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EVALUATION OF SOME ACTIONS OF THE RURAL RENEWAL PROGRAM CARRIED OUT FOR THE PURPOSE OF SUSTAINABLE AGRICULTURAL DEVELOPMENT - CASE OF THE MUNICIPALITY OF ZEBOUDJA (THE PREFECTURE OF CHLEF, ALGERIA)

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EVALUATION OF SOME ACTIONS OF THE RURAL RENEWAL PROGRAM CARRIED OUT FOR THE PURPOSE OF SUSTAINABLE AGRICULTURAL DEVELOPMENT - CASE OF THE MUNICIPALITY OF ZEBOUDJA (THE PREFECTURE OF CHLEF, ALGERIA)

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ABSTRACT

In order to ensure sustainable agricultural development in the country, food security for the population, and thus minimize imports, the Algerian government has since 2008 adopted a new strategy for agricultural renewal. This is called “rural renewal”, and its main objective is to improve the living conditions of the population, to slow down rural exodus, and thus prevent the abandonment of agricultural land. This new strategy has been implemented since 2009 through Integrated Rural Development Proximity Projects (IRDPP), particularly in poor and marginalized areas. After more than a decade since the launch of these projects at the national level, we deemed it useful to conduct an evaluation of the status of the actions carried out and their impact on the population and the rural environment in the Municipality of Zeboudja (the Prefecture of Chlef). To do this, data collection was carried out at the level of specialized administrations and field visits were conducted. The results obtained show a certain improvement in the living conditions of the population, particularly at the infrastructure level (access roads for isolation and mobilization of water). Collective and individual actions have shown a satisfactory success rate.

KEYWORDS

Sustainable Agricultural Development, Rural Renewal Program, Actions, Municipality of Zeboudja, Prefecture of Chlef, Algeria

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1. Introduction

Algerian rural areas in the mountains, steppes, and Sahara have been suffering from serious development problems for several years. These problems are most often manifested by the deterioration of living conditions for the populations that live there and by the degradation of natural ecosystems.

Independent Algeria favored the development of "cities", giving them priority in terms of employment, housing and access to various services. This has weakened rural areas, which have become a symbol of harsh, underdeveloped life. They are marked by low agricultural income, the spread of unemployment and poverty (Souidi and Bessaoud, 2011). In addition, during the black decade of the 90s, these areas suffered the effects of devastating terrorism, both in human and material terms (Bessaoud, 2006). This led to a massive rural exodus, resulting in the dominance of urban lifestyles to the detriment of rural ones.

In order to address these gaps, Algeria has seen the birth of the rural renewal policy in the form of a multisectoral approach aimed at implementing a participatory approach as close as possible to rural populations and mobilizing all actors in rural areas, starting with rural households. This new policy was generalized during the national meeting on the renewal of the agricultural economy and rural renewal held in Biskra on February 28, 2009 (MARD, 2010). The objectives were (Zekri and Sid, 2020):

- Address the challenge of food security and promote sustainable and harmonious development of rural areas.
- Ensure equity in development for all territories without discrimination, marginalization, or exclusion.

The rural renewal policy is characterized by a bottom-up and decentralized approach with the implementation of Integrated Rural Development Proximity Projects "IRDPP" (Ghazi, 2012). These projects will make it possible to (Zekri and Sid, 2021):

- promote the return of the rural population.
- improve their living standards by increasing and diversifying sources of income, and thus contribute to the development of the national economy.
- preserve the country's natural resources.

After nearly thirteen years of implementing its projects, we deemed it interesting to evaluate them in terms of the success rate of the actions carried out. In this context and through the objective of this work, we will try to answer the following question: "Has the rural renewal policy at the level of the Prefecture of Chlef, and especially the Municipality of Zeboudja, been able to have a positive impact and has it achieved the objectives assigned to it in order to improve the living conditions of the local population?"

