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Report No: ICR00004287

IMPLEMENTATION COMPLETION AND RESULTS REPORT

LOAN 7986-TN

ON A

LOAN

IN THE AMOUNT OF €30.10 MILLION

(US\$41.60 MILLION EQUIVALENT)

TO THE

REPUBLIC OF TUNISIA

FOR A

4TH NORTHWEST MOUNTAINOUS & FORESTED AREAS DEVELOPMENT PROJECT  
(PNO4) ( P119140 )

December 12, 2017

Agriculture Global Practice  
Middle East And North Africa Region

## CURRENCY EQUIVALENTS

(Exchange Rate Effective December 01, 2017)

Currency Unit = Euro (€)

€0.8430 = US\$1.00

US\$1.1836 = SDR 1.00

FISCAL YEAR

July 1 – June 30

## ABBREVIATIONS AND ACRONYMS

AGR	Income-generating Activity ( <i>Activité Génératrice de Revenus</i> )
BCR	Benefit-cost Ratio
CD	Development Committee ( <i>Comité de Développement</i> )
CPA	Annual Program Contract ( <i>Contrat programme annuel</i> )
CPF	Country Partnership Framework
CRDA	Regional Agriculture Development Center ( <i>Commissariat régional au développement agricole</i> )
ERR	Economic Rate of Return
FAO	Food and Agriculture Organization of the United Nations
FIRR	Financial Internal Rate of Return
GDAP	Agriculture and Fisheries Development Group ( <i>Groupement de Développement Agricole et de la Pêche</i> )
GoT	Government of Tunisia
ICR	Implementation Completion and Results Report
IPA	Integrated Participatory Approach
ISR	Implementation Status and Results Report
M&E	Monitoring and Evaluation
NPV	Net Present Value
ODESYPANO	Northwest Forestry and Pastoral Development Agency ( <i>Office du Développement Sylvo-Pastoral du Nord-Ouest</i> )
PAD	Project Appraisal Document
PDC	Community Development Plan ( <i>Plan de Développement Communautaire</i> )
PDO	Project Development Objective
PNO	Northwest Mountainous and Forested Areas Development Project ( <i>Projet de développement des zones montagneuses et forestières du Nord-Ouest</i> )
PPAR	Project Performance Assessment Report
PROFOR	Program on Forests
SCD	Systematic Country Diagnostic

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**DATA SHEET**

**BASIC INFORMATION**

**Product Information**

Project ID	Project Name
P119140	4TH NORTHWEST MOUNTAINOUS & FORESTED AREAS DEVELOPMENT PROJECT (PNO4) ( P119140 )
Country	Financing Instrument
Tunisia	Specific Investment Loan
Original EA Category	Revised EA Category
Partial Assessment (B)	Partial Assessment (B)

**Organizations**

Borrower	Implementing Agency
REPUBLIC OF TUNISIA	ODESYANO (Northwest Sylvo-pastoral Development Office under MAHRP)

**Project Development Objective (PDO)**

Original PDO

The Project Development Objectives (PDOs) are to improve the socio-economic conditions of the rural population and promote better protection and management of natural resources in the project area using an integrated participatory approach to community-based development.

**FINANCING**

	Original Amount (US\$)	Revised Amount (US\$)	Actual Disbursed (US\$)
<b>World Bank Financing</b>			
IBRD-79860	41,600,000	41,600,000	31,902,708
<b>Total</b>	<b>41,600,000</b>	<b>41,600,000</b>	<b>31,902,708</b>
<b>Non-World Bank Financing</b>			
Borrower	9,240,000	6,000,000	5,532,785
Local Communities	6,320,000	4,000,000	3,458,115
<b>Total</b>	<b>15,560,000</b>	<b>10,000,000</b>	<b>8,990,900</b>
<b>Total Project Cost</b>	<b>57,160,000</b>	<b>51,600,000</b>	<b>40,893,608</b>

**KEY DATES**

Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
20-Dec-2010	24-Jun-2011	12-Dec-2014	30-Jun-2017	30-Jun-2017

**RESTRUCTURING AND/OR ADDITIONAL FINANCING**

Date(s)	Amount Disbursed (US\$M)	Key Revisions
22-Feb-2016	23.18	Change in Results Framework Change in Components and Cost Change in Financing Plan Reallocation between Disbursement Categories

**KEY RATINGS**

Outcome	Bank Performance	M&E Quality
Moderately Satisfactory	Moderately Satisfactory	Modest

**RATINGS OF PROJECT PERFORMANCE IN ISRs**

<b>No.</b>	<b>Date ISR Archived</b>	<b>DO Rating</b>	<b>IP Rating</b>	<b>Actual Disbursements (US\$M)</b>
01	30-Jan-2011	Satisfactory	Satisfactory	0
02	27-Aug-2011	Satisfactory	Satisfactory	.11
03	01-Jan-2012	Satisfactory	Satisfactory	1.53
04	28-Aug-2012	Moderately Satisfactory	Moderately Satisfactory	1.65
05	24-Mar-2013	Moderately Satisfactory	Moderately Satisfactory	3.14
06	29-Sep-2013	Moderately Satisfactory	Moderately Satisfactory	7.12
07	06-Nov-2013	Moderately Satisfactory	Satisfactory	7.85
08	08-Apr-2014	Moderately Satisfactory	Satisfactory	10.35
09	13-Jul-2014	Moderately Satisfactory	Satisfactory	12.50
10	29-Nov-2014	Moderately Satisfactory	Satisfactory	14.77
11	03-Mar-2015	Satisfactory	Moderately Satisfactory	17.22
12	01-Sep-2015	Satisfactory	Moderately Satisfactory	18.60
13	14-Jan-2016	Moderately Satisfactory	Moderately Unsatisfactory	21.53
14	25-Jul-2016	Moderately Satisfactory	Moderately Unsatisfactory	26.66
15	14-Sep-2016	Moderately Satisfactory	Moderately Satisfactory	28.41
16	30-Mar-2017	Moderately Unsatisfactory	Moderately Satisfactory	29.95
17	23-Jun-2017	Moderately Satisfactory	Moderately Satisfactory	31.71



## SECTORS AND THEMES

### Sectors

Major Sector/Sector (%)

**Agriculture, Fishing and Forestry 100**

Agricultural Extension, Research, and Other Support Activities 58

Irrigation and Drainage 14

Livestock 14

Other Agriculture, Fishing and Forestry 14

### Themes

Major Theme/ Theme (Level 2)/ Theme (Level 3) (%)

**Finance 4**

Finance for Development 4

Agriculture Finance 4

**Urban and Rural Development 76**

Rural Development 76

Rural Markets 4

Rural Non-farm Income Generation 2

Rural Infrastructure and service delivery 60

Land Administration and Management 10

**Environment and Natural Resource Management 59**

Climate change 39

Mitigation 17

Adaptation 22

Renewable Natural Resources Asset Management 20

Biodiversity 10

Landscape Management 10



**ADM STAFF**

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## I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

### A. CONTEXT AT APPRAISAL

#### Context

1. **The project was prepared at the tail end of a period of high growth in Tunisia, shortly before the events of Sidi Bouzid in December 2010 that led to dramatic changes, culminating with the departure of the long ruling and unpopular president Ben Ali.** Under his tenure, the country enjoyed more than a decade of strong growth that made Tunisia the fastest growing non-oil-producing country on the continent. However, the income inequality between developed urban centers and rural areas increased. The administration was also often unsympathetic and oppressive, focused on security and stability with institutions that often strangle self-initiative and economic enterprise. The combination of these two forces, along with increasingly uncertain weather patterns, led to a rural exodus, which at times boiled over into local turmoil and eventually ended in the revolution that led to a new constitution.

2. **While Tunisia made solid progress in overall poverty reduction, rural poverty was still a challenge; the northwestern regions in particular struggled to keep pace with the socioeconomic development in other parts of the country.** Despite being well endowed with natural resources and receiving nearly 75 percent of the rainfall in the country, the Northwestern regions are characterized by a significantly higher poverty rate (25.7 percent) than the national average (15.5 percent in 2010),<sup>1</sup> higher illiteracy and unemployment rates, and limited access to markets and economic opportunities. The territory is mostly hilly and underdeveloped, with poor infrastructure links, and is mostly disconnected from economic activity beyond pastoralism and small-scale farming. Subsistence farming is predominant, with low agricultural productivity and limited value addition through processing. Smallholder farmers have limited technical and managerial capacities and are poorly organized to efficiently access input and output markets. They do not receive the same level of state support that those in lowland irrigated areas do, and they have traditionally been excluded from local development planning. Limited economic opportunities, combined with land fragmentation (nearly 75 percent of parcels are under 10 ha and 50 percent under 5 ha) and natural resources degradation, have led many farmers to overexploit their land, leading to further erosion and pushing them further into marginal lands. Farmers are trapped in a vicious cycle of encroachment of former forest lands that causes sizeable losses of forest, pasture, and grazing areas, which in turn further exacerbates soil erosion and degradation of land in the absence of vegetative cover.

3. **The long-standing World Bank engagement in the northwest regions was a response to the government's commitment to address the challenges of rural poverty in lagging regions and restore the natural resources base as a crucial component of poverty reduction.** The Fourth Northwest Mountainous and Forested Areas Development Project (*Projet de développement des zones montagneuses et forestières du Nord Ouest*, PNO4) is the last project in a series of PNO operations that started with PNO1 from 1982 to 1989 with a top-down watershed management approach, focused primarily on natural resources conservation and evolved gradually into an integrated participatory

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<sup>1</sup> World Bank. 2017. *Tunisia: Job Creation and Welfare Improvement through Agriculture*.



approach (IPA) encompassing all socioeconomic needs of the local communities. The Northwest Forestry and Pastoral Development Agency (*Office du Développement Sylvo-Pastoral du Nord-Ouest*, ODESYPANO) is the implementing agency established with the World Bank's assistance at the inception of the series of projects. Its original mandate was to improve the landscape management to reduce overgrazing, deforestation, and erosion to minimize the siltation of reservoirs in the region. Over the various iterations of the PNO series, it became clear that to preserve the landscape, the economic development of the local population was key to success. Simultaneously, it emerged that a participatory approach with communities directly involved in planning their development priorities would also help in making investments more sustainable and strengthen the local ownership of these investments. This IPA was effectively introduced under PNO2 (1994–2001) and further refined and expanded under PNO3 (2002–2009) and PNO4, particularly as it relates to better integration of the various agencies and ministries that are service providers to rural areas. The 2013 Independent Evaluation Group Project Performance Assessment Report (PPAR)<sup>2</sup> confirmed the relevance of the objectives and design of PNO3 and highlighted some of the key achievements in terms of increased yields, diversification of agricultural production systems, and land use consolidation and rationalization. While recognizing that the project had met most of its output targets, the PPAR highlighted the limited tangible results on incomes due to monitoring and evaluation (M&E) inadequacies (lack of outcome-level evidence and attribution issues). It also highlighted the limited progress on diversification through the promotion of income-generating activities (*Activités Génératrices de Revenu*, AGRs) that were constrained by difficulty in accessing credit. It also underscored the limited capacity and autonomy of grassroots organizations to sustain the IPA and community planning without project support and noted the limited evidence of greater rural community engagement in sustainable natural resources management. Overall, the PNO3 outcome was rated Moderately Unsatisfactory.

