



BUSINESS PLAN OF THE AGRICULTURAL INVESTMENT PROJECT FOR CEREAL AND SUGAR CROPS (1000 HECTARES) ADRAR REGION -ALGERIA

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ABSTRACT

The policy of agricultural and rural renewal in Algeria, played an important role in ensuring the country's food security and establishing a developed agricultural economy oriented towards exploitation. In this context, the agriculture and rural development sector, especially the adoption of the Agricultural Land Development Program through concession and implementation, witnessed the opening of new horizons for farmers and other promoters of investment in the agricultural and rural economy. As such, this document is established by the Agricultural Investment Study Office Dr NOUI Abderrahmane as a business plan to supplement the application file for obtaining an agricultural concession of 1000 hectares in the Wilaya of ADRAR for the production of cereals and sugar beets. This report was created to provide an overview of the technical and economic totals obtained from the project

Keywords: Algeria; food security; cereal; agricultural concession; technical economic study.

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1. INTRODUCTION

In accordance with the directives and orientations of the President of the Republic, the Office for the Development of Industrial Agriculture in Saharan Lands was created, by Executive Decree No. 20-265 of September 22, 2020. It is a public establishment of an industrial and commercial nature, with legal personality and financial autonomy, under the supervision of the Minister responsible for agriculture.

A one-stop shop has been set up at this office to facilitate all administrative operations, as well as a technical expertise and evaluation committee which undertakes to study candidate files and support them.

The office is the instrument for implementing the national policy of promotion and development of strategic industrial agriculture in Saharan lands, through the development of Saharan lands with a view to strengthening national agricultural and agro-industrial capacities. The office proceeds to parcel out the areas which may be subject to allocation, on the basis of in-depth technical studies. The office decides on the files submitted by the project leaders on the basis of the selection criteria set in advance. The office allocates areas dedicated to development in accordance with the procedures established by order of the Minister responsible for agriculture. The office establishes and issues certificates of eligibility for the concession to investment project leaders selected by the expertise and technical evaluation committee. The office proceeds with the installation of beneficiaries by materializing the plots, followed by the signing of the specifications.

The office proceeds with the formalization of the concession files and the notification to those concerned of the concession acts established by the wilaya estate services and published in the land registry in accordance with the legislation in force. The office supports project leaders in obtaining the advantages provided for by the legislation and regulations in force regarding investment as well as all actions related to the realization and operation of the project. The office monitors and evaluates the implementation of investment projects and ensures compliance with the signed specifications and the business plan presented by the beneficiaries.

The main objective of the agricultural and rural renewal policy, initiated since 2010 by the

Ministry of Agriculture and Rural Development (MADR) and the FILAHA 2019 program, is to guarantee; food security of the country and to establish a developed agricultural and agri-food economy geared towards exploitation. It is in this context that the agriculture and rural development sector has since experienced a certain grouping, particularly with the event of the land development program through concession and implementation. of CIM No. 108 relating to the creation of agricultural and livestock operations, amended by CIM No. 1839, in the Wilaya of Menaâ, which opens new perspectives for farmers and other promoters to invest in the agricultural and rural economy.

As such, this document is established by the Agricultural Investment Study Office Dr NOUI Abderrahmane as a business plan to supplement the application file for obtaining an agricultural concession of 1000 hectares in the Wilaya of ADRAR for the production of cereals and sugar beets. This report is established to provide an overview of the techno-economic aggregates that will be generated by the project envisaged by the promoter.

2. RESULTS AND DISCUSSION

2. 1. SAFETY DATA SHEET

Project: Creation of a new integrated farm covering an area of 1000 hectares in the Wilaya of ADRAR (IN TILIA perimeter)

Applicant identification: Hydraulics consultancy, agricultural investment, Export

Director: NOUI Abderrahmane

Address: street Colonel Amirouche, 07046 Buchagroune, state Biskra.

