 96,500.00 |

Source: Field research. * Sale of 70% of female heifers.

In the 3rd year (Table 9) the matrices began to be discarded at a rate of 10%, where the sale will be composed of 100% of males and 66% of females, leaving the best for replacement of the matrices that will be discarded.

*Table 8: Expectation of animal sales in the third year.*

| Description | Race | Unit | Quantity | Value unit (R$) | Value full (R$) |
|---|---|---|---|---|---|
| Calf (7 the 12 meses) | Anelorada | cb | 33 | 2,500.00 | 82,500.00 |
| Heifer (7 the 12 meses) * | Anelorada | cb | 21 | 2,000.00 | 42,000.00 |
| Cow disposal ** | Anelorada | cb | 11 | 3,300.00 | 36,300.00 |
| Ox disposal | Nellore | cb | 0 | - | 0.00 |
| Full | | | | | 160,800.00 |

Source: Field research. * Sale of 66% of female heifers. ** Sale of 10% of mothers to disposal.

With the improvement of pastures and structuring of the farm, from the 4th year the birth rate will rise to 70%, and sales will be in 100% of males and 66% of females (Table 10), leaving the best for replacement of the matrices that will be discarded.

*Table 9: Expectation of animal sales in the fourth year.*

| Description | Race | Unit | Quantity | Value unit (R$) | Value full (R$) |
|---|---|---|---|---|---|
| Calf (7 the 12 meses) | Anelorada | cb | 35 | 2,500.00 | 87,500.00 |
| Heifer (7 the 12 meses) * | Anelorada | cb | 23 | 2,000.00 | 46,000.00 |
| Cow disposal ** | Anelorada | cb | 10 | 3,300.00 | 33,000.00 |

| | | | | | |
|---|---|---|---|---|---|
| Ox disposal | Nellore | cb | 1 | 6,050.00 | 6,050.00 |
| Full | | | | | 172,550.00 |

Source: Field research. * Sale of 66% of female heifers. ** Sale of 10% of mothers to disposal.

From the 4th year the revenue will stabilize, but it will alternate with that of the 5th year, because in one year will have disposal of an ox and the following year will not have, so it will be successively, as shown in Table 11.

*Table 10: Expectation of animal sales in the fifth year.*

| Description | Race | Unit | Quantity | Value unit (R$) | Value Full (R$) |
|---|---|---|---|---|---|
| Calf (7 the 12 meses) | Anelorada | cb | 35 | 2,500.00 | 87,500.00 |
| Heifer (7 the 12 meses) * | Anelorada | cb | 23 | 2,000.00 | 46,000.00 |
| Cow disposal ** | Anelorada | cb | 10 | 3,300.00 | 33,000.00 |
| Ox disposal | Nellore | cb | 0 | - | 0.00 |
| Full | | | | | 166,500.00 |

Source: Field research. * Sale of 66% of female heifers. ** Sale of 10% of mothers to disposal.

Now the balance sheet will be made to evaluate the flows (Table 12) of net cash containing the expenses and revenue so that you can visualize the expenses and revenues of the project.

*Table 11: Cash flow.*

| Year | Period | Investment (R$) | Revenue (R$) | Expenditures (R$) | Cash flow c. liquid (R$) |
|---|---|---|---|---|---|
| 2020 | 0 | 482,100.00 | - | - | 482,100.00 |
| 2021 | 1 | - | 112,500.00 | 68,176.00 | 44,324.00 |
| 2022 | 2 | - | 96,500.00 | 68,176.00 | 28,324.00 |
| 2023 | 3 | - | 160,800.00 | 68,176.00 | 92,624.00 |
| 2024 | 4 | - | 172,550.00 | 68,176.00 | 104,374.00 |
| 2025 | 5 | - | 166,500.00 | 68,176.00 | 98,324.00 |
| 2026 | 6 | - | 172,550.00 | 68,176.00 | 104,374.00 |
| 2027 | 7 | - | 166,500.00 | 68,176.00 | 98,324.00 |
| 2028 | 8 | - | 172,550.00 | 68,176.00 | 104,374.00 |
| 2029 | 9 | - | 166,500.00 | 68,176.00 | 98,324.00 |
| 2030 | 10 | - | 172,550.00 | 68,176.00 | 104,374.00 |

Source: Author himself.

A minimum rate of attractiveness has been adopted (TMA) from 10%, took into account the rate Selic, that's 2.5 [27], project risk, opportunity cost and expected minimum profitability. Thus, the feasibility of the project was calculated (Table 13) and economic indicators (Table 14).

*Table 12: Calculated values.*

| Year | Flow (R$) | Balance (R$) | Present Value (R$) |
|---|---|---|---|
| 0 | 482,100.00 | 482,100.00 | 482,100.00 |
| 1 | 44,324.00 | 437,776.00 | 40,294.55 |
| 2 | 28,324.00 | 409,452.00 | 23,408.26 |
| 3 | 92,624.00 | 316,828.00 | 69,589.78 |

| | | | |
|---|---|---|---|
| 4 | 104,374.00 | 212,454.00 | 71,288.85 |
| 5 | 98,342.00 | 114,112.00 | 61,062.64 |
| 6 | 104,374.00 | 9,738.00 | 58,916.40 |
| 7 | 98,342.00 | 88,604.00 | 50,465.00 |
| 8 | 104,374.00 | 192,978.00 | 48,691.24 |
| 9 | 98,342.00 | 291,320.00 | 41,706.61 |
| 10 | 104,374.00 | 395,694.00 | 40,240.70 |
| TMA | | | 10.00% |

Source: Author himself.