2. Materials and Methods

2.1. Study zone

The Municipality of Zeboudja is located in the north-east of the Prefecture of Chlef (Fig.1), 27 km from the chief town, between coordinates $36^{\circ} 21' 02''$ North and $1^{\circ} 25' 49''$ East. It covers an area of 132.51 km^2 (TDPPC, 2011).

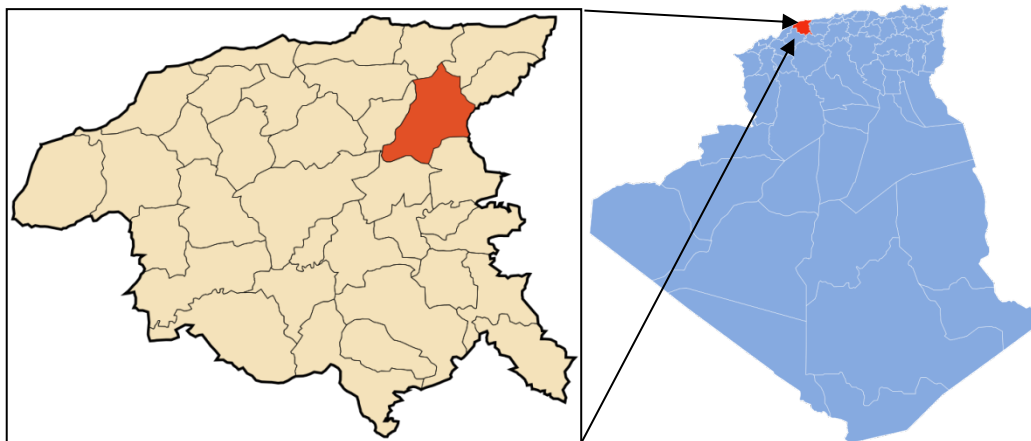


Fig. 1. Location of the Municipality of Zeboudja in the Prefecture of Chlef and in Algeria

The relief is characterized by its dominant mountainous aspect and picturesque topography. According to Madah and Sokhal (2014), it is composed of the:

- Sanfita region, where the highest mountain peak in the Prefecture of Chlef is located in the Bissa mountains, called the Kef El Ogab peak. It peaks at 1152 m above sea level. The lowest altitude is around 600 m. The slope is everywhere above 50% with a north-east interface;

- Beni Derdjine region, where the altitude oscillates between 550 and 1,000 m. The slope is between 0.3 and 12.5% with a south-west interface.

In the study area, there is a hydrographic network of great importance due to the presence of a large number of peaks. There are also several valleys that collect a large amount of water during the winter. Several mineral springs are also present. They have a therapeutic character and are exploited by the inhabitants of the commune. Among the mineral springs in the region, we find:

- Ain l'Aouad: used to treat renal diseases;

- Ain Sidi Ahmed Belhadj, Ain Sidi Chakroun and Ain Sherchar: used to treat epidemic diseases.

The inhabitants are supplied with drinking water daily from the desalination station that distributes sea water from Mainis (Tenes) since the end of 2015. Before that, they were supplied from the Haouche El Ghaba source (Ouled Farès). The Municipality of Zeboudja has fourteen water reservoirs with a capacity of between 50 and 1500 m³ (CPA of Zeboudja, 2022).

The forest cover in the Zeboudja region is mainly composed of conifers (Aleppo pine), broadleaf trees (cork oak, holm oak, and zeen oak). These species have declined in recent years, with their density greatly decreased. Other species, such as eucalyptus and juniper, also exist, but their presence is scattered. The total agricultural area is estimated at 23,293 hectares, while the exploited agricultural area is 20,594 hectares and the irrigated agricultural area is 55 hectares (DAS Chlef, 2022).

The inhabitants of the Municipality of Zeboudja engage in several agro-pastoral activities. Cereal cultivation, the cultivation of fruit trees and vegetables such as beans and peas are the main crops grown. Sheep, cattle, and goat farming are practiced. Beekeeping and poultry farming are also practiced.

The population of the Municipality of Zeboudja is 34,315 inhabitants. 47% of the population lives in the urban center, about 40% lives in secondary settlements, and 13% lives in scattered areas (CPA of Zeboudja, 2022) (Fig. 2).