Quality/ Company name: Investor

Type of project: agricultural development

Investment type : Agricultural exploitation

Surface area requested: 1000 ha

Strategic sectors targeted: Durum wheat, corn and sugar beet

State: ADRAR (perimeter IN TILIA)

Project financing: Bank loan + Equity contribution

Financial arrangement

Table 1. Financial arrangement

Year	2024 – 2025 - 2026	CREDIT ETTAHD + CLASSIC CREDIT
Rubric	Amount	% of
	TTC (DA)	participation
Personal contribution	30000000	30%
Bank credit	70000000	70%
S/Total 1 (DA)	100000000	100%

Planned job positions (2024-2029): 100 posts

2.2 General information about the project

Location of the project

The state of ADRAR has been selected as the site for this new agricultural exploitation, covering an area of 1000 hectares.

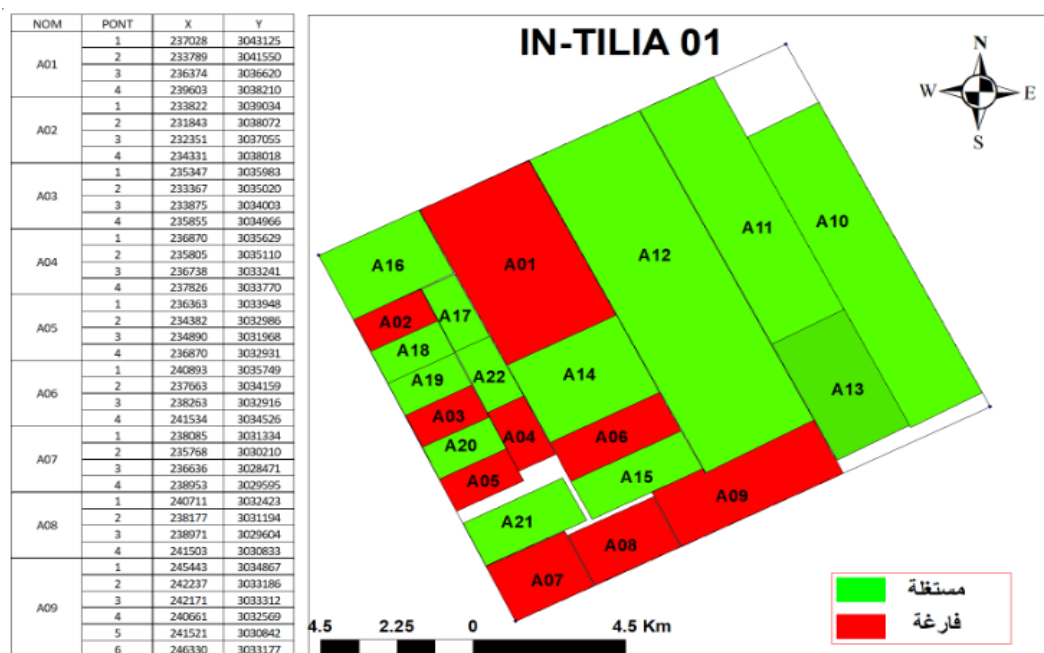


Fig.1. Distribution of exploited and vacant lands in Adrar

2.3 Consistency of the project

2.3.1 Project presentation

The project is part of the government's current policy of ensuring the country's food security and increasing agricultural production, particularly of the basic products that make up the Algerian family's diet, with cereals and sugar featuring prominently.

Table 2: Allocation of concession land by type of crop - Area

Sector	Crop	Gross Area (ha)	Productive Area (ha)	Product destination
Sugar factory	Beet	250	200	Local market
Cereals	Wheat	500	500	OAIC
	Corn	250	200	Livestock feed market
Total		1000	900	

The productive area of 900 ha represents the area actually occupied by crops. It is smaller than the gross area of 1000 ha.

The planting of the crops will be preceded by a wide-ranging development programme which will include:

- Improving land
- The mobilization of water resources
- Acquisition of the required agricultural machinery
- Construction of operating buildings
- Installing the energy network.

2.3.2 Expected products:

The project concerns the following sectors of activity:

- The agriculture sector
- The trade sector: purchasing agricultural inputs, marketing of plant products and by-products

2.4. Type of investments:

The creation of the agricultural operation as part of this development project will be based on a set of activities

2.4.1 Preliminary development:

This involves work to improve the general conditions of the environment in such a way as to ensure that the development of the site gets off to the easiest possible start.

