



on food and nutrition security and sustainable **Agri**culture

# **Final Report**

### Deadline Final Report: 31.10.2022 | 17:00 CET

Project	
ID	LEAP-AGRI-215
Acronym	RAMSESII
	Roles of Agroforestry in sustainable intensification of small
Full Project Title	farMs and food
	SEcurity for Societies in West Africa
Run Time	48 mois
Starting Date -	September 2018 - August 2022
End Date	
Reporting Period	[09.2018] à [08.2022]

Coordinating Institution	
Abbreviation	I.R.D.
Full Name	French National Research Institute for Sustainable Developement
Legal representative	Dr. Valérie VERDIER
Country	France

Project Coordinator	
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Principal Investigator	
Principal Investigator (PI)	[Ms/Mr   Title       OTHER NAMES]
Phone PI	[ phone number]
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<b>Project Partner</b>			
Institution [Abbreviation & Full Name]	Country	Funder [Abbreviation & Full Name]	Funder's Country
CIRAD La recherche agronomique pour le développement	France	ANR Agence Nationale de la Recherche	France
WUR Wageningen University &	The Netherlands	The Netherlands - MinEZ Ministry of	The Netherlands





#### on food and nutrition security and sustainable Agriculture

Research		economic affairs / Agriculture and Nature Knowledge Department	
INERA Institut de IEnvironnement et de Recherches Agricoles	Burkina Faso	<ul> <li>AFD Agence Française de Développement</li> <li>FONRID Fonds National de la Recherche et de l"innovation pour</li> </ul>	France Burkina Faso
		le développement	
ISRA Institut Sénégalais de Recherches Agricoles	Senegal	<ul> <li>AFD Agence         Française de         Développement</li> <li>FIRST-DFRSDT         (Ministère         enseignement</li> </ul>	France Senegal
		supérieur et de la recherche)	
WASCAL West African Science Service Centre on Climate Change and Adapted Land Use	Burkina Faso	AFD Agence Française de Développement	France
Birdlife International	The Netherlands, Senegal, Burkina Faso	not funded	
APAF Association internationale pour la promotion des arbres fertilitaires, de l'agroforesterie et la foresterie	France, Senegal, Burkina Faso	not funded	
GSA Global Shea Alliance	Ghana	not funded	

### **General information**

Has the Consortium Agreement been finalized and signed ?  ${\sf No}$ 

When the Consortium Agreement been finalized and signed ? Finalized but not signed by all partners

In case the consortium agreement has not been signed by all partners, please indicate who signed it and who did not.

IRD, Cirad and INERA signed at the date of 27th October 2022

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Have all project partners received funding contracts from their national funding party for the starting expected date of the project ?
Yes

# Have all project partners been granted the expected funds from their national funding party?

Yes from their national funders. Funds from AFD that depend on insitution financial reports remain to be provided to INERA and ISRA

In case the expected funds have not been granted, please indicate details and state the funding party(ies) which did not provide the funds.

Not relevant

#### **Founder**

Not relevant

#### **Project Website - if established**

https://www.ramsesiiagroforesterie.com

#### Comments, if No

Not relevant

# Have all project partners started with their work according to the work plan ? ${\sf Yes}$

#### **COVID19 Impact?**

Due to the COVID in February 2020, including working in shifts in the offices, administrative work was severely slowed down while field work was completely stopped, the quarantine of most cities and the total stop of public transport and mail had major impacts on administrative and management work. Experiments in farmers' fields, continued fieldwork by students, maintaining contacts with producers and other stakeholders were compromised, as was downloading data from automatic measurements (weather and flow stations) before the data loggers were saturated, etc. Teleworking was a challenge given the poor internet access in Senegal and Burkina at times. Restrictions were lifted by mid-May 2020 in both countries.

In addition, due to increasing insecurity in Burkina Faso, field sites are now permanently inaccessible for European partners and at certain times for Burkinabe partners. Travel outside the major cities (Ouagadougou and Bobo-Dioulasso) is prohibited for French partners, making it impossible for them to work in the field. Dutch partners were completely banned from entering Burkina Faso until mid-2022.

### **Update Publishable Summary in Progress**

#### Summary

The publishable summary should be based on the projects summary that has been prepared for the kick-off and mid-term meeting and should include updates of all the distinct parts described below:

- It is widely recognised that the intensification of agroforestry contributes to a sustainable increase in agricultural production, to the resilience of societies and to food and economic security, which is urgent in the current context of population growth, market globalisation and climate change in West Africa, where 80% of agriculture is rainfed. But how can it be implemented in a way that maximises its adoption by farmers?
- Analysis of the data collected on the path factors and ecosystem services provided by current agroforestry parks is still ongoing. The last platforms met in 2022 (Covid pandemic in 2020). Modelling is far from complete, although it is well advanced. Despite these delays,

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many preliminary results have been produced and disseminated at international conferences (50 participations) and even published or submitted (30 papers). About 90 young people have contributed to the research work of RAMSES II (students or short jobs).

• Population densities in the project areas are often well above the threshold of 50 inhabitants/km² which guarantees balanced and healthy parks. The current monetisation of the rural economy and high migration flows raise the question of the very usefulness of the current parks. Indeed, we have seen that large farms, self-sufficient in cereals, are more likely to maintain their parks, while small farms increase their activities and external income (jobs in town). We have observed a paradox between the recognition of the usefulness of parks and the lack of maintenance and regeneration of them. Increasing forest cover in agricultural areas therefore seems only possible through innovation. Technical innovations already exist. Their use must be contextualised according to the local constraints and priorities of farmers through social and political measures that respect customary rights and social equity.

Public web site : <a href="https://www.ramsesiiagroforesterie.com/">https://www.ramsesiiagroforesterie.com/</a>

### **Further Topics**

# How do you refer to the National Development Plans of the countries involved in your research?

For ISRA, the Senegalese economy is mainly based on the agricultural sector, which employs more than 60% of the working population. In this regard, the State of Senegal has implemented major programs to improve, strengthen and modernize the agricultural production base through the policies defined in the Plan Senegal Emergent (PSE), in its PRACAS component (Program for Accelerating the pace of Senegalese Agriculture). For INERA (one of the four national research institutes), the research activities are developed in accordance with Burkina Faso's National Action Plan for the Environment (PANE). It is a multisectoral document whose main objectives are to seek a socio-ecological and socioeconomic balance that will contribute to self-sufficiency and food security and offer better living conditions to the Burkinabe population. WASCAL refers to the National Development plans in Burkina Faso and Senegal by collaborating with national key stakeholders (Municipalities, Ministries, farmers cooperatives, research institutes, NGOs) to meet key stakeholder needs including decision makers. For French teams, the French National Strategy for Sustainable Development (SNDD) 2015-2020 aims, among other things, to strengthen pedagogy and support for stakeholders to help them structure and amplify their approaches in favour of ecological transition, at national, European but also international level with the axis 9 "Promoting sustainable development at European and international level".

#### Which policy relevance is embedded in your research?

For ISRA, the research carried out within the framework of RAMSES II fits perfectly into Senegal's environmental policy as set out in axis 4 of the PES (sustainable reforestation of the national territory in conjunction with local authorities; creation of a national reforestation agency) but also with the adoption of the National Strategic Investment Framework for Sustainable Land Management (CNIS/GDT).

For INERA, Burkina Faso's national development plans are based on two fundamental aspects: Sustainable Development and the Fight against food insecurity, to which is added the gender aspect. This is where our research in RAMSESII is relevant.

WASCAL research makes sound to policy since the proposed bio economic model they develop aims at providing innovative intensification scenario suited to the studied parklands to farmer's organisations for their resilience and food security.

French research for development is based on 17 Sustainable Development Goals (SDG) among which the RAMSESII project mainly answers to the 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture, 5: Achieve gender

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equality, and 15: Protect, restore and promote sustainable use of terrestrial ecosystems, through the goal 17: "Revitalize the global partnership for sustainable development". Two of the Dutch focuses to which the RAMSESII project contributes are 1) sustainable trade and investment 2) food security, agricultural development, water and renewable energy.