### Theory of Change (Results Chain)

4. **The project's theory of change assumes that by making the rural population an active and effective stakeholder in the planning of the development of the region, including activities to improve its quality of life and incomes, they will become better stewards of the local natural landscape.** The project design did not include a detailed results chain and mainly focused on the IPA as the core element for achieving the intended project's outcomes. The Implementation Completion and Results Report (ICR) team recreated the underlying result chain, as presented in annex 1 (table 3). The results chain relied on the assumption that the long-term outcomes of poverty reduction and natural resources restoration and sustainability would be achieved by improving the socioeconomic conditions of the rural population and by ensuring better protection and management of natural resources. Beyond the participatory approach, the project logic relied on the assumption that organizing farmers, increasing farm productivity and diversifying on-farm and off-farm activities, and opening access to input/output markets will lead to an increase in rural household income. This, in combination with better water availability and access to basic social services, would improve the socioeconomic conditions of the targeted beneficiaries. Mobilization of population would be done through the collective elaboration of Community Development Plans (*Plans de Développement Communautaire*, PDC). The project would support PDC execution through the provision of technical advice and funding for the implementation of AGRs, small-scale irrigation development, and agropastoral farming system improvement. It was also anticipated that additional resources will be mobilized from microcredit institutions and other

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<sup>2</sup> Report No. 82308-TN



governmental organizations. The project would also directly contribute to the provision of basic rural infrastructure, mainly water points and feeder roads. Better connectivity was identified as a critical binding constraint for farmers to access input and output markets based on the assumptions that (a) opening access would increase the inflow of essential agricultural inputs and (b) there is a demand that rural households can satisfy and farmers' produce comply with market requirements. On natural resources protection, the project logic assumed that rural community will include in their PDCs the construction of small-scale anti-erosion infrastructure, tree plantations, and pasture restoration that would serve the purpose of better protecting the overall landscape against further degradation. In addition, the project would promote sustainable land and water conservation and management practices based on the assumption that a more rational and adapted use of land, combined with improved crop and livestock intensification, will improve cereal fodder, orchard production, and livelihoods while reducing land degradation.

### Project Development Objectives (PDOs)

5. **The Project Development Objectives (PDOs) are to improve the socioeconomic conditions of the rural population and promote better protection and management of natural resources in the project area using an integrated participatory approach to community-based development.** The PDOs, as stated in the Project Appraisal Document (PAD), were fully consistent with the Loan and Project Agreements. Improvement of socioeconomic conditions is primarily seen as directly resulting from increased agricultural productivity, diversification, and better access to markets. This, through better incomes, would in turn lead to longer term improvement in employment, housing conditions and assets.

### Key Expected Outcomes and Outcome Indicators

6. **As captured in the PDO, the two key expected outcomes were (a) an improvement of the socioeconomic conditions of the rural population in the project area and (b) a better protection and management of natural resources in the Project area.** As defined in the PAD, the achievement of these outcomes is measured through the following key performance indicators:

- (a) Percentage improvement in a composite index of socioeconomic indicators at the administrative sector (*imada*) level: employment, housing conditions and household durable goods, access to potable water, access to roads, access to basic services (health, education, and electricity)
- (b) Number of sectors involved in the project that have their populations organized into Agricultural and Fisheries Development Groups (*Groupements de Développement Agricole et de la Pêche*, GDAPs) or informal Development Committees (*Comités de Développement*, CDs) and have prepared their PDCs, which are being implemented in collaboration with partners
- (c) Increase of land under soil and water conservation management and of land covered by perennial plantations and improved pasture in project areas

### Components



**Component 1: Institutional support and technical assistance for PDC preparation and implementation in the project area**

7. This component supported the overall IPA of the project by strengthening the institutional and organizational capacities of all the main partners involved in implementation, as well as improving their methodological tools and operational practices. Partners included community grassroots organizations, the project implementing agency (ODESYANO), and its partners (governmental agencies and ministries and nongovernmental organizations). More specifically, this component supported the elaboration of PDCs and their implementation through programmatic contracts. It provided training on the IPA and assistance to communities and grassroots organizations to ensure their participation in the PDC elaboration and execution of programmatic contracts. It helped expand the coverage of ODESYANO intervention from 88 *imadas* to 113 *imadas*.

**Component 2: Support for agricultural and pastoral production and income-generating activities in the project area**

8. The overall objective of this component was to contribute to the PDO outcome of agropastoral productivity increase, rural activity diversification, and value addition as presented in the results chain. Its specific objective was to promote more diversified and better-performing agricultural and pastoral production systems (mainly crops and livestock activities with higher yields and more added value) as well as assist vulnerable groups (primarily women, young people, and landless) in initiating new agricultural and rural business-oriented activities. This component financed (a) technical training to farmers, especially young farmers, and technical advice to livestock breeders; (b) the dissemination of genetic material (artificial insemination and selected breeds of large and small ruminants); (c) the establishment or rehabilitation of small-scale irrigation schemes; and (d) the identification and implementation of AGRs aimed at increasing and diversifying on- and off-farm activities.

**Component 3: Consolidation, protection, and management of natural resources in the project area**

9. This component contributed to the second part of the PDO to ensure better protection and management of natural resources. It aimed to (a) expand and improve the vegetation cover in targeted project areas, including rangelands, pastures, and tree plantations; (b) improve the status of selected forested areas through participatory forest management plans implemented within the framework of PDCs; and (c) promote more sustainable natural resource management techniques and practices. It financed tree plantations (mainly olives); small-scale anti-erosion infrastructure (e.g. gabions, dry stone thresholds, ravine treatment, water collectors); pasture restoration and improvement through the introduction of new forage varieties; and land consolidation for smallholder farmers with fragmented plots. It delivered training to communities on sustainable land and water conservation practices and pasture, rangeland, and forestry management.

**Component 4: Improvement of basic rural infrastructure in the project area**

10. This component improved access to basic infrastructure for communities located in remote areas to improve their socioeconomic conditions. It delivered individual or communal potable water infrastructure (boreholes when feasible, otherwise rainfall collecting cisterns) and rehabilitated or constructed rural roads to improve connectivity to the main road network.



## **B. SIGNIFICANT CHANGES DURING IMPLEMENTATION (IF APPLICABLE)**

### **Revised PDOs and Outcome Targets**

11. **The PDO was not revised and outcome targets have been mostly maintained as defined at project design.**

### **Revised PDO Indicators**

12. **The PDO indicators were substantially maintained.** During restructuring, the opportunity was taken to clean up the Results Framework to record changes made after effectiveness. This included (a) additional core indicators in accordance with the updated World Bank guidelines and procedures, (b) baseline values of indicators as determined by baseline studies conducted in the start-up phase, and (c) target values of selected indicators to reflect the actual priorities adopted by the beneficiary communities in the participatory development plans elaborated with the support of PNO4.

### **Revised Components**

13. **There was no major change made to the project's components.** While restructuring the project (see next section), a minor change was introduced to the "Promotion of income generating activities" subcomponent under Component 2 to allow for the provision of goods (in the form of livestock, small-scale equipment and materials) in support of AGRs to benefit eligible vulnerable groups. This modification was also justified to align the PNO4 approach with practices under other World Bank-funded projects.

### **Other Changes**

14. **The project was restructured once in January 2016 to include the following changes:**
- (a) Percentage of expenditures to be financed (inclusive of taxes) by the IBRD Loan increased to 100 percent for all categories of eligible expenditures
  - (b) Reallocation of loan proceeds from the 'Unallocated' and 'Consultants services' categories to the 'Works' and 'Goods categories of eligible expenditures of the loan
  - (c) Updating of disbursement and expenditures estimates for the remaining implementation period of the project

### **Rationale for Changes and Their Implication on the Original Theory of Change**

15. **The above changes aimed at accelerating the pace of implementation and ensuring the achievement of the project's objectives and results, with no impact on the project's theory of change.** These changes were based on the recommendations made during the midterm review in December 2014<sup>3</sup> and confirmed by the following implementation support mission in October 2015.<sup>4</sup> The change in

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<sup>3</sup> World Bank. March 2015. Implementation Status and Results Report (ISR) No. 11



IBRD funding was deemed necessary to remove the limitations associated with the availability of annual counterpart funding in a context of significant post-revolution national budget constraint. This was made possible without modification of the scope of activities by the increased project amount in local currency, following a 10 percent depreciation of the Tunisian dinar against the euro and low inflation. The budget reallocation was justified to compensate for the higher demand for rural infrastructure as reflected in the approved PDCs, the increased costs of some civil works, and the above-described provision of goods for AGRs.

## II. OUTCOME

### A. RELEVANCE OF PDOs

#### Assessment of Relevance of PDOs and Rating

16. **The relevance of the PDO is rated High as it was fully aligned with both the Government’s high-level objectives and the World Bank’s June 2015 Systematic Country Diagnostic (SCD) and FY16–20 Country Partnership Framework<sup>5</sup> (CPF).** In its strategic orientations for 2016–2020, the Government of Tunisia (GoT) aims to develop a renewed social contract where the state is expected to provide a level playing field to ensure inclusion and equal opportunity. The GoT’s strategy includes two pillars, highly relevant to PNO4: (a) pillar 4 aims to tackle regional disparities and achieve the ambitions of internal regions by building economic infrastructure and supporting entrepreneurship in lagging regions, and (b) pillar 5 aims to promote green growth for sustainable development and ensure the sound utilization of natural resources, with an emphasis on rationalizing water and energy consumption while promoting modern agricultural systems that guarantee food security. The SCD highlights the need to enhance inclusive growth through policies aimed at addressing spatial inequalities in access to high-quality basic services and infrastructure and by targeting institutional failures that generate unequal opportunities. It emphasizes the importance of increasing access to quality basic services (notably water, health, and education) in lagging areas to improve people’s employment opportunities and quality of life and ultimately contribute to sustainable long-term economic growth.