2.4.2. Land improvement:

This operation is at the heart of the development process, as it improves the characteristics of

the soil substrate, which is generally uncultivated.

In the Saharan zone, the soil often presents constraints to cultivation, which in most cases can be corrected, in particular the limited depth of the soil due to more or less hard formations.

Table 3. Planning of land improvement works

Years	year 1	year 2	year 3	year 4	year 5	Total
Land improvement (ha)	100	200	300	300	0	900

2.4.3. Opening slopes:

It will be necessary to improve traffic conditions throughout the operation to facilitate access to personnel and rolling stock.

2.4.4. Installation of the windbreak network:

This operation will be a priority in order to protect the crops from the very first years of development, as this is an area exposed to sand-laden winds.

2.4.5. Electricity supply:

Depending on the availability of the electricity network, the operation will be supplied in the short term. However, a batch of 7 x 200 KVA generators will be required.

2.5. Hydraulic Initialization:

Due to the permanent aridity of the climate, crop irrigation is vital in this region and the mobilization of groundwater resources should be a priority operation.

2.6. Agricultural component:

The choice of a limited range of crops will make it easier to manage the farm in terms of the logistical use of human and water resources.

Table 3: Breakdown of area by type of crop

Assignment	Area (ha)
Beet	200
Wheat	500
But grain	200
Buildings and easements	50
Unproductive	50

Total

1000

2.7. Operating infrastructure:

A series of buildings will be progressively erected to meet the needs of the operation

- A warehouse for agricultural machinery covering an area of 1000 M2
- An input storage shed over an area of 300 M2
- A storage shed for tools and spare parts over an area of 200 m2
- A cereal storage shed over an area of 300 M2
- A 600 M2 straw storage shed
- A storage shed for corn on an area of 500 M2.

To this will be added a building which will house the staff involved as well as the operations offices.

2.8. Equipment and materials:

Agricultural equipment:

- 02 pneumatic tractors 150hp ;
- 02 pneumatic tractors 90hp ;
- 01 combine harvester ;
- 02 corn picker;
- 02 grain skips;
- 02 5T trailers;
- 03 disc ploughs;
- 04 coup covers;
- 02 chisel cultivators;
- 02 sprayers 2000 L;
- 02 combination seeders;
- 04 Fertiliser spreader;
- 05 1200 L sprayers;
- 02 baler pick-up;

Transport equipment and clivers :

- 07 200 KVA generators

- A set of tools.

3. Financial evaluation of the operation:

3.1. The cost of the project:

The amounts of the investments are indicated excluding taxes and are estimated on the basis of proforma factors established by the suppliers. A summary table shows its amount for each investment.

The table below shows the cost of the project with all the investments to be made and their respective amounts (see details in the appendix).

Table No. 4: The cost of the project

Description	Area (ha)
Building / hangars	181 945 344
Water mobilization works	207 523 560
Agricultural material	559 020 000
Transport equipment and miscellaneous	63 531 532
Total investment	1 060 220 098

3.1.2. Depreciation of investments:

The depreciation used in our study of the project's financial profitability is constant depreciation (straight-line). This factor is essential for determining the cash flows generated by the project's economic flows.

3.1.3 Implementation schedule and cost of the project:

The total amount necessary for the execution of this project is estimated at 1,060,220,098 DA for a completion period of 5 years. For information purposes, the estimated work program is outlined in the table below. It is necessary to take into account all hazards due to contracting procedures with service providers. The execution of the investments will be progressive and the implementation program distributed according to a program determined by the priority of each of the planned operations. Briefly, the duration planned for the completion of this project will be spread over at least 5 years.