# How would you like to see your results being communicated to policy makers and which policy makers ?

The research results will be communicated through national institutions and bodies, and usual international tools of research valorisation: conferences, seminars, publications, workshops of National Research Centers that are expected to be forwarded to Agricultural, Breeding, Waters and Forests and environment Ministries.

We wish our results will be communicated also through agricultural fairs, Multistakeholder Platforms (MSPs) local and endogenous media, social media to decision makers: Regional and provincial agricultural directorates, agricultural extension agents, NGOs and farmers organisations, etc.

# How did you develop interactions with other "Non LEAP-Agri" projects related to similar topics in your countries?

Synergies are being established by ISRA in Senegal with other projects working in the field of the regreening of the park, in particular to combat the degradation of the environment and plant cover. Among these projects, the project on "Communities Greening the Sahel (CRS/IED)", the "Regreening" (World Vision) project. The INERA team of the RAMSES II project is involved in other similar projects in Burkina. Interaction with other action-research projects is also developed through collaboration with farmers' organizations (shea producer networks, NGOs) involved in the RAMSES II project. The French teams involved in RamsesII are involved in several other projects in common sites in Senegal and Burkina Faso: DSCATT (2019-2023; https://dscatt.net); H2020 Sustain Sahel (2020-2025 https://www.sustainsahel.net);

WUR interacts through the Programme Pro-ARIDES 2021-2030

https://proarides.org/en/home/) and the project DESIRA-LIFT (2021-2024

https://www.desiralift.org)

Finally, most of the NGOs and associations in Senegal and Burkina Faso, among with APAF and Birdlife, are involved to participate to different projects around the Great Green Barrier.

#### How do you perceive the collaboration with your funding agencies?

The collaboration with all the funding agencies is good and rather supple, based on a lot of very helpful communications, and since all the funded institutions provided timely report of their research activities and financial report.

# How do you perceive the collaboration with the LEAP-Agri consortium as a whole ?

As coordinator, I find the meaning and objectives of Leap-Agri's requests often difficult to understand. Questions asked are often impossible to answer (see the excel file). I found LEAP-Agri consortium as being disconnected from the scientific research we are conducting and from our field realities. Indeed, they seem much more interested by the impacts than by the project research outputs. I presume that they are interested in how the projects are useful to the social and economic development and North-South cooperation and sincerely question whether the format they chose is effective.

Budget								
Totals of the Project Budget:	IRD - ANR	CIRAD - ANR	WUR - MinE	WASC AL -	INERA -	INERA - FONR	ISRA - AFD	ISRA - DFRS

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	€	€	Z €	AFD €	AFD €	ID €	€	DT €
1. Employment costs	51,83	10,7 16	105,4 51	42,90 0	53,65 6	0	72, 512	0
2. Research costs	48,90 0	43,50 0	52,45 2	2, 099	125, 835	38,3 00	165, 120	25,00 0
3. Travel and meeting costs	35,06 2	5,080	3 5,700	1,820	27, 617	0	5,999	30,46 3
4. LEAP-Agri kick- off, mid-term and final meetings	1,200	600	3,000	1, 500	0	1,500	1,20 0	0
5. Knowledge Sharing and Research Uptake costs	1,000	0	28,20 0	1,680	1,500	0	7, 766	1, 535
6. Overheads	12,00 0	8,0 00	25,00 0	0	0	0	0	0
7. Other costs	0	32,1 03	0	0	41, 390	10,20 1	36,92 1	17, 916
8. Total project costs	149,9 98	99,9 99	249,8 03	49, 999	249, 998	50,00 1	289, 518	74,9 14

### **Additional new Project Partners**

#### Please enter additional project partners here.

No additional partner

### **Addressing SDGs**

### Food Security, Food Safety, Nutrition & Poverty Reduction

#### SDG 1 - End poverty in all its forms everywhere

#### Food Security, Food Safety, Nutrition & Poverty Reduction | Goal 1.4

By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.

#### 2 = Adequately covered

#### Note for your project, how you meet these objectives

- improves the diet of the target population by promoting diversity in food production with tree products
- contributes to the improvement of food security by promoting the stability of food production through regulation of the climate change impacts by the forest cover and diversity of productions in the face of price volatility
- respects the food preferences of the target population by promoting agroforestry species that have been used for centuries by the target populations and according to those asked by the village members of the innovation platforms.

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#### Food Security, Food Safety, Nutrition & Poverty Reduction | Goal 1.5

By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters  $2 = Adequately\ covered$ 

#### Note for your project, how you meet these objectives

- takes into account issues of applicability by the target population by promoting agroforestry species that have been used for centuries, and by targeting the smallholdest farms that, based on the results of our project, increase external activities and income (mainly urban employment) and decrease agroforestry practices.
- respect the food preferences of the target population see answer to Goal 1.4

SDG 2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture

#### Food Security, Food Safety, Nutrition & Poverty Reduction | Goal 2.1

By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round

1 = Poorly covered

#### Note for your project, how you meet these objectives

- issue of infants was not addressed
- takes into account issues of applicability by targeting the smallholder farms that, based on the results of our project, increase external activities and income (mainly urban employment) and decrease agroforestry practices.

#### Food Security, Food Safety, Nutrition & Poverty Reduction | 2.2

By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons

0 = no information

#### Note for your project, how you meet these objectives

Issue of addressing children under 5 years was not addressed directly

#### Food Security, Food Safety, Nutrition & Poverty Reduction | Goal 2.5

By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed

2 = Adequately covered

#### Note for your project, how you meet these objectives

Issue of genetic diversity was addressed through strengthening the local system of tree nurseries on the following trees: Piliostigma sp. shrub parkland with Sorghum sp., a tree of high economic value, Vitellaria paradoxa (karité or shea), which provides income for local communities with strong gender and international trade aspects; Sahelian shrub parkland with Guiera senegalensis with millet and nitrogen-fixing Faidherbia albida.

#### SDG 3 - Ensure healthy lives and promote well-being for all at all ages

#### Food Security, Food Safety, Nutrition & Poverty Reduction | 3.2

By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births 0 = no information

#### Note for your project, how you meet these objectives

Issue of neonatal mortality was not addressed

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### **Income Generation**

SDG 2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture

#### Income Generation | Goal 2.3

By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment  $2 = Adequately\ covered$ 

### Note for your project, how you meet these objectives

Our project addresses:

- Local knowledge/innovations and the active participation of local innovators as it evaluates village tree regeneration techniques, particularly those carried out by women non-timber forest product (NTFP) producers.
- Potential to adaptation in local conditions by studying native agroforestry species well knowned by populations, and after the project, NGOs and Forester Research Institutes will provide seedlings of what villagers will ask within the innovation platforms
- Simplicity to understand and implement with the most known : farmer-managed natural regeneration (FMNR)

#### **Income Generation | Goal 2.4**

By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality

3 = Excellently covered

#### Note for your project, how you meet these objectives

Our project aims at economic sustainability, improvement of total farm productivity and stability, capital formation as agroforestry is recognised as being one of the best practices capable of providing all these services: resilient agricultural practices that increase productivity and production, help maintain ecosystems, enhance the capacity to adapt to climate change, extreme weather, drought, floods and other disasters, and progressively improve soil and land quality.

#### Income Generation | Goal 2.c

Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility

1 = Poorly covered

#### Note for your project, how you meet these objectives

Our project did not address functioning of food commodity markets but the inventory of the dominant Non Timber Forest Product value chains provides insights in potential for adaptation to local conditions.

SDG 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

#### **Income Generation | Goal 8.6**

By 2020, substantially reduce the proportion of youth not in employment, education or training  $2 = Adequately\ covered$ 

#### Note for your project, how you meet these objectives

Our project addresses local knowledge/innovations and the active participation of potential local innovators by training about 80 young people during the project period on at least one agroforestry issue.

SDG 9 - Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

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#### Income Generation | Goal 9.b

Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities  $2 = Adequatelv \ covered$ 

#### Note for your project, how you meet these objectives

Our project addresses potential for adaptation to local conditions, supporting domestic technology development, research and innovation in agroforestry practices in Senegal and Burkina Faso where the partners are involved in value addition to agroforestry commodities.