17. **As a core principle of engagement, the CPF promotes a greater focus on community engagement and those left behind, especially on the youth and women residents of the lagging regions.** Pillar 2 of the CPF focuses on reducing disparities between coastal and lagging regions in terms of economic opportunities and living standards, in both the disadvantaged neighborhoods of Tunisia’s rapidly growing cities and the country’s deprived rural areas. In line with the PNO4 participatory approach and PDC multi-stakeholder formulation, pillar 3 emphasizes the need for increased social inclusion and directing the World Bank Group’s assistance to particularly vulnerable segments of society, with the aim to help build greater citizen trust and promote skills development, transparency, and accountability. The CPF supports the development of territorial planning approaches aligned with Tunisia’s plans to decentralize economic decision making and investment planning to local governments using, where possible, participatory development approaches. As exemplified by PNO4 through the significant rehabilitation and construction of feeder roads, the CPF also aims to improve connectivity to enable the lagging areas to benefit from agglomeration dynamics in leading urban centers. Finally, the

<sup>4</sup> World Bank. January 2016. ISR No. 13

<sup>5</sup> Report No. 104123-TN



CPF includes the cross-cutting objectives of restoring the natural resources basis of Tunisian development and addressing climate change adaptation and mitigation challenges. It cites the experience of PNO4 as an example of successfully implemented measures to support reforestation, improve land management, and introduce practices such as conservation tillage.

## B. ACHIEVEMENT OF PDOs (EFFICACY)

### Assessment of Achievement of Each Objective/Outcome

18. **The first part of the PDO—improving the socioeconomic conditions of rural population—was substantially achieved.** In total, 113 *imadas* were reached by ODESYPANO, covering approximately 67,000 households or 320,000 people (48 percent of the total population of the Northwestern regions). In line with the results chain proposed at the ICR stage and described in section A, tangible and direct impacts of the project can be confirmed through the following outputs and outcomes (further detailed in annex 1 table 2):<sup>6</sup>

- **Crop and livestock productivity increase.** A total of 60 percent of *imadas* have GDAPs against a baseline of 40 percent; 94 percent of the investments planned in PDCs have been completed (against a target of 80 percent), for which ODESYPANO leveraged 40 percent of additional funding beyond the PNO4 resources (against a target of 35 percent); 940 young farmers benefitted from direct training in different economic activities; 421 farmers have small-scale irrigation schemes that were rehabilitated or newly created; and 726 animals of improved breeds were disseminated and 24,500 artificial inseminations were undertaken.
- **The area planted with wheat was reduced by 22 percent**, while the area with olive trees increased by 88 percent and the area with fodder increased by 84 percent; yields increased as follows: +25 percent for wheat, +27 percent for olive trees, and between +24 percent and 41 percent for dairy production depending on the breed. The productivity increases recorded in the project area are on par or above the increases observed elsewhere in the country (for instance, only +14 percent for wheat nationwide during the same period). It is also important to note that this is in the context of consecutive droughts over the final two years of project implementation.
- **Diversification and value addition.** Eight-hundred and sixty-three AGRs have been supported, mainly in apiculture (46 percent), poultry (32 percent), and small ruminants (11 percent); 92 percent were still successfully implemented at project closure. The AGR's net annual income from apiculture, poultry, and small ruminants has been estimated at TND 3,400 (US\$1,360), TND 1,000 (US\$400), and TND 18,000 (US\$720), respectively. The recorded wheat and olive yield increases represent net additional incomes of TND 235 (US\$94) and TND 460 (US\$184) per hectare, respectively. The dairy productivity increase represents a net additional income of TND 585 (US\$234) per head per year. The piloting of small rural agribusiness enterprises was partially successful, with four enterprises established (instead of 10 initially planned). The primary unexpected challenge was the

<sup>6</sup> Data from the ODESYPANO's ICR and the final project impact evaluation (*Étude d'évaluation finale des indices socio-économiques et agricoles du PNO4*)



difficulty in mobilizing credit, as microcredit institutions stopped their activities in rural areas after the revolution. One of the established women-owned microenterprises has been successful in developing a small-scale value chain that produces and markets essential oil from the mountainous areas in tourism destinations. Unfortunately, a comprehensive financial analysis of this venture is not available.

- **Access to markets and basic social services.** One-hundred and eighty-two km of feeder roads have been built and 815 km have been rehabilitated, benefitting around 40,000 people. The proportion of project area's population with access to all-year roads within a range of 1 km has increased to 93 percent from 80 percent before PNO4.
- **Access to drinking water.** Three-hundred and fifty-four water points, benefitting 2,000 households, have been installed. The proportion of households with access to potable water within less than 300 m of their settlement increased from 71 percent at inception to 74 percent.

19. **While the overall result was positive, the index used to measure the socioeconomic impacts of the project presents some attribution limitations.** At preparation phase, the team was advised to preferably use such an index to avoid the recurrent difficulties in measuring rural incomes. This index was composed of the following six variables with their respective weights: employment in agriculture (30 percent), housing conditions and household equipment (20 percent), access to drinking water (20 percent), access to rural roads (20 percent), access to electricity (7 percent), and access to school and health facilities (3 percent). The more directly the project was responsible for the achievement of a given variable, the higher it was weighted in the overall composite index. The socioeconomic index improved by 25 percentage points over the life of the project, which was slightly above the 22 percent target at project inception. The baseline was independently measured and set at 100 percent at the beginning of the project and checked again at the midterm review and after project closing. While the use of an index to measure the project's impacts was innovative, inadequacies associated with data interpretation and attribution were important challenges. In particular, it is not possible to separate the impacts of the project from those of parallel social and infrastructure investments by the Government. The independent assessment also measured indexes of both land use as well as crop and livestock productivity on a randomized sample of 800 households. These data were used to report on the above results and outcomes. Because ODESYPANO is the only development institution providing agricultural support in these remote areas, changes in these indices can be more directly attributed to the project. At project closure, the surveyed households who declared being satisfied with their incomes increased significantly for livestock production (reaching 62 percent) but slightly declined for crop production (to 41.5 percent), probably due to the last two years of poor rainfall.

20. **The second part of the PDO—ensuring better protection and management of natural resources—delivered the expected results although the long-term sustainability of water and soil conservation measures is difficult to quantify.** Detailed output by categories of land and natural resources protection activities is presented in table 2 of annex 1. It is worth highlighting that more than 16,000 ha of olive and other fruit and forest trees have been planted, contributing to better protection against water runoff and erosion while providing additional incomes to farmers. Close to 13,000 ha of pastures have been upgraded with improved varieties and are sustainably managed by communities. More than 12,000 ha of highly fragmented land has also been consolidated to offer better opportunities



to farmers to move to small-scale mechanization, apply better water and soil conservation techniques, and adopt agroforestry practices. Overall, the arable land under sustainable management and physically protected against erosion (with gabions for instance) has reached 37 percent against a target of 38 percent and from a baseline of 31 percent. One-third of the arable land is covered by perennial plantations and improved pastures, on par with the target and from a baseline of 31 percent. The long-term impact of these types of investments on both natural resources preservation and farmers' incomes is empirically well recognized worldwide and difficult to measure in the short run. For instance, a 2015 study of the Multi-Donor Partnership Program on Forests values fodder production from improved pasture at TND 164 (US\$65) per ha. The additional olive area of 16,000 ha produced 30,000 tons per year in full production, with an estimated value of TND 42 million (US\$16.8 million).

### Justification of Overall Efficacy Rating

21. **The overall efficacy is rated Substantial as, despite attribution challenges, the results significantly contribute to the intended outcomes.** Based on the independent evaluation, clear improvements have been recorded in productivity increase, diversification, and new economic opportunities and their potential translation into additional incomes, as presented in section 18. The M&E system was, however, not set up to record incomes and measure the impact of these improvements on households' overall incomes, making it impossible to ascertain a definitive improvement of socioeconomic conditions. The socioeconomic index showed a significant improvement in households' level of housing and equipment (+47 percent for dish TV and +21 percent for refrigerator), reflecting higher incomes and better affordability. The sustainability of GDAPs and AGRs is also a key question for the future and is discussed under the Risk to Development Outcome section.

22. **Extensive literature suggests that better connectivity of rural communities to factor markets, access to drinking water, and natural resources preservation have a positive impact on household livelihoods and incomes.** For instance, a 2003 study<sup>7</sup> shows that rural road rehabilitation in Peru allowed beneficiaries to get over US\$120 increase in annual per capita income. This increase was statistically significant and amounted to more than 35 percent of the control households' average income. Interviews with the PNO4 beneficiaries on the availability of improved seeds or animal feed or better access for dairy collectors and aggregators suggest a direct impact of these roads on production beyond subsistence. While direct evidence on the impact of improved access to drinking water on health and hygiene was not collected, literature suggests that this is highly positive. The World Health Organization highlights that investment to improve drinking water, sanitation, hygiene, and water resource management systems makes strong economic sense as every US\$1 invested leads to up to US\$8 in benefits. Despite large areas now under soil and water conservation techniques and anti-erosion protection infrastructure, the actual adoption rate of sustainable land and water management techniques by farmers has not been measured or at least surveyed on a farmers' sample. The actual impact of anti-erosion investments is hardly measurable and will be visible only in the medium and long run. However, one can assume that protecting one-third of arable land will definitely have an impact in an environment where 60 percent of the arable land is categorized as sensitive or highly sensitive to erosion. The impact on protecting downstream infrastructure will also be delayed but will certainly materialize when storage facilities are estimated to annually lose 0.8 percent of their capacity.

<sup>7</sup> Escobal, Javier, and Carmen Ponce. 2003. "The Benefits of Rural Roads: Enhancing Income Opportunities for the Rural Poor." GRADE Group for the Analysis of Development (Ed.): Lima (*Documento de Trabajo* 40-I).