Table No. 5: Implementation schedule

Year	0	1	2	3	4	5
Actions						
Administrative, technical and banking procedures						
Land improvement						
Various developments (Opening of slopes, windbreaks)						
Mobilization of water resources						
Construction of buildings/sheds						
Acquisition of agricultural equipment and various equipment						
Establishment of crops						
Operation						

3.2 Operating costs:

To optimize the project's operation, all the project's operating costs have been taken into account and allocated to the headings below:

1) Materials and supplies consumed:**Table 6:** Input consumption

Designation	year1	year2	year3	year4	year5 and more
Durum wheat	100 000 000	102 500 000	105 062 000	107 689 000	110 381 289
Grain maize	100 800 000	103 320 000	105 903 000	108 550 575	111 264 339
Be	100 080 000	102 582 000	105 146 000	107 775 214	110 469 594
Total	300 880 000	308 402 000	316 112 000	324 014 851	332115 223

2) Services:**Table 7:** Services

Designation	year1	year2	year3	year4	year5 and
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					more
Electricity	2 500 000	2 500 000	2 500 000	2 500 000	2 500 000
Fuel	1 400 000	1 400 000	1 400 000	1 400 000	1 400 000
Total	3 900 000	3 900 000	3 900 000	3 900 000	3 900 000

3) Staff charge:

In the cruising year, the project will have recruited a workforce of 25 employees (2024) based on these assumptions, the total personnel costs amount to 117,062 DA in the cruising year.

Table 8: Evaluation of farm staff

Designation	year 1	year 2	3 year and more
Operations manager	1	1	1
Financial manager	1	1	1
Senior accountant	1	1	1
Administrative officer	1	1	1
Head of agricultural supplies	1	1	1
Agronomists	1	2	3
Hydraulic engineers	1	1	1
Technical officers	1	2	3
Secretary	1	1	1
Ordinary farm workers	7	33	135
Specialist farm workers	7	11	16
Guardians	1	4	6
Total workforce	25	59	100

3.3 Expected revenue from the project:

Operating revenues are estimated at 916,200,000 DA in a cruising year. They are made up of receipts from agricultural products directly from the farm.

Table 9: Total forecast revenue of the project

Designation	Year1	Year 2	Year3	Year4	Year5
Agricultural production					
Sale of durum	264 000 000	264 000 000	764 600 000	264 600 000	264 000 000
Wheat Sale	18 000 000	18 360 000	18 727 000	19 101 744	19 483 779
Straw	259 200 000	264 384 000	269 671 160	275 065 114	280 566 416
Sale Corn grain	403 200 000	411 264 000	419 489 280	427 873 066	436 436 647
Sale of Beetroot					
Total turnover	945 000 000	958 508 000	972 488 160	986 645 913	1 001 086 84

3.4. Analysis of the Forecast Income Statement:

Turnover: The project generates a very significant turnover which evolves according to the forecast quantities of winds.

Added value (VA): added value is a measure of the wealth created by exploitation. For the project, the added value experiences an annual increase due to the growth in turnover.

Gross operating surplus (GOS): GOS measures the resources generated by activity excluding financial and exceptional operations. Positive and constantly increasing.

3.5. The financial package, borrowing and repayment plan:

The sources of financing for the investment planned as part of this project are

- Long-term Ettahadi credit for an amount of 100,000,000 DA
- Long-term CLASSIC credit for an amount of 960 220 098 DA

A priori, it is at this level to determine

- The amount of the personal contribution of each credit
- The amount of debt to MLT to mobilize

Personal contribution in addition to Ettahadi bank credit is a cash contribution for a value of 30,000,000 DA and which will be mobilized to supplement credit which is 70,000,000 DA

In short, here is the structure of Credit Ettahadi

Personal contribution :	30% or 30 000 000 DA
Part of Credit Ettahadi	70 % or 70 000 000 DA

The personal contribution in addition to classic credit and which will be a cash supply for a value of 288,066,029 DA will be mobilized to complete the amount of the credit which is order 672 154 069.