Our project did not ensur a conducive policy environment and an industrial diversification, what would be a political interference which is not the scientists role, but highlighted the need to adapt policies to better support current innovative initiatives.

#### **Income Generation | Goal 9.3**

Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets  $0 = no\ information$ 

#### Note for your project, how you meet these objectives

Our project did not address the issue of small, industrial and other enterprises, or financial services.

#### **Natural Resources**

#### SDG 7 - Ensure access to affordable, reliable, sustainable and modern energy for all

#### Natural Resources | Goal 7.3

By 2030, double the global rate of improvement in energy efficiency

0 = no information

#### Note for your project, how you meet these objectives

Our project did not address the energy issue

#### SDG 12 - Ensure sustainable consumption and production patterns

#### Natural Resources | Goal 12.3

By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

0 = no information

#### Note for your project, how you meet these objectives

Our project focused mainly on sustainable production thanks to intensification of agroforestry practices, not on food waste.

#### Natural Resources | Goal 12.4

By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment

1 = Poorly covered

#### Note for your project, how you meet these objectives

Our project focused on environmentally sound management of agriculture through agroforestry practices that reduce chemical inputs. However, it did not address the management of chemicals and their release to air, water and soil.

#### SDG 13 - Take urgent action to combat climate change and its impacts

#### Natural Resources | Goal 13.1

Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

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#### 3 = Excellently covered

#### Note for your project, how you meet these objectives

Identifying the conditions for sustainable intensification of agroforestry practices was the main objective of our project. The project has thus contributed to highlighting the actions that still need to be taken to support agroforestry practices and, if possible, to intensify them. Thanks to the maintenance or increase of woody cover, agroforestry is recognised as effective (regulation of water flows and of temperatures, soil maintenance, carbon sequestration, etc.) in combating climate change and its impacts, and in building resilience and adaptive capacity to climate-related risks and natural disasters.

SDG 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

#### Natural Resources | Goal 15.2

By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

3 = Excellently covered

#### Note for your project, how you meet these objectives

Same response as for SDG 13.1 above

#### Natural Resources | Goal 15.3

By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world

3 = Excellently covered

### Note for your project, how you meet these objectives

Same response as for SDG 13.1 and 15.2 above

### **Knowledge & Capacity Development**

SDG 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

#### Knowledge & Capacity Development | Goal 4.4

By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

3 = Excellently covered

#### Note for your project, how you meet these objectives

Our project has trained or employed about 90 young people and adults, including 27 women and 62 men, in scientific research on a wide range of agroforestry-related topics in their countries, thus contributing to improving the human capacity of youth in Senegal and Burkina Faso in this area.

#### **Knowledge & Capacity Development | Goal 4.7**

By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development

2 = Adequately covered

#### Note for your project, how you meet these objectives

Same answer as for SDG 4.4 above

#### SDG 5 - Achieve gender equality and empower all women and girls

Knowledge & Capacity Development | Goal 5.1

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End all forms of discrimination against all women and girls everywhere

2 = Adequately covered

#### Note for your project, how you meet these objectives

Almost 30% of the 90 youth and adults trained or employed by our project were women (27 out of 90). The project made explicit reference to women and men in its objectives.

SDG6 - Ensure availability and sustainable management of water and sanitation for

**Knowledge & Capacity Development | Goal 6a**By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitationrelated activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies

0 = no information

#### Note for your project, how you meet these objectives

Not relevant to our project

SDG 9 - Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

#### Strategic Alliances | Goal 9.c

Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020

#### Note for your project, how you meet these objectives

Not relevant for our project. We used the online platform Basecamp3 to share all documents and communicate, but it was not used much by the African partners who have a weak internet network. We did help all African teams in becoming confident with tools for online meetings

#### SDG 12 - Ensure sustainable consumption and production patterns

#### **Knowledge & Capacity Development | Goal 12.8**

By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

3 = Excellently covered

#### Note for your project, how you meet these objectives

Our project addresses agroforestry innovation systems through a network of organisations and individuals that provide new products and services in agroforestry practices and rural development, such as ISRA, INERA, APAF and the NGO Birdlife.

#### SDG 13 - Take urgent action to combat climate change and its impacts

#### Knowledge & Capacity Development | Goal 13.3

Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

3 = Excellently covered

The 90 young people and adults trained or employed, and the new knowledge generated by our project (already more than 30 scientific publications and around 60 scientific and public communications in all modes, which will increase with post-project valorisation) will help Senegal and Burkina Faso to take urgent measures to support the sustainable intensification of agroforestry practices as a response to climate change mitigation, adaptation and impact reduction.

### Strategic Alliances

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#### SDG 12 - Ensure sustainable consumption and production patterns

#### Strategic Alliances | Goal 12.a

Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production

3 = Excellently covered

#### Note for your project, how you meet these objectives

Our project has trained or employed about 90 young people and adults, including 27 women and 62 men, in scientific and technological research on a wide range of agroforestry-related topics, thereby improving the capacity of Senegal and Burkina Faso in this area, helping them to move towards more sustainable production patterns.

# SDG 17 - Strengthen the means of implementation and revitalize the global partnership for sustainable development

#### Strategic Alliances | Goal 17.7

Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed

2 = Adequately covered

#### Note for your project, how you meet these objectives

The results of our project and the mechanisms to effectively translate research findings into policy and practice at relevant levels are found in our project's innovation platforms, involving national research institutions and universities, as well as NGOs and local associations. Today, with rising temperatures and drought, Europe should be more inspired by the development, transfer, dissemination and diffusion of environmentally friendly agroforestry that are already in progress in developing countries for decades, rather than pretending to transfer its own unsuitable agroforestry technologies to these countries.

#### Strategic Alliances | Goal 17.15

Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development

2 = Adequately covered

#### Note for your project, how you meet these objectives

If the innovation platforms work, the use of our project results, based on sound and realistic assumptions about the social, economic and environmental circumstances of agroforestry practices in Senegal and Burkina Faso, is now under the responsibility and leadership of the African partners (mainly ISRA, INERA, WASCAL, APAF), capable of channeling national resources into well-designed action research programmes and partnerships geared towards the application of these results.

#### Strategic Alliances | Goal 17.16

Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries

3 = Excellently covered

#### Note for your project, how you meet these objectives

Our project has strengthened the Euro-African partnership on sustainable intensification of agroforestry practices, complemented by multi-stakeholder partnerships to mobilise and share knowledge, expertise, technology and financial resources, as indicated in the table "Indicators" sheets 1., 2., 3. and 4.

#### Strategic Alliances | Goal 17.19

By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries 0 = no information

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#### Note for your project, how you meet these objectives

Not relevant. Our project did not address gross domestic product, nor support specifically statistical capacity-building

### **Partners who left the Project**

Have project partners left the project already?

<del>Yes</del> No

#### **Progress**

Describe what progress has been achieved (400 words):

A systemic, multidisciplinary and multi-scale scientific diagnosis was carried out on the trajectory factors of agroforestry parks, and on the ecosystem services they currently provide. Population densities in the project areas were found to be well above the threshold of 50 inhabitants/km<sup>2</sup> that quarantees the balance and health of the parks. In addition, they face problems of drought, changes in agricultural practices, low value added and poor skills of many collectors and processors. Large farms, self-sufficient in cereals, are more likely to maintain their parks. Small ones increase their activities and external income (jobs in the cities). There is a strong contradiction between the recognition of the usefulness of parks and the lack of care for their maintenance and regeneration. More than 40 non-timber forest products have been identified as having high potential to support the rural livelihoods and economy. Yet, they are largely neglected by stakeholders and poorly regulated by governments. In Senegal, we found that proximity to larger F. albida trees significantly increases millet grain and straw yields (up to five times), soil organic carbon, N and P, water content, etc., with an influence up to 17 m around trees. These results support the need to increase tree densities. In Burkina Faso, over 4 years research, we found that intercropping Piliostigma alone does not increase sorghum yields because it stabilises soil C content but not N and P. However, Piliostigma is widely used as a mulch to improve soil fertility. A negative or no effect of proximity to shea was observed on sorghum growth and yield. It is a typical agroforestry species protected mainly for its economic value. The analysis of socio-economic databases are expected to reveal the trade-offs made by farmers between the services and disservices provided by trees. The current monetisation of the rural economy and the strong migration flows raised the guestion how to innovate agroforestry parks in such a way that both parks and farmers benefit. We found that many technical innovations already exist: nursery, grafting, and different types of farmer-managed natural regeneration (FMNR). In the south-central region of Burkina Faso, FMNR is adopted at 65%, with poor farmers and those who own their plots more likely to adopt it, but with less diversity. There is therefore a real need for social and political innovations to re-enchant agroforestry parks in order to meet new social and especially economic needs, while respecting customary rights and mores, and social equity, so that these innovations can be sustainably adopted by producers and other actors in the related value chains.