## C. EFFICIENCY

### Assessment of Efficiency and Rating

23. **Efficiency is rated Substantial.** The project's economic rate of return (ERR) was 20 percent, above the ex-ante ERR calculation of 17 percent, with actual component costs approximately 20 percent below appraisal estimates (in U.S. dollars). Unit costs have been well within comparable cost ranges for similar types of activities across Tunisia,<sup>8</sup> particularly if discounted for the more complex topography and natural conditions in the northwest. Some activities, such as drilling of wells and road rehabilitation with paving, incurred higher than initially anticipated costs due to unforeseen factors (e.g. depth of water sources and topography, respectively). Nevertheless, these higher costs have been offset by lower annual maintenance costs (e.g. reduced siltation for wells and deterioration for roads). With regard to implementation impacts on the project's efficiency, despite many challenges, including related to personal security of staff involved in implementation activities and supervision, the project closed on time and within investment and administrative budgets.

24. **The project has achieved a return rate higher than the opportunity costs of capital.**<sup>9</sup> The investments supported by the project provided value for money as the ERR of 20 percent is greater than the opportunity cost of capital—10 percent used in the analysis. The total amount of value creation has been estimated at TND 141 million over 20 years, which corresponds to the investment of TND 87 million. The 20-year period was taken into account for natural resource management and agroforestry activities whose key benefits will be fully visible in the long term. In this context of long-term benefits, the payback period has been estimated at nine years, meaning that in 2019, the cumulative benefits will recover the cost of the investment, which is consistent with the expected benefits in natural resource management, agroforestry, and sustainable development. Finally, another measure of efficiency, the benefit-cost ratio (BCR) was estimated at a conservative 1.6, which represents the creation of net worth generated by TND 1 of public funds invested. Even at this level, the BCR can be considered underestimated, because many additional benefits can be implied (training and capacity building, preservation of biodiversity, mitigation of land erosion, and so on), but could not be estimated due to the methodological limitations or lack of data.

25. **Financial rates of return on the project's AGRs show moderate promise.** The project has supported 863 AGRs and four micro-enterprises, starting from 2015 and continuing into 2017. Given the short timeframe since the inception of these activities, it is impossible to make firm conclusions about their long-term financial sustainability and viability, but estimates provided by ODESYPANO at project closing<sup>10</sup> show early financial promise. Comparisons to similar activities supported under the Second Natural Resource Management Project support conclusions of early financial success, albeit on a more moderate scale.

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<sup>8</sup> When compared to the World Bank's ongoing Second Natural Resource Management Project (P086660) present in three regions of Tunisia.

<sup>9</sup> The ex post ERR was calculated, using the ex-ante methodology and applying actual data on yields, cropping patterns, production costs, and prices, as collected by ODESYPANO. The key assumptions and features of the analysis are presented in annex 3.

<sup>10</sup> Ten activity budgets (four for beekeeping, five for aviculture, and one for sheep fattening) prepared ex post by ODESYPANO show an average annual incremental net benefit (in year 3) of about TND 13,500 for beekeeping and aviculture and TND 5,000 for sheep fattening.



26. **Implementation delays under Components 3 and 4 have not had a major impact on efficiency.** Delays in the implementation of water infrastructure activities were mainly caused by the difficulty of drilling boreholes in the hilly terrain. The construction of household cisterns was also delayed due to orders by the Ministry of Health to suspend this activity due to health concerns. There were also cases of delays caused by contractors in rehabilitation of rural roads. Pasture restoration was delayed by the lack of forage seeds. Yet, with close and proactive supervision support from ODESYPANO most of these issues were addressed diligently and on time, and all planned activities were completed before the original project closing date, and thus did not result in a global time overrun and/or additional investment or administrative costs.

#### D. JUSTIFICATION OF OVERALL OUTCOME RATING

27. **The project is rated Moderately Satisfactory based on its relevance, efficacy, and efficiency.** Although the relevance was high and both the efficacy and efficiency substantial, the lack of satisfactory data on beneficiary incomes prevents the improvements in socioeconomic conditions from being definitively attributed to the project.

#### E. OTHER OUTCOMES AND IMPACTS (IF ANY)

##### Gender

28. **The project had a significant impact on helping rural women develop AGRs and reducing the burden of some household tasks.** Nearly 30 percent of the project-supported AGRs were in the poultry production, which is traditionally a woman's activity. Women groups have benefited also from agro-processing equipment for producing essential oils. The provision of cisterns or connections to drinking water primarily benefit women because they are largely responsible for water collection and transport. Reducing distance to the water point has certainly reduced the time spent collecting water, freeing up time for other activities. Families are thus more likely to acquire household goods and equipment that help reduce the labor burden on women and provide overall improvement in the quality of life for the entire family. This seems to be confirmed by the steady increase recorded for the socioeconomic indicator on household assets: 97 percent for television from 90 percent at project inception and 94 percent for refrigerator from 77 percent. As highlighted by the project's midterm review, the project has, however, not been successful in ensuring better women participation in grassroots organizations, which remains limited at around 15 percent on average. This does not mean that women were not part of PDC discussions and elaboration, but more efforts and sensitization should be made to promote women's voices and help them take responsibility.

##### Institutional Strengthening

29. **PNO4 had a significant institutional impact.** This project, along with its predecessors in the PNO series, put in place (a) an experienced specialized agency, fully dedicated to the Northwestern lagging regions; (b) producer organizations (GDAPs) that are able to facilitate access to input and output markets; and (c) a multi-stakeholder and inter-institution platform that jointly plans and coordinates local development activities. ODESYPANO's mandate is dedicated to areas that have been underserved by other governmental organizations such as the Regional Agricultural Development Center (*Commissariat régional au développement agricole, CRDA*). After 30 years of intervention, ODESYPANO has acquired a deep knowledge of the Northwestern regions, as well as a sound understanding of the



farming systems and the social challenges. With approximately 420 staff, one-third of which is permanently in the field, the agency is recognized as a key partner by other state institutions, other projects and, most importantly, by the local population. It is worth highlighting that ODESYPANO was the first state organization that the rural population accepted to restart its field-based development activities after the revolution. Through the participatory process, and because of its credibility as a development institution, ODESYPANO managed to finance 40 percent of the PDCs and leverage funding and play a key role in coordinating and implementing the investments of other public services and partners.

30. **GDAPs provide farmers with an instrument that will help them achieve economies of scale in organizing access to agricultural inputs, receiving technical advice, negotiating contract farming arrangements, aggregating agricultural produce, and organizing storage and marketing.** GDAPs ultimately strengthen the bargaining power of the project beneficiaries compared to other economic stakeholders in value chains. For example, the 87 GDAPs established by PNO4 have signed 271 partnership contracts with various organizations to receive training and technical advice or enter in marketing partnerships, especially in the dairy sector. The formation of the GDAPs helps aggregate production and bring it to the markets through agro-processors. Nonetheless, nascent producer organizations such as the GDAPs continue to require technical and management assistance before becoming fully autonomous is a commonly observed phenomenon globally. Through its long-term mandate and successful engagement in the region, ODESYPANO will continue to be the regional development partner of choice because of its ability to establish productive local partnerships and leverage government and donor resources.

31. **IPA has generated trust and resulted in closer collaboration between local institutions and stakeholders.** Further evidence of the important impact of this participatory process is that a range of state institutions started using PDC as the planning tool for their own interventions and investments. For example, the Regional Governorate, the Ministry of Equipment, and the CRDAs contributed 42 percent, 37 percent, and 10 percent, respectively, of the total non-PNO4 PDC funding. The PNO4 approach is replicable and thus particularly relevant for the Government's planning for decentralization.

#### **Mobilizing Private Sector Financing**

Not applicable.

#### **Poverty Reduction and Shared Prosperity**

32. **Through productivity increase, production diversification, AGRs, improved water supply, and better connectivity to factor markets, the project had a positive impact on the livelihood of 320,000 rural people.** By design, the project targeted the lagging regions of the country with highest poverty rates, addressing economic disparities and closing the gap with richer coastal regions. It also targeted the most vulnerable groups, especially youth and women, in its intervention *imadas*. As described in previous sections, it improved socioeconomic living conditions, increased agricultural diversification and productivity, and stimulated new on- and off-farm AGRs. The rehabilitation and construction of feeder roads had a significant impact by connecting isolated hamlets to basic social services and inputs and outputs markets, offering new productive and marketing opportunities to farmers. For example, livestock farmers, newly connected to the road network, immediately increased their cattle herd above



self-consumption needs. Poultry farmers, who are primarily women, gained access to better quality feed and turned a profit.

#### Other Unintended Outcomes and Impacts

Not applicable.

### III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME

#### A. KEY FACTORS DURING PREPARATION

33. **The project was prepared with a clear reference to the context provided by the history of implementation of previous PNOs and particularly to PNO3.** Continuity in design and approaches significantly influenced the formulation of the project's activities and approaches, objectives, as well as the Results Framework (particularly on the socioeconomic dimensions). Implementation arrangements through ODESYPANO, which successfully implemented the previous operations in the series, were replicated in this operation, enabling a quick start to implementation. The participatory and inclusive local development dynamic established in PNO3 was a stark contrast to earlier PNOs where top-down government actions were the main drivers of decision making. The substantive participation and ownership of project activities by communities, through extensive consultations and the development of PDCs, resulted in demand-driven investments in infrastructure and connectivity and mainstreaming of production practices aimed at boosting crop and livestock productivity.

34. **Two project shortcomings were not going further in developing strategies to co-finance AGRs and not fully anticipating the difficulties in attribution associated with the socio-economic index.** Building on the successful pilot carried out under PNO3, the land consolidation experience was expanded, but insufficient lessons were drawn from earlier failures to mobilize credit for AGRs. For example, a specific subcomponent to support microcredit institutions could have been added to the design. Similarly, the measurement of household incomes was dropped from the PDO and, as per the guidance given to the project's formulation team, substituted with a composite index to capture the change of the socioeconomic conditions of rural population. While the index was measured at project inception, midterm, and closure, better attribution of the project impacts would have been possible through the collection of data on incomes and the use of control groups. For example, a panel survey of household income may have been a more effective option to capture the positive outcomes of PNO4, although this approach would have been difficult in the social context after the revolution.