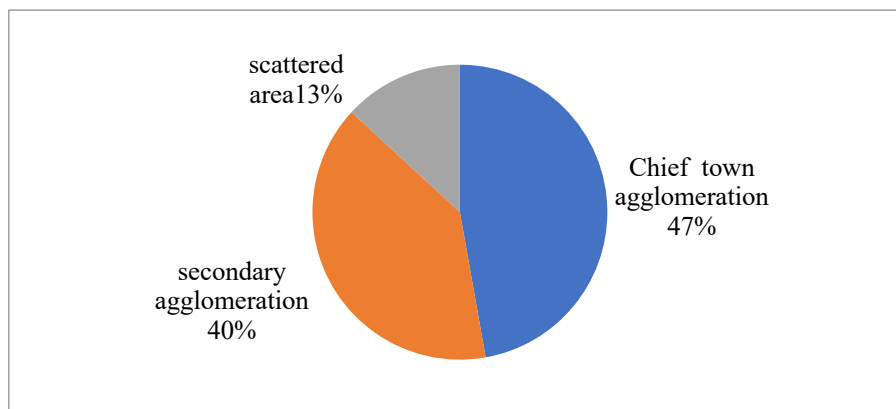


Fig. 2. Spatial distribution of the population in the Zeboudja municipality

Almost half of the population of Zeboudja lives in the main town of the commune. The rest live respectively in secondary towns and then in scattered areas.

2.2. Methodological Approach

Rural development consists of bringing out and supporting local/rural projects. It requires mobilizing individual and collective skills which interact in a system of skills that some have called "territorial development engineering" (Turquin, 2012). After almost 13 years since the launch of the rural development projects "IRDPP" at the national level, it is time to conduct an assessment to evaluate its effectiveness on the population and the rural environment. In this context, this study aims to conduct an assessment of the IRDPP implemented in the Prefecture of Chlef, and in particular in the Municipality of Zeboudja. The latter was chosen because it has experienced significant intervention under the rural renewal policy.

To do this, data were collected from the forest conservation department of the Chlef Prefecture and the Zeboudja district. This was followed by field visits to assess the status of the various actions, for collective and individual use, that have been carried out and their impact on the rural population.

The data collected concerned the projects carried out between 2009 and 2013 in the Municipality of Zeboudja and its localities. As well as the type of actions carried out, their volumes and the number of beneficiaries. Subsequently, field visits were conducted to visualize the status of the main completed actions and photograph them. This will allow for an assessment of their current status and success rate.

3. Rural Renewal Program

According to the forest conservation department of the Chlef Prefecture, the Chlef Prefecture has a population of more than 1,002,088, of which 523,764 live in rural areas, for a rurality rate of 52% (TDPPC, 2011). The rural renewal policy aims to establish an integrated and sustainable rural development, by placing food security at the center of its concerns while aiming for the balanced revitalization of rural areas.

The implementation of this policy was carried out through the launch of more than 230 IRDPP in the prefecture. These projects have benefited more than 304 rural localities located in 33 municipalities, with more than 17,488 households and nearly 104,924 inhabitants benefiting from the various collective and individual actions (FCC, 2015).

In the municipality of Zeboudja, 39 IRDPP were launched between 2009 and 2013. They benefited 20 localities out of a total of 35, which corresponds to a rate of 57%. The localities chosen were the most isolated and abandoned (FCC, 2015).