#### General Outline

i. Stakeholder Engagement; ii. Capacity Building; iii. Communication; iv. Monitoring & Evaluating of Uptake.

i. Each partner institution contributed to all work packages through a co-supervision North-South of the student works. Each WP was co-coordinated by one institutional representative from the South and one from the North. In WP3 and WP4, the

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contribution of partners from the South was privileged because they are permanent in their country, and therefore able to monitor the impacts of the project and the activities of the platform on the long term.

**ii.** About 85 people were trained mainly at the levels of engineer (20), master (37), but also PhD (8), and technicians (4) post-doc (1) and fixed-term contracts (20). **iii.** 

- RAMSES II kick-off meeting, Ouagadougou, Burkina (face to face), September 2018:
- LEAP-Agri kickoff meeting face to face, Bari, Italia, October 2018; 1 poster+ 1 short talk on the project were provided;
- Project team meeting Montpellier May 2019 face to face;
- RAMSES II mid-term meeting, Dakar, Senegal (face-to-face and on line), November 2020; we organized a student competition: 2 students (master or PhD) per WP 1 from Senegal and 1 from Burkina Faso in the format "My works in 10 minutes and 5 slides". The winner from Burkina wined one week trip to visit the Ramses II senegalese study sites;
- LEAP-Agri meeting (on line) April 2021; the executive team of the RAMSES II project explained to their donors the reasons why the project needs to be extended by one year;
- LEAP-Agri meeting (on line) on "Knowledge Sharing and Stakeholders Engagement Matchmaking" December 2021; short video clip on preliminary results of the RAMSES II project was provided;
- RAMSES II final meeting in Wageningen Netherlands (hybrid), June 2022;
- 1 public website + project visibility on WUR, ISRA, Eco&Sols and Aïda web sites :
- More than 50 communications at international conferences (oral and posters);
- About 30 publications in peer-reviewed journals already published or submitted, half in open access journals.

vi. As part of WP4 Task 4.2, the ToC facilitator (Jan Brouwers, WUR) visited Senegal (face-to-face) and Burkina Faso (online since 2020) each year during the project period in workshops organized by the national partners. This allowed for four updates of the four ToCs corresponding to the four regional transects of the project respectively, while reflecting in a participatory manner on how scaling up could take place in each of them.

 Reflect on successes and challenges in research uptake as well as co-creation processes.

The article (Seghieri et al. 2020) entitled "Research and development challenges in scaling innovation: a case study of the LEAP-Agri RAMSES II project" published in AGFO explains a number of constraints and paradoxes that are related to the current short-term funding of action research. Although the ToCs helped the project teams to develop an integrated conceptual framework, the research project only has a life span of three to four years. This is a constraining limitation when dealing with agroecological and social systems based on trees that take several decades to reach reproductive maturity. The expected results at the system level at all scales, the "translation" (Vogel 2012), cannot realistically be seen during this lifetime. Research projects rarely provide all their preliminary results when they are finished (Ton et al. 2014). Most of their valorisation is done afterwards. RAMSES II has already provided an excellent score in terms of preliminary results and valorisation (see Excel table) but only the long term will provide more results after the full analysis of the collected data.

Due to their lack of interest, the fact that NGOs are not funded directly but by European research institutions was an obstacle of their participation. Finally, it was difficult to motivate European researchers and most African researchers to participate in the platform meetings, as their interests were often more focused on their scientific discipline.

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### **Project's Indicators and Impact Pathway and Cluster Reporting**

#### **Impact Pathway**

#### Problem to be addressed

1. Need to concurrently sustainably increase income, food and environmental security in West Africa. 2. Fallow periods under pressure but needed to maintain biodiversity, tree generation and soil fertility. 3 Conventional agriculture intensification has negative environmental impacts, is not sustainable for small farmers, and has adverse effects on parklands

#### Working hypothesis for a solution

Project partners have the hypothesis that a relevant mix of stakeholders is interested to be more engaged in finding sustainable landscape multi-level agroforestry intensification scenarios: farmer households at project sites; value chains operators in food, timber and non-timber forest products; extension agents, development NGOs (APAF and Birdlife International); extension agents; policymakers; and the scientific community including students. We also have the hypothesis that this will provide more perspectives for vulnerable and under-represented groups women and youths

### <u>Outputs</u>

#### **Research Outputs**

- 1. Typology of households and quantification of different woody species impacts on soil and on associated crop yields;
- 2. Maps of tree densities and vegetation cover dynamics on studied sites along transects;
- 3. Critical factors of parkland trajectories identified at various scales (changes in livelihoods, ethny, demography, development projects, reforestation projects, etc.);
- 4. Academic and research reports, publications and communications at various congress, and technical sheets;
- 5. Two innovation platforms set up in each country (Senegal, Burkina Faso).

#### Link to publication

See the excel indicator table, sheet 3. "Scientific Tec literature". There are too much details to dig into this list and divide them according to one of the R outputs.

#### **Indicators**

See the excel table of the indicator overview. There are too much details to enter in this small space.

#### **Progress (per indicator)**

The large number of indicators do not allow to report on all indicators. Progress as per indicator have been reported in annual reports, see details Excel file indicators

#### **Outcomes**

#### **Research Outcomes**

1. Sustainable intensification of agroforestry products that are part of the resilient farm, territory and landscape systems. 2. More resilient agroforestry landscapes. 3. Collaborative parklands intensification management involving key stakeholders and new institutional governance arrangements. 4. Increased contribution of parklands to food and income security

#### **Indicators**

R Outcome 1: See reports and publications WP 3 and 4. R Outcome 2: see reports and publications WP 1 and 2. R Outcome 3: see results of the innovation platforms in all projects sites (publications Base). R Outcome 4: see publications BASE

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R Outcome 1: See reports and publications WP 3 and 4. R Outcome 2: see reports and publications WP 1 and 2. R Outcome 3: see results of the innovation platforms in all projects sites (publications Base). R Outcome 4: see publications BASE

#### **Progress (per indicator)**

Progress per outcome indicator at the end of project period is presented in the Excel file Indicators. The main outcomes indicators are the 50 dissemination actions (Tab 2), the 29 publications (Tab 3), the 13 actions for dissemination of scientific publications and innovations (Tab 4) and the 88 African colleagues assisted by the project in their career development (Tab 5).

#### **Impact**

#### **Scientific and Socioeconomic Impact**

Impact can only be achieved and measured at least 5 years after project end. So not possible to measure now by mid 2022. Special Journal of BASE with contributions from all WPs is a key scientific outcome.

#### Recommendation for upscaling

See Seghieri et al. in Agroforest Syst (2021) 95:1371–1382 (https://doi.org/10.1007/s10457-020-00532-3). Potential for out-scaling in parklands elsewhere in Africa with similar agroecological conditions like Mali, Niger, Chad and Soudan.