#### B. KEY FACTORS DURING IMPLEMENTATION

##### Factors Outside the GoT and ODESYPANO Control

35. **The project became effective at a time of social and political turbulence, which resulted in a regime-changing revolution with profound impacts on the country's rural population, as well as the Government's ability to ensure basic rule of law (at least temporarily) and the effective functioning of public services.** During the first two years of implementation, progress in developing community plans was limited as rural communities expressed apprehension and even hostility toward government institutions and programs. However, the project was not entirely derailed at this stage due to



ODESYPANO's reputation in rural areas of the northwest as a trustworthy partner and an effective implementer. While works under Components 3 and 4 were seriously delayed by civil unrest, ODESYPANO, nonetheless, managed to fully complete all works before project closure.

#### Factors Subject to the GoT and ODESYPANO Control

36. **The formalization of GDAPs is important for the sustainability of the project's local institutional building efforts and the ability of the communities to be effective partners in the discussion on future funding/development decisions with regional authorities.** GDAPs are in many ways similar to cooperatives, which historically were dominated by the central government in terms of activities and allocation/use of resources. Thus, before the project, many producer groups chose to remain informal. In addition, the atmosphere of incertitude on the future role of GDAPs and other grassroots organizations in relation to the ongoing debate on the decentralization of the country's administrative apparatus has been a factor which impeded a more effective effort to formalize newly established groups by ODESYPANO. A deeper reflection could have been engaged on the future of existing and newly created GDAPs beyond the project's life, as well as on ODESYPANO itself in the absence of external financing.

#### Factors Subject to World Bank Control

37. **The World Bank provided consistent implementation support, particularly throughout the challenging transition associated with the revolution.** All ISRs and Aide-Mémoires candidly flagged implementation issues and offered concrete solutions to ODESYPANO. The regime change resulted in significant difficulty in supervising the project as well as pressure to show results in the field. The Bank provided additional support and budget to facilitate supervision in the face of security challenges. Nonetheless, the pressure to show results may have detracted from the time consuming participatory approach and follow up on the quality of the data collected for the M&E system.

## IV. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME

### A. QUALITY OF MONITORING AND EVALUATION (M&E)

#### M&E Design

38. **The Results Framework and the M&E system was mainly focused on input and output indicators.** The output-based indicators such as access to water and feeder roads and scale of land and water conservation activities were appropriate for measuring achievements under the IPA. Their achievement, however, does not a priori imply improved net incomes. Furthermore, the compound index measured the evolution of socioeconomic conditions, but not in a manner attributable to the project and was too complex to measure and to be fully understood by ODESYPANO. The recommendations to strengthen the Results Framework and the M&E system made during the November 2013 PPAR and the FY16 deep-dive portfolio review were not explicitly acted upon, leading to a missed opportunity to fully capture the project's positive outcomes.

#### M&E Implementation



39. **The implementing agency was extremely diligent in collecting output data throughout the implementation period.** Data on 23 different indicators were collected over the course of implementation. ODESYPANO provided timely detailed reporting on project execution and this was used to flag implementation issues and delays. This allowed for efficient corrective action, including identifying solutions to problems with contractors and alerting higher level of decision makers. For example, the system was used to ensure participation of vulnerable groups in the IPA and PDC elaboration shortly after the start of the project and take legal and administrative decisions to officially register land plot transfer under the consolidation activities.

#### **M&E Utilization**

40. **While ODESYPANO had performed well on data collection and reporting, data quality and project impact analysis were not emphasized.** Despite the large volume of data collected, the data generated were not used to undertake quantitative analysis of the positive socioeconomic developments in the field. For example, some information on production costs and earnings was available, but these data were not used to provide a stronger assessment of the project's impact on incomes and profitability of the AGRs. Quality control was not in place to check the data collection methodology and statistical validity. The crop and livestock yield indexes have shown positive evolutions, but at the same time they were hiding the more concrete reality and scale of productivity increase and diversification. Comparisons of results in the PNO4 areas with parallel evolutions in the rest of the country (deeper analysis on productivity for instance) could have been a way to better assess the actual impact of the project.

#### **Justification of Overall Rating of Quality of M&E**

41. **The overall rating for M&E is Modest mainly because the focus on outputs came at the expense of measuring the impact.** The ODESYPANO M&E delivered according to the project design and more attention could have been placed on measuring the impact of these results on the socioeconomic conditions of beneficiaries.

### **B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE**

42. **The project complied with the World Bank's environmental, social, and fiduciary requirements, confirming the experience and professionalism of ODESYPANO and strength of supervision.** The project piloted the use of 'borrower systems' for environmental and social safeguards under OP 4.00. It triggered OP/BP 4.01 on Environmental Assessment, OP/BP 4.36 on Forests, and OP/BP 4.12 on Involuntary Resettlement. No major environmental safeguards issues were flagged during implementation, though it took some time and additional capacity building for ODESYPANO staff to adequately screen subproject activities and properly report on compliance and application of mitigation measures. Through its participatory approach, the project was compliant with the social safeguards requirements, especially in citizen engagement. Delays were, however, observed in registering land transfers. This issue was fully resolved before project closure and all land transfers were officially recorded. Procurement was satisfactory throughout implementation. The financial management arrangements, including staffing, accounting, reporting, budgeting, internal controls, flow of funds, and audit arrangements were reviewed regularly and provided accurate financial information and reasonable assurance that project funds are being used for the purpose intended. While some



delays were observed in the submission of fully compliant financial reports, these were progressively addressed and all reports were completed on time in the last year of project execution. Ineligible expenditures were identified in several instances by the external auditor and were regularized on time by ODESYPANO.

## C. BANK PERFORMANCE

### Quality at Entry

43. **While the project design included a participatory approach that most suited the environment in the region after the revolution, it had a particularly strong focus on outputs and a complex set of indicators, including a disputable socioeconomic index.** The design was influenced by the predecessor projects and had a strong focus, for instance, on (a) soil and water conservation physical investments, most probably as a legacy of the initial watershed management project; (b) the overall IPA, including highly detailed procedures for community mobilization and PDC formulation; and (c) expected outputs in institutions to be created, subprojects to be financed, and hectares of erosion-sensitive land to be protected. All these are obviously critical features, reflecting positive evolution in the rural development approach in Tunisia, but the project design should have given more space for a true reflection on the intended outcomes and the results chain. The project could have also included measures and actions to address the issue of limited access to credit, which was identified as a key constraint for rural communities to initiate and sustain on- and off-farm AGRs. This issue was discussed during project formulation but the only acceptable option in the Tunisian institutional context and regulatory framework was to try to partner with the *'Banque Tunisienne de Solidarité'*.

### Quality of Supervision

44. **The project benefited from continuity of the entire World Bank supervision team and received sound implementation support.** The task team leader at design supervised the project until one year before completion and a locally based Food and Agriculture Organization of the United Nations (FAO) staff and a World Bank consultant provided closer implementation and technical advice. PNO4 was jointly supervised in a programmatic way with the Second Natural Resource Management Project which has similar objectives and approach. Supervisions provided sound technical support summarized in very detailed Aide-Mémoires. Fiduciary and safeguards support was provided from the country office, offering the opportunity for frequent interactions, which was appreciated by ODESYPANO. After the revolution, there was pressure to provide quick assistance and financial resources to the country. Priority was then given to fast execution of physical realizations at the expense of properly assessing impacts and ensuring sustainability beyond project life. Based on the 2013 PPAR and FY16 portfolio review, the World Bank team should have revised the Results Framework and helped ODESYPANO strengthen its capacity for impact analysis.

### Justification of Overall Rating of Bank Performance

45. **The overall World Bank performance is rated Moderately Satisfactory due to limitations in adequately fixing the Results Framework and advising ODESYPANO on data collection, quality control, and analysis and interpretation to effectively measure the project's impact.**



#### D. RISK TO DEVELOPMENT OUTCOME

46. **The main risk to development outcome lies with the future of the various institutions, either preexisting or created by the project, and with sustainability of the economic activities initiated with PNO4 support.** It is expected that ODESYPANO, as a state organization fully funded by the Government's budget, will remain in the area to support producers and the different platforms and GDAPs created. However, as with all aging institutions, ODESYPANO is also facing a serious short-term human resource challenge with some experienced staff retiring or about to retire. This challenge was already highlighted during project implementation and may seriously affect the operational capacity of the organization and its ability to maintain sufficient field presence to support disadvantaged producers in the lagging regions of the northwest. ODESYPANO's action is unique and clearly fills a gap in the northwest as many other state institutions do not focus on the mountainous and forest areas. A reduction of ODESYPANO's presence in the field would put the sustainability of many GDAPs and AGRs at risk.

47. **A broader issue for GDAPs is their official status under the current legal framework.** Their logical evolution toward a cooperative status would require substantial change to the current cooperative legislation to become properly owned and managed by the membership. They should be able to operate autonomously with full legal recognition for the benefit of their members first rather than grand schemes for agglomerating production from small scattered farmers/producers, often as an extension of government-run processors or aggregators.

48. **More broadly, the overall policy and regulatory framework of the agricultural sector also poses a serious threat to maintaining the development outcome achieved under the project, both on socioeconomic improvement and natural resources protections dimensions.** Despite enormous efforts and investments by the GoT to preserve natural resources and reduce deforestation and overgrazing of the northwest, the policies of food self-sufficiency that favor increasing wheat production counteract the efforts of the projects aimed at maintaining the forested landscape of the northwest of Tunisia. Subsidies for fuel, seeds, and machinery, along with the historic legal land use claims to preserve access to land through cultivation, provide the incentive to farmers to till ever greater areas on marginal land for marginal grain and wheat production. These questions were obviously not part of the project scope but a broader policy dialogue should be initiated on reforming the overall policy framework and incentives in agriculture.

#### V. LESSONS AND RECOMMENDATIONS

49. **The PNO4 IPA has successfully confirmed that combining anti-erosion investments with investments in improving rural populations' socioeconomic conditions is an effective way to leverage more attention from beneficiaries to natural resources management.** Even though anti-erosion interventions were still encouraged by ODESYPANO, it is worth observing that all PDCs included soil and water conservation investments. Many farmers are fully aware of natural resources' degradation, especially erosion that they observe in their own fields. Developing new economic opportunities made them realize that there is a future in agriculture locally and they became more sensitive to the urgent need to preserve their environment. This was apparent among young farmers often returning from cities, whom the project helped with on- and off-farm agribusiness activities.