3.1. Actions plan implemented between 2009 and 2013

The data collected by the Chlef Forests Conservation on the nature of the actions carried out, their types and their volumes in each locality of the municipality of Zeboudja between 2009 and 2013 are presented in the following table:

Table 1. Rural renewal actions carried out in the commune of Zeboudja between 2009 and 2013

Nature of actions	Locality	Type of action	Realized volume	Year of construction
Track opening	Taharkoust		3 km	2009
	El- Fataymiya		1 km	2009
	Sanfita		13 km	2012
	Beni Dergine		5 km	2012
Track layout	Taharkoust	Collectif	300 m	2010
	El Hadhaba		950 m	2010
	Beni Dergine		7 km	2011
	Razan		1,5 km	2012
	Masker		1,5 km	2012
	Sidi Smail		600 m	2012
	Sidi Otman		800 m	2013
	Oued Basma		1 km	2013
	El Fatemia		600 m	2013
	Mozrar		200 m	2013
Fire trench layout	Sanfita	Collectif	100 Ha	2010
Construction of water drainage channels	Zeboudja	Collectif	2100 m	2009
Construction of treatment rooms	BeniDerdjine	Collectif	01	2009
	Marouh		01	2009
	Berkmouche		01	2009
	El Hamama		01	2010
	Lagmounat El Hdjer		01	2011
	Taharkoust		01	2013
Spring catchment and management	El Kharouba	Collectif	06	2009
	Beni Derdjine		01	2010
	Sanfita		01	2012

Torrential correction	Sanfita	Collectif	500 m ³	2012
Silvicultural work	BeniDergine	Collectif	50 Ha	2011
Reforestation	Sanfita	Collectif	50 Ha	2011
Planting of fruit trees	BeniDergine	Individual	40 Ha	2010
	Sanfita		10 Ha	2012
	BeniDergine		10 Ha	2012
	Sanfita		50 Ha	2013
Land improvement	BeniDergine	Individual	50 Ha	2010
	BeniDergine		10 Ha	2011
	Sanfita		10 Ha	2012
	Beni Dergine		25 Ha	2013
Accumulation basin construction	Lagmounat El Hdjer	Individual	01	2011
	Sanfita		02	2012
	Beni Dergine		01	2013
Beekeeping	LagmounatElhdjer Mrouche Sidi smail	Individual	21 U	2009
Sheepbreeding	LagmounatElhdjer	Individual	19 U	2009
Cattlebreeding	LagmounatElhdjer	Individual	10 U	2009
Goatbreeding	LagmounatElhdjer	Individual	09 U	2009
Sewing machine distribution	Zeboudja	Individual	10 U	2009

3.2. Evaluation of the main actions carried out in the field

To evaluate the status of some actions carried out under the rural renewal program, we conducted field trips to the localities of Beni Dergine and Sanfita, accompanied by three foresters from the Chlef Conservation Department.

During these trips, we photographed the main completed actions, which are illustrated in the following photos:



Photo 1. Track opening



Photo 2. Track opening with surfacing



Photo 3.Water tank



Photo 4.Water spring management



Photo 5: Aleppo pine reforestation and torrential correction



Photo 6: water tank with drinking trough for livestock

Photos from 1 to 6 represent the actions carried out in the locality of Beni Dergine. They include the actions of opening tracks, construction of water collection systems and biological and mechanical anti-erosion actions. The following photos 7 to 10 represent the main actions carried out in the locality of Sanfita:



Photo 7. Sheep distribution



Photo 8. Beekeeping



Photo 9. Olivegrowing



Photo 10. Almond tree laid paper

Finally, photo 11 represents the construction of a treatment room in the locality of Lagmounat Elhdjer:



Photo 11. Treatment room in the Lagmounat Elhdjer locality

4. Results and Discussion

Through data collection and field trips, we have found that the actions of the IRDPP carried out in the municipality of Zeboudja are currently in good condition and have had, in general, a positive impact on the population and the rural environment.

Collective actions such as: track development, spring development, torrent correction and reforestation are currently in good condition:

- The opening and development of tracks have made it possible to break the isolation of scattered areas.
- Torrent correction has reduced the phenomenon of soil erosion and thus protects roads and villages from flooding.
- Reforestation, which was carried out after fires, has helped to reduce soil erosion, keep animals in their original place, which has led to improvement of biodiversity.
- The inhabitants of the municipality of Zeboudja benefited from the construction of 06 care rooms during the period 2009-2013. They are currently in service but suffer from a shortage of doctors, nurses and medical equipment.

The individual actions carried out between 2009 and 2013 had a success rate of 50 to 100% (table 2).