#### Topics still to be addressed (the knowledge gaps)

1. Understand the dynamics and effects of climate change on parklands. 2. How to make parkland governance more inclusive

#### **Information for Cluster Reporting**

# How did you develop interactions with other LEAP-Agri projects in relation to the cluster approach?

An overlap exists between the RamsesII and Wagrinnova projects through the sharing of the Dano site (Koumbia-Dano regional transect for RamsesII), and the IRD team involved in the SENS Joint Research Unit (ex-GRED). The experiment of planting woody species in lowlands cultivated with rice around Dano is presently conducted. This is an innovation in Burkina Faso because no woody species have been planted in the lowlands, which have all been completely deforested to produce rice until now. There are no other concrete interactions with other LEAP-Agri projects.

# How did you develop interactions with other Non-LEAP-Agri projects related to similar topics in your countries?

Synergies are established by ISRA in Senegal with other projects working in the field of park regreening, notably to combat environmental and vegetation cover degradation. These include the Communities Greening the Sahel project (CRS/IED) and the Regreening project (World Vision). INERA team of the RAMSES II project is involved in other research-action projects developed through collaboration with farmers' organisations (shea producers' networks, NGOs) involved in the RAMSES II project. WUR interacts through the Pro-ARIDES programme (2021-2030 https://proarides.org/en/home/) and the DESIRA-LIFT project (2021-2024 https://www.desiralift.org).The French teams (Cirad and IRD) involved in RamsesII are involved in several other Action Research projects on the same sites in Senegal and Burkina Faso: DSCATT (2019-2023; https://dscatt.net); H2020 Sustain Sahel (2020-2025 https://www.sustainsahel. net); Finally, in order to contribute to the empowerment of the innovative platforms of Koumbia and Dano that have been set up in Burkina Faso, a 6-month project (40K€) on research and socio-economic development of territories has been submitted to the Solidarity Fund for Innovative Projects (FSPI 2023) involving APAF, INERA, WUR and IRD through the Association pour l'insertion professionnelle des jeunes en Afrique (Mahna https://www.facebook.com/tierslieumahna).

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## **ANNEXES**

Tab 1	Mobilities during the project
Tab 2	Dissemination Actions
Tab 3	Dissemination Literature
Tab 4	Dissemination Products
Tab 5	Carreers

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### **Table 1. MOBILITY DURING PROJECT LIFE-TIME**

Table 1. MOBILITY DURING PROJECT LIFE-TIME NB: for IRD team, their mobilities were cofunded by IRD (Long Term Mission , i.e. several months), not only the RAMSES II project

Name of the person	Institution and Country of origin	Gende r (M/F)	Position in the project	Academic degree (High School, Graduate, master degree, PhD, Post- Doc, Professor, Researcher, etc)		Year	Destiny (location, country)	Purpose of mobility
Josiane Seghieri	IRD, France	F	Project coordinator and IRD coordinator		30	2018	Burkina Faso	kickoff meeting (03-09 Sept.) organization
Josiane Seghieri	IRD, France	F	Project coordinator and IRD coordinator	Research Director	21	2018	Senegal	Coordination of the project start-up activities in Senegal
Josiane Seghieri	IRD, France	F	Project coordinator and IRD coordinator	Research Director	5	2018	Italia	Participating to Bari Leap-Agri kickoff
Josiane Seghieri	IRD, France	F	Project coordinator and IRD coordinator	Research Director	60	2019	Senegal	Coordination of the project activites
Josiane Seghieri	IRD, France	F	Project coordinator and IRD coordinator		60	2019	Burkina Faso	Coordination of the project field activites
Josiane Seghieri	IRD, France	F	Project coordinator and IRD coordinator	Research Director	2	2019	Wageninge n	Meeting with the Dutch partners at home to coordinate a publication writing (Seghieri et al. 2019)
Josiane Seghieri	IRD, France	F	Project coordinator and IRD coordinator	Research Director	33	2020	Senegal	Coordination of the project field activites + organisation of the midterm meeting (24-27 Nov.)
Josiane Seghieri	IRD, France	F	Project coordinator and IRD coordinator	Research Director	52	2020	Burkina Faso	Coordination of the project field activites
Josiane Seghieri	IRD, Burkina Faso	F	Project coordinator and IRD coordinator	Research Director	5	2021	France	Supervision of the work of a Burkinabe PhD student during her first stay in France
Josiane Seghieri	IRD, Burkina Faso	F	Project coordinator and IRD coordinator	Research Director	8	2022	The Netherland s	Participation to the final meeting
Jan Brouwers	WUR, Netherlands	M	WP4 leader and ToC supervisor	Researcher	2	2019	Senegal	Set up ToC and M&E per site
Jan Brouwers	WUR, Netherlands	M	WP4 leader and ToC supervisor	Researcher	2	2019	Burkina Faso	Set up ToC and M&E per site
Jan Brouwers	WUR, Netherlands	M	WP4 leader and ToC	Researcher	4	2022	Senegal	Assist innovation platforms prepare

			supervisor					handing over
Verina Ingram	WUR, Netherlands	F	WP3 leader and WUR coordinator	Researcher	6	2018	Senegal	WP 1& 3 field activites
Verina Ingram	WUR, Netherlands	F	WP3 leader and WUR coordinator	Researcher	6	2018	Burkina Faso	WP 1& 3 field activites
Verina Ingram	WUR, Netherlands	F	WP3 leader and WUR coordinator	Researcher	21	2019	senegal	WP 1& 3 field activites
Verina Ingram	WUR, Cameroon	F	WP3 leader and WUR coordinator	Researcher	10	2022	Netherland s	Organization and participation to the final meeting
Verina Ingram	WUR, Cameroon	F	WP3 leader and WUR coordinator	Researcher	7	2022	France	Conference & wp0 meeting
Jolanda van den Berg	WUR, Netherlands	F	researcher	Researcher	8	2018	Burkina Faso	kickoff meeting
	a WUR, Netherlands	F	Student	Master degree	45	2019	Benin	fieldwork
Carolina Sarzana	a WUR, Netherlands	F	Student	Master degree	45	2020	Benin	fieldwork
Abdoul diallo	WUR, Netherlands	M	Student	Master degree	45	2019	Senegal	fieldwork
Abdoul diallo	WUR, Netherlands	M	Student	Master degree	45	2020	Senegal	fieldwork
Marina Zomboudré	Ouagadougou Univ. Burkina Faso	F	Student	PhD	58	2021	France	Data treatment with IRD agronomist co-supervisor and short training in agroforestry at AgroParisTrech School, Montpellier
Marina Zomboudré	Ouagadougou Univ. Burkina Faso	F	Student	PhD	15	2022	France	Data treatment with IRD socio- economic co-supervisor at Bordeaux
Marina Zomboudré	Ouagadougou Univ. Burkina Faso	F	Student	PhD	60	2022	France	Data treatment with IRD agronomist co-supervisor at Montpellier
Jean Stéphane Dabone	Ouagadougou Univ. Burkina Faso	M	Student	Master degree	7	2021	Senegal	Visit of the Senegaleese field sites and teams as the winner of an oral presentation competition between RAMSES II students at the project's mid-term meeting.
Noé Biatry	ISTOM Engeneer school France	M	Student	Engineer School 4° yr	34	2019	Senegal	Field work
Louise Ména	ISTOM Engeneer school France	F	Student	Engineer School 4° yr	34	2019	Senegal	Field work
Justine Bourg	ISTOM Engeneer school France	F	Student	Engineer School 4° yr	34	2019	Senegal	Field work
Fanny Maillard	ISTOM Engeneer	F	Student	Engineer School 4°	34	2019	Senegal	Field work
_								