50. **Developing links with the private agro-industrial sector should be at the core of ODESYPARO's exit strategy.** This does not mean that ODESYPARO must disappear or leave the *Imada* when all GDAPs are fully operational, but the institution's financial and human resources are limited. With PNO4, ODESYPARO's coverage of the northwest lagging regions reached 50 percent after 30 years of interventions and there is still another half of the territory to be covered. Taking the example of dairy production, ODESYPARO's technical and management support has led to significant improvements in dairy production, both in productivity and organoleptic quality. This has also greatly benefited the dairy processing industry, which in turn could participate in supporting smallholder dairy producers through some cost-sharing contractual arrangements. The approach could draw more from international experience, ranging from the cooperative model of many European countries to the productive alliance model of Latin America.

51. **Developing appropriate agri-finance resources and instruments, as well as addressing constraints for smallholder farmers to access microfinance, are at the core of the sustainability and replicability of projects such as PNO4.** Access to appropriate medium- and long-term financial credit schemes for agri-investments is the main constraint for farmers almost everywhere. Yet experience worldwide has also demonstrated that there is a large range of options, tools, and instruments that can be developed with the banking sector (microcredit scheme for small and medium enterprises, movable assets, mutualized guarantees, guarantee funds, and so on). The expected collaboration with the '*Banque Tunisienne de Solidarité*' under PNO4 has failed but it could have benefited from specific technical assistance to develop the required financial products suitable to the targeted beneficiaries.

52. **Participatory and community-driven projects have spearheaded initiatives which can contribute to the country's on-going decentralization efforts.** The experience of PNO4 in promoting participatory development initiatives is unique and can serve as a precursor for community development under the up-coming decentralization reform. As local authorities throughout Tunisia receive more decision-making power in determining priorities and allocating funds, they stand to learn from PNO4 experience in involving local communities in planning and implementation of local development programs. The experience could be elevated further towards the establishment of innovative funding mechanisms, such as communal investment funds (with various funding windows ranging from social targets to infrastructure to economic empowerment), as already developed in other countries in Africa.



## ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

### A. RESULTS INDICATORS

#### A.1 PDO Indicators

**Objective/Outcome:** The PDO is "to improve the socio-economic conditions of the rural population and promote better protection and management of natural resources in the project area using an integrated participatory app

#### A.2 Intermediate Results Indicators

**Component:** Institutional Support and Technical Assistance for PDC preparation and implementation in project area

**Component:** Improvement of basic rural infrastructure in the project area

**Component:** Support for agriculture and pastoral production and income-generating activities in the project area

**Component:** Consolidation, protection and management of natural resources in the project area

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### 1. KEY OUTPUTS BY COMPONENT



<b>Objective/Outcome 1: Improvement of the socioeconomic conditions of the rural population</b>	
Outcome Indicators	<p><b>1. Improvement in a composite index of socioeconomic indicators at the sector (<i>imada</i>) level</b></p> <ul style="list-style-type: none"> <li>At project closure, index achieved 124.7 against a target of 122 and a baseline of 100.</li> </ul>
Intermediate Results Indicators	<ol style="list-style-type: none"> <li>Crop and livestock diversification and productivity: <ul style="list-style-type: none"> <li>65% of <i>imadas</i> with established GDAPs against a target of 625 and a baseline of 40%</li> </ul> </li> <li>Households with access to drinking water <ul style="list-style-type: none"> <li>74.2% of households have access to drinking water (defined as 300 m from household dwelling)</li> </ul> </li> <li>Households with access to rural roads (to access markets and basic social services) <ul style="list-style-type: none"> <li>93% of household s with direct access to rural roads against a target of 94% and a baseline of 75%</li> </ul> </li> </ol>
Key Outputs by Component (linked to the achievement of the Objective/Outcome 1)	<ol style="list-style-type: none"> <li><b>Institutional support and technical assistance for community development plan preparation and implementation in project areas</b> <ul style="list-style-type: none"> <li>ODESYPARNO coverage expanded to 113 from 88, representing more than 600,000 ha, representing 47% of the northwestern area.</li> <li>Direct population benefiting from PNO4 reached 318,000 people (67,000 households), covering 48% of the total population of the North-West regions.</li> <li>All <i>imadas</i> (113) with validated PDCs and 661 CPAs approved against 515 planned.</li> <li>87 GDAPs established to develop a variety of community-based on-farm and off-farm activities and rural services, leading to 548 annual programmatic plans signed and executed between ODESYPARNO and GDAPs.</li> <li>77% of <i>imadas</i> with GDAPs against a target of 62% and a baseline of 40%.</li> <li>94% of investments planned in PDCs have been executed against a target of 80%.</li> <li>Co-financing from ODESYPARNO partners reached 41% and beneficiaries' (cash/in-kind) contribution reached 10.3%, at par with the 10% target.</li> <li>A total of TND 144 million was invested, distributed as follows: TND 77.5 million from PNO4, TND 53.5 million from partners, and TND 13 million from beneficiaries.</li> </ul> </li> <li><b>Support for agricultural and pastoral production and income-generating activities in the project area</b> <ul style="list-style-type: none"> <li>8,226 honey producers trained, more than 4,000 farmers participated in local and national fairs, and 20 study tours organized abroad.</li> <li>25 research and development programs; 348 demo plots.</li> </ul> </li> </ol>



	<ul style="list-style-type: none"> <li>• Dissemination of 726 improved breeds and close to 24,500 artificial inseminations.</li> <li>• 421 ha of small irrigation schemes constructed or rehabilitated based on 11 water sources.</li> <li>• More than 940 technical training sessions on various techniques.</li> <li>• 863 AGRs supported and 12 microenterprises established and operational.</li> <li>• Land consolidation on 11,908 ha.</li> <li>• The crop yield index has increased to 121.1 and the livestock yield index has increased to 138.8. from the 100 baseline and against targets of 115 and 114, respectively.</li> <li>• Yield increases for (a) wheat: +25.3% (up to 30% in new sectors; above national average); (b) olive trees: +27%; (c) dairy: +24% for pure breeds and +41.4% for crossbreeds; and (d) small ruminant productivity increase: +30.5% for sheep and +51.3% for goats (above national average by 15%).</li> <li>• crop diversification occurred in the Project areas, with a significant reduction in areas under wheat (-22 percent) to the benefit of fodder crops (+88 percent) and fruit tree plantations (+84 percent).</li> </ul> <p><b>4. Improvement of basic rural infrastructure in the project area</b></p> <ul style="list-style-type: none"> <li>• 371 water points constructed and rehabilitated against a target of 510, benefitting more than 2,000 households</li> <li>• 181.7 km of newly constructed feeder roads and 815 km of rehabilitated roads, against targets of 200 km and 600 km, respectively</li> <li>• 282 villages representing close to 40,000 people have gained access to all season rural roads</li> </ul>
<b>Objective/Outcome 2: A better protection and management of natural resources in the Project area</b>	
Outcome Indicators	<ol style="list-style-type: none"> <li>1. Increase in land under sustainable natural resources management <ul style="list-style-type: none"> <li>• 37.4% of arable land under sustainable land and water management against a target of 37.8% and a baseline of 30.9% (+39,438 ha)</li> <li>• 33.1% of arable land covered by perennial plantations and improved pastures against a target of 33.5% and a baseline of 30.8% (+13,707 ha)</li> </ul> </li> </ol>
Intermediate Results Indicators	<ol style="list-style-type: none"> <li>1. Increase in land under soil/water conservation management <ul style="list-style-type: none"> <li>• 23.9% of erosion-sensitive land (physically) protected by soil and water conservation on par with target and against a baseline of 20.7%</li> </ul> </li> <li>2. Increase in land covered by perennial plantations and improved pasture <ul style="list-style-type: none"> <li>• 14.9% of pastures have been upgraded and managed according to agreed conservation practices, against</li> </ul> </li> </ol>