In short, here is the structure of classic credit financing:

Personal contribution :	30% or 288 066 029 DA
Share of classic credit	70 % or 672 154 069 DA

In summary here is the distribution of the amount of the project by sources of financing

Designation	Structure of financing	Montant	Taux
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Ettahadi credit	Personal contribution	30 000 000	30 %
Total 1	Debt	70 000 000	70 %
		100 000 000	100 %
Classic credit	Personal contribution	288 066 029	30 %
Total 2	Debt	672 154 069	70 %
		960 220 098	100 %
Total		1 060 220 098	

3.6. Financial flows (forecast cash flows):

Financial flows will be negative in years 0 of the project because it is the year of the realization and installation of production equipment and they will become positive for the rest of the duration of the project (see appendix)

3.7. Project financial assessment:

The discount rate is estimated at a rate equal to 10%. At this level of analysis, a simplification hypothesis should be adopted according to which the recipes and costs of the project are identically suffering the effects of inflation. In this case, the relative value of costs and beneficiaries will not change and it is useless to increase them simultaneously.

The TRI corresponds to the discount rate for which the VAN is canceled. It therefore measures the rate at which the sums invested in the project for equivalent profitability could be placed. This rate must be higher than the discount rate used in the study.

A third way to express the van or the TRI is the IP profitability index equal to the ratio between (investments/van) and which must be greater than 1.

Finally, the investment recovery period which is the time required for the updated cash flows to the project to balance the amount of the investment cost for this project The results present themselves as follows:

- Current value: the van of the project is greater than 0, so it allows us to recover the initial bet, and to identify a liquidity surplus (creation of wealth) in the amount of 1,006 855 840 DA
- Internal profitability rate: the project van is equal to 41%, so it is higher than the discount rate, so we can conclude that the project is value creation, that is to say it is acceptable.
- profitability index (IP): IP is equal to 1.69 it is greater than 1, the project is profitable.

This means each one in invested; the project reports 1.69 DA of profit.

4. The impacts

4.1. The effects on the technique of enhancement

On the technical level, the project offers certain opportunities to strengthen knowledge in agricultural development in terms of Saharan areas which already have many experiences, particularly in cereal production under pivot.

4.2 Effects on the production and regulation of products

The project affects strategic wired in the national agricultural policy where it proposes to provide a significant part in terms of production. He will participate in local production. Or even national, in grain wired.

4.3 Effects on employment

The workforce required to run the farm efficiently is estimated at 25 permanent employees.

4.4. Effects on the local economy

The impact on the local economy is undeniable. Apart from the fiscal contributions, the activity generated by the project will have a positive impact on the socio-economic life of the municipality to the direct employment plan, ancillary activities upstream and downstream of the project in terms of transport and market supply with finished and raw material products.

4.5 The effects on the environment

The development is in itself a revitalization of the space and the succeeding agricultural activity can be exercised without danger for the environment as long as the technical route complies with the rules that govern the protection of the environment.

This aspect more affects the use of chemical inputs and water resources which must obey environmental requirements in order to safeguard the integrity of the physical environment, natural resources, fauna and flora.

5. Conclusion:

The technical-economic analysis of this project shows us:

- ✓ This project contributes 100% of the development of the socio-economic sector.
- ✓ This project contributes to the availability of agricultural food products on the national market
- ✓ This project contributes to the availability of animal products on the national market through its animal biodiversity.

- ✓ This project contributes to the creation of CDI & CDD workstations for young unemployed.
- ✓ This project contributes to the preservation of water resources by the use of irrigation techniques.
- ✓ This project contributes to the preservation and protection of the environment.
- ✓ This is a sustainable development project that contributes to food security
- ✓ Internal profitability rate: The VAN of the project is equal to 41%, so it is higher than the discount rate, so we can conclude that the project is value creation, that is to say it is acceptable.
- ✓ profitability index (IP): IP is equal to 1.69 it is greater than 1, the project is profitable. This means each one in invested, the project reports 1.69 DA of profit.

Perspective

The investor undertakes to exercise the following activities in the short, medium and long ter:

- Culture of durum wheat, cultivation of tender wheat, corn cultivation, rapeseed cultivation, sugar beet culture, peanut culture, tournfrane culture, cattle breeding, sheep farming, goat farming, camel farming, equine breeding, pulling breeding, breeding Cuniculture, beekeeping breeding
- He thus undertakes to create a processing unit.

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