	school France			yr				
	ISTOM Engeneer	F	Student	Engineer School 4°	34	2019	Senegal	Field work
Sophie Therond	school France			yr				
	ISTOM Engeneer	M	Student	Engineer School 4°	34	2019	Senegal	Field work
Athmane Bouali	school France			yr				
	ISTOM Engeneer	F	Student	Engineer School 4°	34	2019	Senegal	Field work
Camille Cedat	school France			yr				
Gaël de	ISTOM Engeneer	M	Student	Engineer School 4°	34	2019	Senegal	Field work
Certaines	school France			yr				
	ISTOM Engeneer	M	Student	Engineer School 4°	34	2019	Senegal	Field work
Césard Brosse	school France			yr				
	ISTOM Engeneer	M	Student	Engineer School 4°	34	2019	Senegal	Field work
Toan Hersant	school France			yr			J	
Maud Loireau	IRD, Espace-DEV,	F	WP1 Member	Research Engineer	12	2018	Burkina	kickoff meeting
	France			J			Faso	Č
Maud Loireau	IRD, Espace-DEV,	F	WP1 Member	Research Engineer	12	2019	Burkina	methodological co-construction
	France			J			Faso	activities
Maud Loireau	IRD, Espace-DEV,	F	WP1 Member	Research Engineer	69	2019	Sénégal	methodological co-construction
	France			8 11				activities + field activities
Philippe Lavigne		M	Task 1.2 leader	Research Director	15	2019	Senegal	fieldwork
Delville	,						U	
Philippe Lavigne	e IRD. France	M	Task 1.2 leader	Research Director	5	2022	Burkina	data treatment
Delville	,						Faso	
Christophe	CIRAD, Senegal	M	Researcher and CIRAD	Researcher	15	2018	Burkina	kickoff meeting (03-09 Sept.)
JOURDAN	- ,		coordinator				Faso	8 (11 11 11 11 11 11 11 11 11 11 11 11 11
Christophe	CIRAD, Senegal	M	Researcher and CIRAD	Researcher	30	2019	France	Sample processing, data analyses,
JOURDAN	,		coordinator					PhD training of Lorene Siegwart
Christanha	CIDAD Canagal	N /	December and CIDAD	Dagaayahay	20	2020	Evange	Comple processing data analyses
Christophe	CIRAD, Senegal	M	Researcher and CIRAD	Researcher	30	2020	France	Sample processing, data analyses,
JOURDAN			coordinator					PhD training of Lorene Siegwart
Christon's	CIDAD F	M	December J CID AD	December.	20	2021	Cámá 1	2 missions (15 dL\ f J
Christophe	CIRAD, France	M	Researcher and CIRAD	Kesearcher	30	2021	Sénégal	2 missions (15 d each) for data
JOURDAN	CIDAD E	M	coordinator	December.	10	2022	Cámá 1	sampling and scanner survey
Christophe	CIRAD, France	M	Researcher and CIRAD	Kesearcner	10	2022	Sénégal	1 mission (10 days) for scanner
JOURDAN	CIDAD E	3.6	coordinator	D 1		2000	0 1	maintenance
Christophe	CIRAD, France	M	Researcher and CIRAD	Kesearcher	7	2022	Canada	5th World Agroforestry Congress
JOURDAN			coordinator			2005		
Cathy Clermont-	· IRD- France	F	Researcher and Coord	Researcher	6	2022	Canada	5th World Agroforestry Congress

Dauphin			WP2					
Cathy Clermont-	IRD- France	F	Researcher and Coord	Researcher	4	2022	Burkina	Supervision of M. Zomboudre PhD +
Dauphin			WP2				Faso	Exchange with project colleagues on their data and their valorisation + Preparation of soil samples
Cathy Clermont- Dauphin		F	Researcher and Coord WP2		6			Supervision of M. Zomboudre PhD + Exchange with project colleagues on their data
Cathy Clermont- Dauphin	IRD- France	F	Researcher and Coord WP2	Researcher	4	2020	Faso	Exchange with project colleagues on their data in order to prepare Mid- term report and future valorisation (congres communication and publications)
Cathy Clermont- Dauphin		F	Researcher and Coord WP2		7			Participation to the project mid-term workshop
Jean Etienne Bidou	Associate researcher at IRD-France	M	WP1 contributor	Researcher	9	2018	Burkina Faso	Kick off meeting
Jean Etienne Bidou	Associate researcher at IRD-France	M	WP1 contributor	Researcher	15	2019	Burkina Faso	Surveys set up
Jean Etienne Bidou	Associate researcher at IRD-France	M	WP1 contributor	Researcher	18	2019		Surveys set up
Jean Etienne Bidou	Associate researcher at IRD-France	M	WP1 contributor	Researcher	12	2021	Burkina Faso	WP1 field activities
Jean Etienne Bidou	Associate researcher at IRD-France	M	WP1 contributor	Researcher	14	2021		WP1 field activities
Jean Etienne Bidou	Associate researcher at IRD-France	M	WP1 contributor	Researcher	5	2022	Netherland s	Final meeting
Isabelle Droy	IRD- France	F	Researcher and Coord WP1	Researcher	9	2018		kickoff meeting (02-11 Sept.) + field visit
Isabelle Droy	IRD- France	F	Researcher and Coord WP1	Researcher	13	2019		field work and methodological co- construction activities; preparation of socio-economic surveys
Isabelle Droy	IRD- France	F	Researcher and Coord WP1	Researcher	40		Senegal MLD	field work , preparation of socio- economic surveys and supervison of Ingeneer School 4° yr (ISTOM)
Isabelle Droy	IRD- France	F	Researcher and Coord WP1	Researcher	40	2019		coordination of socio-economic

Isabelle Droy	IRD- France	F	Researcher and Coord WP1	Researcher	35	2020	Senegal MLD	field work and preparation and coordination of WP1 mid term report
Isabelle Droy	IRD- France	F	Researcher and Coord WP1	Researcher	20	2021	Burkina Faso MLD	work on data surveys
Isabelle Droy	IRD- France	F	Researcher and Coord WP1	Researcher	20	2021	Senegal MLD	Preparation of communication, work field
Isabelle Droy	IRD- France	F	Researcher and Coord WP1	Researcher	10	2022	Senegal MLD	preparation of papers for publication
Isabelle Droy	IRD- France	F	Researcher and Coord WP1	Researcher	6	2022	Netherland s	Final meeting
Firmin Hien	ONG APAF-Burkina Faso	M	WP3 & WP4 contributor	Master degree	8	2022	The Netherland s	Participation to the final meeting
Marie Veyrier	Global Shea Alliance	F	WP3 & WP4 contributor	Master degree	8	2018	Burkina Faso	kickoff meeting
Monique OÏ	IRD- France	F	Project assistant	Assistant Engineer	15	2018	Burkina Faso	kickoff meeting (03-09 Sept.) organization
Pierre Couteron	IRD, France	M	WP1 Member	Research Director	10	2020	Senegal	Meeting and field visit with ISRA counterpart about remote-sensing for regional mapping (01-14 Nov.)
Serpantié Georges	IRD Burkina Faso	M	researcher	Researcher	7	2021	Senegal	Conférence Intensification Durable (CID) conference
Serpantié Georges	IRD France	M	researcher	Researcher	15	2019	Burkina faso	Field work
Girres Jean- François	UPV France	M	researcher	Researcher	15	2019	Burkina faso	Field work
Raphaël Manlay	IRD- France	M	WP2 contributor	Lecturer	8	2022	Senegal	WP2 field works
							The Netherland	Participation to the final meeting
Raphaël Manlay	IRD- France	M	WP2 contributor	Lecturer	5	2022	S	
Antoine	IDD Evance	М	M/DO contributor	Intown	150	רבחני	Conogal	MD2 field works
Lesimple	IRD- France	M	WP2 contributor	Intern	150		Senegal	WP2 field works
Olivier Roupsard	CIRAD-Senegal	M	WP2 contributor	Reseacher	7	2018	Burkina Faso	Kick-off Meeting
Olivier Roupsard	CIRAD-Senegal	M	WP2 contributor	Reseacher	7	2019	France	WCA 2019 + Ramses meeting
Sidy Sow	ISRA Senegal	M	WP2 contributor	PhD Student	90	2020	France	Training on STICS and MAESPA with CIRAD colleagues