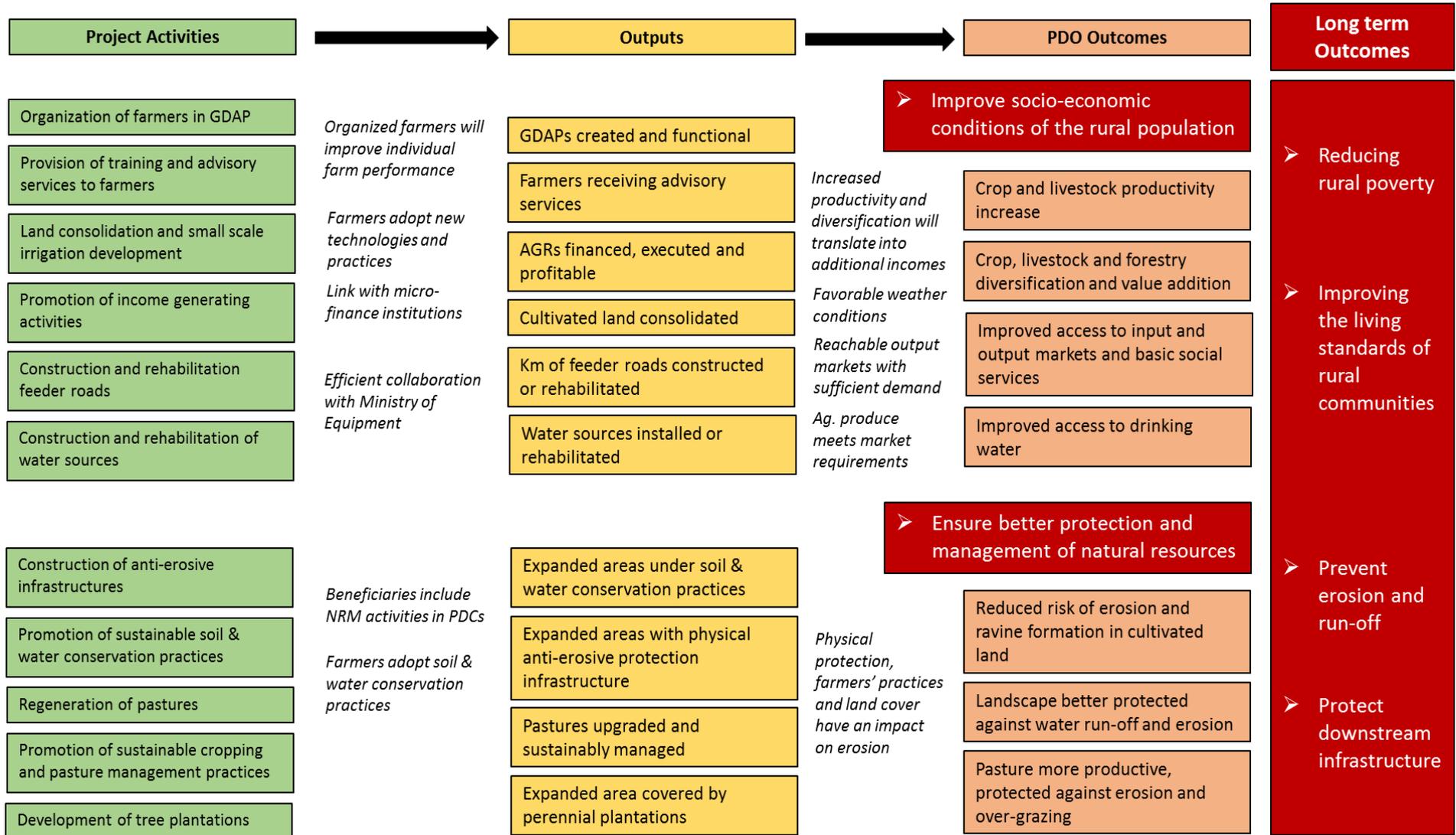


	<p>a target of 15% and a baseline of 11.3%</p> <ul style="list-style-type: none"><li>• 14.6% of land upgraded through tree plantations, against a target of 13.5% and a baseline of 10.2%</li></ul>
Key Outputs by Component (linked to the achievement of the Objective/Outcome 2)	<p><b>3. Consolidation, protection, and management of natural resources in the project area</b></p> <ul style="list-style-type: none"><li>• 10,517 ha of erosion-sensitive land protected with soil and water conservation works and infrastructure (watershed management civil engineering), reaching 85,300 ha</li><li>• 39,500 ha of additional land under sustainable land and water management (at farm level), reaching 226,000 ha</li><li>• 12,927 ha of pastures upgraded and sustainably managed, reaching a total of 43,875 ha</li><li>• 15,994 ha of trees have been planted, reaching a total of 53,000 ha</li></ul>

Note: CPA = Annual Program Contract (*Contrat programme annuel*).



**2. Project Results Chain**





**ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION**

**A. TASK TEAM MEMBERS**

Name	Role
<b>Preparation</b>	
Garry Charlier MNSAR	Task Team Leader
Jean-Marc Bisson FAO	Agricultural Economist (FAO)
Alexandra Sokolova	Economist (FAO)
Pierre Werbrouck	Rural Enterprise Development Consultant
Marie-Françoise How Yew Kin	Program Assistant
Viviane Clément	Junior Professional Associate
Abderhamanne Ben Boubaker	Institutions Specialist National Consultant
Song Li	Environmental Consultant
Slaheddine Ben Halima	Procurement Consultant
Walid Dhouibi	Procurement Consultant
Fatou Fall	Social Development Specialist
Sherif Arif	Environmental Safeguard Consultant
Moez Makhlouf t	Financial Management Specialist National Consultant
Mohammed A. Bekhechi	Lead Counsel
Jean-Charles de Daruvar	Senior Counsel
<b>Supervision/ICR</b>	
Daniel P. Gerber	Task Team Leader(s)
Slaheddine Ben-Halima	Procurement Specialist(s)
Mehdi El Batti	Financial Management Specialist
Arbi Ben Achour	Social Safeguards Specialist
Garry Charlier	Team Member
Abderrahmane Ben Boubaker	Team Member
Mohamed Adnene Bezzaouia	Environmental Safeguards Specialist

**B. STAFF TIME AND COST**

Stage of Project Cycle	Staff Time and Cost	
	No. of staff weeks	US\$ (including travel and consultant costs)
<b>Preparation</b>		
FY10	26.287	261,283.78
FY11	13.288	105,523.35
FY16	0	0.00
<b>Total</b>	<b>39.58</b>	<b>366,807.13</b>
<b>Supervision/ICR</b>		



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FY11	4.450	47,107.27
FY12	6.280	61,980.42
FY13	17.539	104,982.70
FY14	22.569	143,737.34
FY15	10.699	127,934.66
FY16	19.890	148,106.88
FY17	11.770	104,492.29
FY18	7.048	51,055.88
<b>Total</b>	<b>100.25</b>	<b>789,397.44</b>

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**ANNEX 3. PROJECT COST BY COMPONENT**

Components	Amount at Approval (US\$, millions)	Actual at Project Closing (US\$, millions)	Percentage of Approval (US\$, millions)
1. Institutional support and technical assistance for PDC preparation and implementation in the project area	3.00	1.65	55
2. Support for agricultural and pastoral production and income-generating activities in the project area	3.68	3.60	98
3. Consolidation, protection, and management of natural resources in the project area	19.04	8.40	43
4. Improvement of basic rural infrastructure in the project area	15.88	18.05	113
<b>Total</b>	<b>41.60</b>	<b>30.98</b>	<b>76</b>

**Note: The loan was euro denominated and disbursed in Tunisian dinars.** There have been considerable shifts in currency values between the euro and U.S. dollar and the euro and Tunisian dinar over the course of the project implementation, which explains the large discrepancy between the amount at approval and the amount effectively spent. In actual Tunisian dinars, the overall project resources were greater than estimated at appraisal. Tunisia has also had very low inflation and most activities involve locally produced and purchased goods, works, and services. The following tables provides a more accurate situation by components in Tunisian dinars and disbursement categories in euro.

Components	Amount at Approval (TND, millions)	Actual at Project Closing (TND, millions)	Percentage of Approval (TND, millions)
1. Institutional support and technical assistance for PDC preparation and implementation in the project area	3.87	3.31	85
2. Support for agricultural and pastoral production and income-generating activities in the project area	4.88	7.22	148
3. Consolidation, protection, and management of natural resources in the project area	23.36	17.78	76
4. Improvement of basic rural infrastructure in the project area	19.64	36.67	187
<b>Total</b>	<b>58.27</b>	<b>65.15</b>	<b>112</b>



Disbursement Categories	Amount at Approval (euros, millions)	Actual at Project Closing (euros, millions)	Percentage of Approval (euros, millions)
1. Works	25.13	23.96	95
2. Goods	3.17	1.00	31
3. Consultants' services and training	1.73	1.39	80
Front end fee	0.07	0.07	100
<b>Total</b>	<b>30.10</b>	<b>26.42</b>	<b>88</b>



## ANNEX 4. EFFICIENCY ANALYSIS

1. **Introduction.** This annex presents the financial and economic analysis of PNO4 at its completion stage. The financial analysis aims at demonstrating that AGRs on farm, as proposed by the project, have been profitable and therefore sustainable. The economic analysis aims at demonstrating that, from an economic perspective, the project as a whole is viable, taking into account, to the extent possible, all the quantifiable additional costs and benefits. At appraisal, an ERR for the project was calculated taking into account benefits expected to accrue through increased agriculture and fodder production within the project area. There was no estimation of the benefits from soil conservation works, rural infrastructure, and AGRs, which was difficult to quantify given the lack of data and the demand-driven character of the project. At project completion, the ERR was recalculated, using the methodology employed at appraisal. Furthermore, an additional analysis was conducted for some selected activities, such as rural infrastructure, AGRs, and agricultural council to account for their increased importance in the project after the midterm review. The most representative types of activities were chosen to provide some idea of the activities' financial and economic benefits. For methodological reasons, the benefits of the selected activities were not included in the calculation of the ERR and were presented separately to illustrate these investments.

2. **Data sources and general assumptions.** The information used in this analysis was collected from the Final Evaluation Report of PNO4, as well as from the ex post evaluation of socioeconomic and agricultural indicators of PNO4, the World Bank's supervision reports, and mission's field interviews. Given the lack of quantitative data, the analysis used some data from the Evaluation of the Second Natural Resources management Project (for AGRs), as well as from the Program on Forests (PROFOR) Analysis of benefits and costs of the degradation of forests and rangelands (for pastures and rangelands), to give a sense of the magnitude of benefits. Input and output prices were collected by ODESYPANO in October 2017 and expressed in constant terms. Conversion rates<sup>11</sup> were applied to all financial prices to obtain economic values. Shadow prices for rural labor were estimated at 75 percent of the prevailing market wage rate, while for skilled labor, the market rate was assumed to reflect its opportunity cost.<sup>12</sup>

3. **Financial analysis.** To assess the financial viability of the improved technologies and systems promoted by the project and evaluate the impact of the project's interventions, several crop and activity budgets were prepared to present the financial benefits of the project. The financial benefits analyzed are mainly from Component 2. The incremental net benefits from the agricultural production support component have been mainly generated by two types of investments: (a) agricultural advice and (b) AGRs. The results are given in the following paragraphs.

4. **Agricultural advice.** For livestock, the approach resulted in increased productivity and improved reproduction parameters and feed and sanitary management of the herd: +36 percent (or 2,206 l) for annual average milk production per cow (all breeds). Though it is a good result for the activity if compared to the situation of reference, it is, however, about 20 percent below the national average. This result could be explained by underperformance of crossbreeds and local breeds. The cost-benefit

<sup>11</sup> Collected from *Etudes de factibilité des périmètres irrigués*, Economic analysis, Hydro-Plante (2015).

<sup>12</sup> IFAD (International Fund for Agricultural Development). 2013. *Rural Growth Programme*.



analysis, conducted by 33 livestock consultants, presents an average annual incremental net benefit of TND 585 per head. Over the lifetime of the project, 800 farmers were supported. Analysis of the crop production, based on crop budgets prepared by ODESYFANO, shows incremental net benefits per hectare ranging between TND 50 for leguminous species, TND 100 for wheat and TND 260 for olives, which demonstrates that the project activities have been financially profitable for the project participants. Overall, there has been a notable increase in yields (+25 percent for wheat, +27 percent for olive, and +13 percent for fodder crops).