Table 2. Success rate of individual actions carried out between 2009 and 2013

Actions	Year	Volume	Locality	Beneficiaries	Success rates
Fruit plantation	2009	100 Ha	Sidi smail –Toibria (Sanfita)	34	90%
	2010	40 Ha	Beni Derjine	53	85%
	2011	10 Ha	Beni Derjine	13	95%
	2012	30 Ha	Beni Derjine	39	98%
	2013	20 Ha	Sanfita	31	85%
Sewingmachine	2009	10 U	Zeboudja	10	100%
Beekeeping	2009	21 U	Sanfita	21	100%
Sheep breeding	2009	19 U (1U=12sheep)	Sanfita	19	50%
Cattle breeding	2009	10 U (1U=03cows)	Lagmounat Elhdjer	10	50%
Goatbreeding	2009	09 U (1U=12goats)	Lagmounat Elhdjer	09	80%
Construction of an accumulation basin	2011	01	Lagmounat Elhdjer	01	100%
	2012	02	Sanfita (01) Beni Derdjine(01)	02	
	2013	02	Karoucha (Beni Derjine) (01) Sanfita (01)	02	

- In 2009, 34 beneficiaries among the inhabitants of the locality of Sanfita benefited from the fruit tree planting program (olive and almond). The number of olive trees planted reached 15,435 shrubs and 4,565 almond trees spread over 100 hectares. However, some almond orchards are in poor condition due to a shortage of irrigation water.

- In 2010, the inhabitants of Beni Derdjine benefited from the fruit tree planting program in dry land. The number of shrubs planted was 6,000 shrubs spread over 53 beneficiaries and 40 hectares. In 2011, they also benefited from the fruit tree planting program on 10 hectares spread over 13 beneficiaries. In 2012, 30 hectares were planted on 39 beneficiaries, and in 2013, 20 hectares were planted on 31 beneficiaries. Most of these plantations are currently in good condition.

- As for sheep, cattle, and goat breeding, the majority of beneficiaries replaced the breeds provided by the forest administration from the Djelfa prefecture with other breeds. The former did not adapt to the climatic conditions of the region. Goats showed better adaptation with a success rate of 80%. In sheep and cattle breeding, the success rate was only 50%.

- Beekeeping and the provision of sewing machines have a success rate of 100%.

- The construction of rainwater collection basins also has a success rate of 100%. They allow irrigation in the dry season and also the watering of livestock.

5. Conclusions

Since the early 2000s, the Algerian government has opted to orient development efforts towards the rural world through the programs of the National Agricultural Development Plan (NADP), which evolved into the National Plan for Agricultural and Rural Development (NPARD), followed by the Sustainable Rural Development Strategy (SRDS) and currently the Agricultural and Rural Renewal Policy (ARRP) (Zekri and Sid, 2021).

These programs, compared to previous programs, have benefited from significant financial and human resources, and the results recorded are generally satisfactory in terms of physical implementation. In our study area, the evaluation of collective and individual actions of the rural renewal program has produced a positive assessment. The success rate is satisfactory and varies between 50 and 100%.

The rural development process is a slow and long process, therefore rural development policies must be designed for long periods of time (Tahani, 2006). In fact at the end of this study, for greater efficiency and sustainability of the actions of rural development programs, we allow ourselves to propose the need for the following:

- To pay more attention to the youth category, train them in the agricultural field and accompany them to avoid their exodus to the cities.
 - To intensify individual actions, especially beekeeping, given the mountainous nature of the region.
 - To connect fruit tree orchards to water sources to ensure a higher success rate and significant yield.
- To be attentive to the activities of rural women in the fields of agriculture and sewing.

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ABBREVIATIONS

CPA: Communal Popular Assembly
DAS: Direction of Agricultural Services
FCC: Forests Conservation of Chlef
IRDPP: Integrated Rural Development Proximity Projects
MARD: Ministry of Agriculture and Rural Development
TDPPC: Territorial Development Plan for the Prefecture of Chlef