Sidy Sow	ISRA Senegal	M	WP2 contributor	PhD Student	90	2021	France	Training on STICS and MAESPA with CIRAD colleagues
Sidy Sow	ISRA Senegal	M	WP2 contributor	PhD Student	90	2022	France	Training on STICS and MAESPA with CIRAD colleagues
Diaminatou Sanogo	ISRA Senegal	F	Project co-coordinator and ISRA coordinator	Researcher	5	2018	Italia	Participating to Bari Leap-Agri kickoff
Diaminatou Sanogo	ISRA Senegal	F	Project co-coordinator and ISRA coordinator	Researcher	8	2018	Burkina Faso	kickoff meeting (03-09 Sept.) organization
Diaminatou Sanogo	ISRA Senegal	F	Project co-coordinator and ISRA coordinator	Researcher	6	2022	The Netherland s	Participation to the final meeting
Diaminatou Sanogo	ISRA Senegal	F	Project co-coordinator and ISRA coordinator	Researcher	11	2019	France	4TH WORLD CONGRESS ON AGROFORESTRY 18 AU 27/05/2019 à MONTPELLIER
Moussa Dieng	ISRA Senegal	M	Researcher and Coord WP1	Researcher	8	2018	Burkina Faso	kickoff meeting (03-09 Sept.)
Moussa Sall	ISRA Senegal	M	WP1 contributor	Researcher	8	2018	Burkina Faso	kickoff meeting (03-09 Sept.)
Halimatou S Ba	ISRA Senegal	F	WP2 contributor	Research Engineer	8	2018	Burkina Faso	kickoff meeting (03-09 Sept.)
Moussa Dieng	ISRA Senegal	M	Researcher and Coord WP1	Researcher	13	2019	Burkina Faso	field work and methodological co- construction activities; preparation of socio-economic surveys
Moussa Dieng	ISRA Senegal	M	Researcher and Coord WP1	Researcher	6	2022	The Netherland s	Participation to the final meeting
Bastide Brigitte	INERA, Burkina Faso	F	INERA Coordinator, WP4 coleader, WP1 and WP2 contributor	Researcher	6	2019	, France	Participation to 4th World Congress of Agroforestry
Bastide Brigitte	INERA, Burkina Faso	F	INERA Coordinator, WP4 coleader, WP1 and WP2 contributor	Researcher	2	2019	, France	Ramses II annual meeting
Coulibaly/ Lingani Pascaline	INERA, Burkina Faso	F	WP2 coleader, WP1 contributor	Researcher	3	2019	, France	Ramses II annual meeting
Dao Madjelia C.E	INERA, Burkina Faso	F	Researcher, WP2 contributor	Researcher	6	2019	Montpellien , France	Participation to 4th World Congress of Agroforestry

Dao Madjelia C.E	INERA, Burkina Faso	F	Researcher, WP2 contributor	Researcher	2	2019	IRD Montpellier Ramses II annual meeting , France
Koala Jonas	INERA, Burkina Faso	M	Researcher, WP2 contributor	Researcher	7	2019	Senegal Methodology writing
Ouoba Y. Hermann	Univ. Nasi Boni , Burkina Faso	M	Researcher,WP1 contributor	Teacher	6	2019	Montpellier Participation to 4th World Congress , France of Agroforestry
Ouoba Y. Hermann	Univ. Nasi Boni , Burkina Faso	M	Researcher, WP1 contributor	Teacher	2	2019	IRD Montpellier Ramses II annual meeting , France
Sanou Josias	INERA, Burkina Faso	M	Researcher, WP2 contributor	Researcher	7	2019	Senegal Methodology writing

**Table 2. Dissemination Actions** 

Description of the action	ns. Most of them involved african and several europan institutions together	Language year (incl. dialects)	Title and place	Type of activity (use multiple rows if different activities apply)	Type of audience	Size of audience (number)	Disemination level (use multiple rows if several levels apply)
Project visibility			<https: <="" td=""><td></td><td></td><td></td><td></td></https:>				
	IRD	2019 English	www.ramsesiiagrofores terie.com>	Project web site	Researchers	not known	International
Project visibility	WUR	2018 English	<a href="https://www.wur.nl/en/project/RAMSES-II-How-to-intensify-agroforestry-sustainably.htm">https://www.wur.nl/en/project/RAMSES-II-How-to-intensify-agroforestry-sustainably.htm</a>	Partners website	Researchers	not known	National
Project visibility	ISRA	2019 French	<a href="http://isracnrf.sn/?"><a href="http://isracnrf.sn/?">http://isracnrf.sn/?</a><a href="p=1908">p=1908</a>&gt;</a>	Partners website	Researchers	not known	National
Project visibility		French	<a href="https://ur-aida.cirad.fr/en/our-research/research-projects-and-">https://ur-aida.cirad.fr/en/our-research/research-projects-and-</a>			not known	National
Scientific	Agbohessou Y. Dakar Univ.	English	expertises/ramses-ii> Using UAV and geostatistics to upscale crop yield in heterogeneous agro- silvo-pastoral system. 23–27 May EGU	Partners website  Conference/ seminars /	Researchers	Several 100	
communication	student*	2022	General Assembly,	workshops	Researchers		International

			Vienna, Austria				
			Monitoring soil				
			greenhouse gas (GHG)				
			emissions in a Sahelian				
		English	agro-silvo-pastoral			Several 100	
		Liigiisii	parkland. , 23–27 May			Severar 100	
			EGU General	Conference/			
Scientific			Assembly, Vienna,	seminars /			
communication	Ba S. A. ISRA	2022	Austria	workshops	Researchers		International
			Does the management				
			of Faidherbia albida				
			trees in Senegalese				
			parklands affect their				
			ecological services to				
		English	improve millet			Several 100	
			sustainability? 17-20				
			juillet 5th Word				
	Clermont-		Congress on	Conference/			
Scientific	Dauphin C.		Agroforestry. Québec,	seminars /			
communication	IRD	2022	Canada	workshops	Researchers		International
			Fruit and tree				
			characteristics of				
			Vitellaria paradoxa				
			under different				
			geomorphomogical				
		English	levels of the hill at			Several 100	
		Eligiisii	Djuié, Burkina Faso,			Several 100	
			West Africa. 17-20				
			juillet 5th Word				
			Congress on	Conference/			
Scientific	Dao M.C.B.		Agroforestry. Québec,	seminars /			
communication	INERA	2022	Canada	workshops	Researchers		International
			Comparing the				
			performances of				
			Pedotransfer Functions				
		English	with with inversely			Several 100	
			estimated soil hydraulio	Conference/			
Scientific	Diongue M.L		parameters in a deep	seminars /			
communication	Dakar Univ.	2022	cultivated Sahelian soil	workshops	Researchers		International

using HYDRUS 1D.	
23–27 May EGU	
General Assembly,	
Vienna, Austria	
Faidherbia albida	
transpiration and	
canopy conductance in	
a reference agroforectry	
English system of West Africa Several 100	
5th Word Congress on Conference/	
Scientific Agroforestry, Québec, seminars /	
communication Do F. IRD 2022 Canada workshops Researchers Internation	al
Distribution of root	uı .
biomass Vitellaria	
paradoxa agroforestry	
parkland in the	
northern Sudanian zone	
English of Burkina Faso. 17-20  Several 100	
juillet 5th Word	
Congress on Conference/	
Scientific Koala J. Agroforestry. Québec, seminars /	
	al
communication INERA 2022 Canada workshops Researchers Internation How multifunctionnal	dl
are agroforestry	
parklands? A landscape	
scale assessment of	
multiple ecosystem	
English services from a F. Several 100	
albida parkland in	
Senegal. 17-20 juillet	
5th Word Congress on Conference/	
Scientific Agroforestry. Québec, seminars /	
communication Leroux L. Cirad 2022 Canada workshops Researchers Internation	al
Shea tree (Vitellaria	
paradoxa C. F. Gaertn)	
natural regenaration in  English Burking Food's Conference/  Several 100	
Ouoda H. Burkina Faso s Conference/	
Scientific Bobo-Dioulasso agroforestry parklands. seminars /	
communication Univ. teacher 2022 17-20 juillet 5th Word workshops Researchers Internation	al