5. **AGRs.**

- (a) **Microprojects.** The analysis conducted ex ante considered three types of activities: (i) beekeeping, (ii) livestock husbandry (milk cows), and (iii) carpet making. At the end of the project, the assessment of AGR conducted by ODESYFANO shows that beekeeping was the most demanded activity (46 percent), followed by aviculture (32 percent), and sheep fattening (11 percent). Ten activity budgets (four for beekeeping, five for aviculture, and one for sheep fattening) prepared ex post by ODESYFANO show an average annual incremental net benefit (in year 3) of about TND 13,500 for beekeeping and aviculture and TND 5,000 for sheep fattening. It is difficult to draw general conclusions from this study. However, it shows that with proper management the reviewed projects are financially viable. To compare, an ex post cost-benefit analysis carried out in similar socioeconomic conditions for PGRN II<sup>13</sup> shows more modest results (from a larger sample), with an incremental net benefit of about TND 3,400 for beekeeping, TND 1,000 for aviculture, and TND 1,800 for sheep fattening. In total, 863 AGRs were supported by the project. Most of them (92 percent) were created in 2015 and continue to function in 2017, at the end of the project. Given the late start of the AGR subcomponent, it will be difficult to evaluate the long-term sustainability of these results.
- (b) **Rural microenterprises.** PNO4 provided assistance to four microenterprises: one essential oil extraction unit, one grinding unit of red pepper and spices, and two poultry farms. Business plans prepared ex ante by ODESYFANO present a financial internal rate of return (FIRR) of 44 percent, net present value (NPV) of TND 27,946 and a payback period of four years for the grinding unit; an FIRR of 39 percent, NPV of TND 73,547, and a payback period of four years for the oil extracting unit; and an FIRR of 35 percent, NPV of TND 23,732, and a payback period of three years for poultry farms—for an investment of TND 100,000 maximum per project. Given the absence of data related to the profitability of these enterprises ex post, there was no analysis carried out at the end of the project.

6. **Economic analysis.** The economic assessment of the project investments is structured as follows: (a) presentation of economic benefits per activity (mainly for Components 3 and 4) and (b) analysis of the overall project. The results are described in the following paragraphs.

7. **Dry stone thresholds and gabions.** These have the effect of avoiding the loss of useful land within the watershed. The area of 1 ha corrected consists of treating about 300 m of gullies by dry stone thresholds with 10 thresholds of 3 m<sup>3</sup> or 30 m<sup>3</sup> per hectare. Sedimentation upstream provides favorable

<sup>13</sup> Study conducted across 16 sectors (823 households).



soil for revegetation of the ravines. The unit cost of such works is TND 720 per hectare for thresholds and TND 1,500 per hectare for gabions. The economic benefits from such works have been estimated through losses avoided of agricultural land. Cereals cultivated further from the gullies have been used as proxy to value economic benefits. An economic analysis conducted in the Barbara watershed shows an economic benefit of TND 900 per hectare. This analysis suggests that the social profitability of the investment will rely on the choice of crop and agricultural practices within the areas close to gullies and reservoirs.

8. **Rangelands improvement.** Under this subcomponent, project intervention consisted of improving the existing degraded rangelands in areas with high forage needs. Calculations of the economic value of the increased forage production<sup>14</sup> estimated benefits from this type of intervention at TND 164 per hectare, which, in the context of the project that covered 12,127 ha of rangelands, amounts to TND 1,988,828. Given that the total cost of the intervention is TND 1,819,050,<sup>15</sup> the BCR is 1.09.

9. **Agroforestry.** Olive trees plantations that represent the major part of the intervention covering about 16,000 ha will not only contribute to the conservation of agricultural land but will also increase agricultural production at the national level with an additional production of about 30,000 tons per year at full development, with the gross value of the additional production of TND 24 million per year. The BCR of 1.5 indicates that for each dinar invested, the investor will receive 1.5 dinars in profit.

10. **Improved access.** The project provided financing for small-scale infrastructure facilities required to improve the overall economic activity. The model recently developed for Integrated Landscape Management Projects (forest access and intracommunal road) has been used as proxy for this type of investment, to illustrate how better access would increase the volume of production collected and transported within the road area and reduce the transport cost. Furthermore, improved roads resulted in cost and time savings for the village population. In this model, the 10 km road serves three forest villages, connecting them to the nearest town. The base EIRR for this model is 14 percent, which is above the opportunity cost of capital (10 percent).

11. **Overall project economic analysis.**

- (a) **Ex ante.** At appraisal, an ERR for the project was calculated taking into account benefits expected to accrue through increased agriculture and fodder production within the project area. Calculations of the benefits for each crop were based on the areas covered by the project based on the number of sown hectares. Project benefits were assumed to essentially consist of increases in additional agricultural production in project areas, through the improvement of cropping practices and the introduction of crops with a higher added value. Furthermore, given the various land uses in different agroecological sectors, technical packages were assumed to be extended to producers through advisory services, to maximize the use of cropping patterns and improve producer know-how. The ERR was estimated at 17 percent over 20 years.

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<sup>14</sup> World Bank, PROFOR Analysis.

<sup>15</sup> Unit costs of TND 150 per ha.



- (b) **Ex post.** At project completion, the ERR was recalculated, using the methodology employed at appraisal, and applying actual data (yields, cropping patterns, production costs and prices, and so on), as collected by ODESYPANO.

12. **Key features of the analysis.**

- (a) Areas under cereal culture remained unchanged
- (b) Fallow land areas slightly reduced
- (c) Areas under olive tree culture increased due to the popularity of the agroforestry activity under the project (nearly 16,000 ha of new plantations)
- (d) Decrease in areas under horticultural crops, as these crops appeared to be difficult to manage for the population traditionally involved in livestock
- (e) Increase in areas under fodder crops and introduction of new species (notably leguminous species)
- (f) Overall, notable increase in yields (+25 percent for wheat, +27 percent for olive, and +13 percent for fodder crops)

13. The economic analysis conducted at appraisal presents the key indicators related to the proposed investment (rate of return, NPV, payback period, and profitability index). Thus, from an economic point of view, the investment created value, since its rate of return—estimated at 20 percent—is greater than the opportunity cost of capital (10 percent used in the analysis). The total amount of value creation has been estimated at TND 141 million over 20 years that corresponds to the investment of TND 87 million.<sup>16</sup> The 20-year period was taken into account for natural resource management and agroforestry activities whose key benefits will be fully visible in the long term. In this context of long-term benefits, the payback period has been estimated at nine years, meaning that in 2019 the cumulative benefits will recover the cost of the investment, which is consistent with the expected benefits in natural resource management, agroforestry, and sustainable development. Finally, the BCR was estimated at 1.6, which represents the creation of net worth generated by one public dinar invested. In other words, for a dinar invested, the investor will receive TND 1.6 in profits, which can be considered as an underestimate, because many benefits (the ones discussed earlier, as well as unquantifiable benefits such as capacity building, preservation of biodiversity, and job creation) could not be estimated due to the methodological limitations or lack of data.

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<sup>16</sup> *Rapport d'évaluation finale du PNO4.*



## ANNEX 5. BORROWER, CO-FINANCIER AND OTHER PARTNER/STAKEHOLDER COMMENTS

- 1. Overall, ODESYPANO agrees with the World Bank ICR assessment with slight differences in ratings.** <sup>17</sup> ODESYPANO reviewed the draft World Bank ICR and provided data corrections and clarifications on the project storyline which were incorporated in the final ICR. With regard to the Project's ratings, ODESYPANO provided the following comments: (i) the World Bank's assessment of the quality at entry should be less negative in view of the Project's results and achievements, as well as implementation performance; (ii) the M&E system delivered as per the agreed planned and, as such, should be rated satisfactory; and (iii) IFRs were submitted to the World Bank on time but delays were indeed experienced in finalizing as per World Bank's comments and recommendations.
- 2. The ODESYPANO's ICR<sup>18</sup> highlights the relevance of PNO4 before, during and after the revolution to address the specific issues of the northwest regions in line with the strategic orientations of the different governments.** The project design relied on lessons learned from the predecessor operations with the objective of consolidating their achievements. The objective was to continue addressing regional disparities and social equity by improving the livelihood of rural communities while slowing down natural resources degradation. The IPA was at the core of ODESYPANO's approach based on the experience accumulated under the previous phases. Despite an uncertain post-revolution institutional context, the approach was maintained all along project implementation and stimulated contribution of various stakeholders.
- 3. The agency's ICR rates the project's efficacy and efficiency as satisfactory since most expected outputs were achieved or even surpassed within the initial budgetary allocation.** The socioeconomic index reached 124.7 percent above the 122 percent target. The crop yield indexes at 121 percent was slightly above its 120 percent target, while the livestock index largely surpassed this target with a final score of 138 percent. The project also delivered all the expected natural resource restoration and conservation realizations, including significant expansion of areas under soil and water management, improved pastures and perennial plantations. Project costs were significantly increased for the fourth component due to the higher cost to upgrade feeder roads to the appropriate standard.
- 4. The overall PNO4 impact is evaluated as tangible and significant.** ODESYPANO highlights the relevance and importance of the IPA to stimulate local development and help grassroots organizations play a stronger role in mobilizing communities and facilitation PDC elaboration and implementation. Through training and technical advice, PNO4 contributed to improve the performance and incomes of livestock farmers. Feeder roads helped service providers reached remote areas while offering a better access to markets and social services to remote rural households. According to the ODESYPANO's ICR, natural resource protection activities had an impact on slowing down rainfall run-offs leading to erosion reduction and downstream infrastructure protection (no data available). This ICR develops a series of lessons and recommendations, including the need to: (i) continue the API while adjusting the methodology to new realities and providing for capacity building to grassroots organizations; (ii) mobilize new partners to co-finance the PDC execution; (iii) prioritize training and technical advice for

<sup>17</sup> ODESYPANO's transmission letter No. 30/2017/UCP, dated December 21, 2017.

<sup>18</sup> ODESYPANO. June 2017. *Rapport d'achèvement du PNO4*.



smallholders and support their inclusion in value chains; (iv) expand the land consolidation operation which is critical for many smallholder farmers; and, (v) continue supporting the AGRs while establish links with microfinance institutions. The ICR concludes that the sustainability of all the PNO4's investments and achievements is at risk in the absence of any follow-up investments by the GoT or donors.



## ANNEX 6. SUPPORTING DOCUMENTS

- Letters to Government
- Aide-Mémoires
- ISRs
- Project Appraisal Document (56483-TN)
- Project Performance Assessment Report (82308-TN)
- ICRR, ICR00001314
- Loan Agreement 7986-TN
- *Commentaires de l'ODESYPANO concernant le Rapport d'Evaluation des Performances du PNO3*
- Project Paper RES20298
- *Etude d'Evaluation Finale des Indices Socio-Economiques et agricoles du PNO4, Juin 2017*
- *Rapport d'Evaluation Finale du PNO4, Juillet 2017*