The present value of the entries (Table 14) is the sum of all entries at 10% per year, at moment zero. The found value of the Net Present Value (VPL) was of R$ 23,564.03 this demonstrates that the project is feasible, because this value is greater than zero (0).

*Table 13: Economic indicators.*

| | |
|---|---|
| V.P. Entries | R$ 505,664.03 |
| VPL | R$ 23,564.03 |
| TIR | 10.97% |
| IL | 1.05 |
| Pay-back | 6.10 |
| TMA | 10% |

Source: Author himself.

The Internal Rate of Return found was 10.97%, considered acceptable because it is greater than the TMA. The Profitability Index was 1.05 indicates that it is feasible, because it is greater than 1.

The Payback was of 6.10 this shows us that this project will recover investment in the course of the 6° year.

Sensitivity analysis (Table 15) is an important ferment, for one observes how much the project and robust, the market variations, in this was analyzed a variation of 10% in revenues and expenses, for more or less, the following case studies were made:

Case one. You don't hear any change in expenses and revenues.

Case two. There was a 10% increase in revenue, as well as expenses.

Case three. There was a 10% increase in revenue, and a 10% reduction in expenses.

Case four. There was a 10% decrease in revenue stemming from expenses as well.

Case five. There was a 10% decrease in revenue, and an increase in expenses of 10%.

*Table 14: Net cash flow in reais (R$) with variation 10%.*

| Revenue + 10%<br>Expenditure +10% | Revenue +10%<br>Expenditure - 10% | Revenue -10%<br>Expenditure - 10% | Revenue -10%<br>Expenditure + 10% |
|---|---|---|---|
| 48,756.40 | 62,391.60 | 39,891.60 | 26,256.40 |
| 31,156.40 | 44,791.60 | 25,491.60 | 11,856.40 |
| 101,886.40 | 115,521.60 | 83,361.60 | 69,726.40 |
| 114,811.40 | 128,446.60 | 93,936.60 | 80,301.40 |
| 108,156.40 | 121,791.60 | 88,491.60 | 74,856.40 |
| 114,811.40 | 128,446.60 | 93,936.60 | 80,301.40 |

| | | | |
|---|---|---|---|
| 108,156.40 | 121,791.60 | 88,491.60 | 74,856.40 |
| 114,811.40 | 128,446.60 | 93,936.60 | 80,301.40 |
| 108,156.40 | 121,791.60 | 88,491.60 | 74,856.40 |
| 114,811.40 | 128,446.60 | 93,936.60 | 80,301.40 |

Source: Author himself.

As observed in three of the cases observed same with the TMA from 10%, would be economically viable, Case 1, has already been evaluated let's observe the others.

Case 2 (Table 16), where there was a simultaneous increase in revenues as well as expenditure in 10%, how does the VPL was of R$ 74,099.58 which is greater than zero, and TIR 12.97% which is bigger than the TMA, and the IL 1.15 greater than 1, in this case the project is feasible.

*Table 15: Sensitivity analysis.*

| Indicators | Case 1 | Case 2 | Case 3 | Case 4 | Case 5 |
|---|---|---|---|---|---|
| | No change | Revenue + 10% | Revenue +10% | Revenue - 10% | Revenue - 10% |
| | | Expenditure + 10% | Expenditure - 10% | Expenditure - 10% | Expenditure + 10% |
| V.P.Entries (R$) | 505,664.03 | 556,199.58 | 639,981.98 | 455,072.38 | 371,289.98 |
| VPL(R$) | 23,564.03 | 74,099.58 | 157,881.98 | 27,027.62 | 110,810.02 |
| TIR (%) | 10.97 | 12.97 | 16.19 | 8.85 | 5.13 |
| IL | 1.05 | 1.15 | 1.33 | 0.94 | 0.77 |
| PB | 6.10 | 5.65 | 5.02 | 6.64 | 7.85 |
| TMA (%) | 10 | 10 | 10 | 10 | 10 |

Source: Author himself.

Case 3 (Table 16), this is the most desirable to the investor, as there was an increase in the revenue of 10% and decrease in the costs of 10%, with that the VPL was of R$ 157,881.98 which is greater than zero, TIR 16.19% that and greater than TMA, and the IL and from 1.33 that and greater wants, making the project viable.

Case 4 (Table 16), where there was a fall in both revenue and 10%, in this condition the VPL was of R$ -27,027.67 negative, TIR 8.85% therefore less than TMA desired, is the IL 0.94, which is less than 1, in this condition the project would be unfeasible.

Case 5 (Table 16), this is the worst situation analyzed because it hears a fall in revenue 10% and an increase in the costs of 10%, causing the VPL be R$ -110,810.02 negative, the TIR was 5.13% and the IL 0.77 that less than 1, in this case the project would be unfeasible.

However, it should be noted that a relatively high TMA was used, only accepting as viable the most profitable cases.

## IV. CONCLUSION

In order to make an evaluation of the farm of beef cattle was made levament of the animals, and projection of this, determining the expenses and probable revenues, during the period of 10 years, and analysis of sensitivity of the project, showing that cattle culture and a very safe investment, because even 2 of the cases giving as unfeasible, and due to relatively high TMA, if noted in net cash flow, you can see the profit in all cases.

As shown the beef cattle culture and a robust project, and easy liquids of the assets, if necessary, and that as observed in the field causes a personal satisfaction in the producers, in addition to profitable.

As a suggestion for future work, an observation in the subsequent prices to make a survey of prices during the years, also in different regions within the State, to identify possible bottlenecks in marketing, which would be possible greater profitability to the producer.

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