			Congress on				
			Agroforestry. Québec,				
			Canada				
			Inverted phenology of				
			Faidherbia albida paced				
			with the dynamics of				
			the water table. 17-20				
		English	juillet 5th Word			Several 100	
			Congress on	Conference/			
Scientific	Roupsard O.		Agroforestry. Québec,	seminars /			
communication	Cirad	2022	Canada	workshops	Researchers		International
Communication	Cirau	2022	Ecosystem	workshops	Researchers		International
			contributions of				
			sudanian agroforestry				
			parklands in their				
			*				
		English	diversity. Scientific			Carraval 100	
		English	views vs. perceptions			Several 100	
			•				
Cl	0 4/0		9				
•	-	2022			D 1		
(4 mn)	IRD	2022		workshops	Researchers		International
			- <del>-</del>				
			_				
			<u>=</u>				
			<u>-</u>				
			Journée des femmes				
	Zomboudré M.		scientifiques,	Conference/			
Scientific	Ouagdougou		Ouagadougou, Burkina	seminars /			
communication	Univ. student	2022 French	Faso	workshops	Researchers	Several 10	National
			Using the Regional				
			Agronomic Diagnosis				
			(RAD) approach for				
		English				Carraval 100	
		English	agroforestry systems			Several 100	
	Clermont-		with farmers: Case	Conference/			
Scientific	Dauphin C.		study of a Faidherbia	seminars /			
communication	IRD	2022	albida parkland in	workshops	Researchers		International
<u>communication</u> Scientific	Zomboudré M. Ouagdougou Univ. student  Clermont- Dauphin C.	2022  2022 French  English	of local societies. 17- 20 juillet 5th Word Congress on Agroforestry. Québec, Canada Quelle espèce agroforestière contribue le plus à la sécurité alimentaire en Afrique de l'Ouest? 29 March Journée des femmes scientifiques, Ouagadougou, Burkina Faso Using the Regional Agronomic Diagnosis (RAD) approach for co-design innovative agroforestry systems with farmers: Case study of a Faidherbia	Conference/ seminars / workshops  Conference/ seminars /		Several 10	

			Senegal. 30 Oct-3 Nov,				
			7th International				
			Symposium for				
			Farming System				
			Design, Marrakech				
			(Morocco)				
			Services of Faidherbia				
			albida tree for millet				
			crops sustainability in				
			Senegal: Spatial				
			variability and practices				
		English	effects. 23-26 nov.,	<b>5</b>		Several 100	
			3ème édition de la				
	Clermont-		Conférence	Conference/			
Scientific			Intensification Durable				Di ragional (Africa
	Dauphin C. IRD	2021			Dagaarahara		Bi-regional (Africa-
communication	IKD	2021	(CID), Dakar, Sénégal Estimation of soil	workshops	Researchers		Europe)
			hydraulic parameters				
			from a transient water				
			flow field experiment				
			in an agroforestry				
		English	system of Central			Several 100	
			Senegal. 23-26 nov.,				
			3ème édition de la				
			Conférence	Conference/			
Scientific	Diongue M.L.		Intensification Durable	seminars /			Bi-regional (Africa-
communication	Dakar Univ.	2021	(CID), Dakar, Sénégal	workshops	Researchers		Europe)
			Les parcs arborés en				
			zone dense Dagara :				
			dynamiques et enjeux				
			de restauration. 4 June,				
		_ ,	1ère journée de la				
		French	Coopération				
			scientifique				
	Maiga A.A.		internationale,	Conference/			
Scientific	Ouagadougou		Ouagadougou, Burkina				Bi-regional (Africa-
communication	univ. student	2021	Faso	workshops	Researchers	Several 10	Europe)
Communication	ami v. stuutiit	<b>-</b> U <b>-</b> 1	1 450	WOLKSHOP3	rescurencis	Severar 10	<u>Lurope</u> )

		English	Faidherbia-Flux': a long-term Collaborative Observatory on food security, GHG fluxes, ecosystem services, mitigation and adaptation in a semi-arid agro-silvo-pastoral ecosystem (groundnut basin in Niakhar/Sob, Senegal Video-Conference. AMMA-				
C	D 10		CATCH Scientific	Conference/			D: .: 1/AC:
Scientific	Roupsard O.	2021	meeting 09-11 May	seminars /	D	C1 10	Bi-regional (Africa-
communication	Cirad	2021	2022. Sete, France	workshops	Researchers	Several 10	Europe)
		English	Water uptake by Faidherbia albida A. Chev. in an agroforestry parkland in Senegal. 23-26 nov., 3ème édition de la				
			Conférence	Conference/			
Scientific			Intensification Durable	seminars /			Bi-regional (Africa-
communication	Sarr M.S. ISRA	2021	(CID), Dakar, Sénégal	workshops	Researchers	Several 10	Europe)
		English	Roles of Agroforestry in sustainable intensification of small farMs and food SEcurity for SocIetIes in West Africa (RAMSES II). 30-31 mars Colloque Arbre,	Conference/			
Scientific			Bois, Forêt et Sociétés,	seminars /			
communication	Seghieri J. IRD	2021	ANR, Paris, France	workshops	Researchers	Several 10	National

Scientific	Roupsard O.	English	More C uptake during the dry season? The case of a semi-arid agro-silvo-pastoral ecosystem dominated by Faidherbia albida, a tree with reverse phenology (Senegal).  3-8 May European Geosciences Union (EGU) general	Conference/ seminars /		Several 100	
communication	Cirad	2020	assembly,	workshops	Researchers		International
Scientific	Bastide B.	English	Preservation of shea resource through the transfer of shea plant regeneration techniques to the female producers. 20-22 May, 4rth World Congress of Agroforestry.	S		Several 100	
communication	INERA	2019	Montpellier, France	workshops	Researchers		International
Scientific	Dao M. C. E.	English	Climate change and shea tree: women's perceptions and impact on flowering and fruiting process in Burkina Faso. 20-22 May, 4rth World Congress on Agroforestry.	•		Several 100	
communication	INERA	2019	Montpellier, France	workshops	Researchers		International
Coiontific	Daymage P	English	Agroforesterie et performances des exploitations agricoles familiales en Afrique de l'ouest. 20-22 May, 4rth World Congress or	n Conference/		Several 100	
Scientific communication	Devresse B. APAF NGO	2019	Agroforestry. Montpellier, France	seminars / workshops	Researchers		International
Communication	TITI NGO	2013	montpenier, mance	worksnobs	1/05/01/01/01/5		וווכווומנוטוומו

			Long-term Piliostigma				
			reticulatum				
			intercropping in the				
			Sahel: Impact of the				
		English	density of shrub on			Several 100	
		Eligiisii	sorghum yield. 20-22			Several 100	
			May, 4rth World				
			Congress on	Conference/			
Scientific	Douzet JM.		Agroforestry.	seminars /			
communication	Cirad	2019	Montpellier, France	workshops	Researchers		International
			Planting trees to				
			increase food security?				
			The case study of the				
		English	groundnut basin of			Several 100	
		Eligiisii	Senegal. 20-22 May,			Several 100	
			4rth World Congress or				
Scientific			Agroforestry.	seminars /			
communication	Jahel C. Cirad	2019	Montpellier, France	workshops	Researchers		International
			Effect of coppice				
			management of shrubs				
			associated with cereals				
			on their root dynamics				
		English	features in dry Western			Several 100	
			Africa. 20-22 May, 4rth				
_			World Congress on	Conference/			
Scientific	Jourdan C.		Agroforestry.	seminars /			
communication	Cirad	2019	Montpellier, France	workshops	Researchers		International
			Litterfall dynamics of				
			agroforestry systems in	1			
			parkland of the north				
		English	Sudanian zone, Burking	a		Several 100	
			Faso. 20-22 May, 4rth			22.2-31.200	
0.1.00	1 -		World Congress on	Conference/			
Scientific	Koala J.	5040	Agroforestry.	seminars /	_ ,		
communication	INERA	2019	Montpellier, France	workshops	Researchers		International

Scientific communication	Leroux L. Cirad	English	Impacts of FMNR on the agricultural performance of smallholder farming systems at landscape scale in Senegal. 20-22 May, 4rth World Congress on Agroforestry. Montpellier, France	Conference/ seminars / workshops	Researchers	Several 100	International
Communication	Zeroux E. Giruu	English	A remote sensing based approach for optimizing sampling strategies in tree monitoring and agroforestry systems mapping. 20-22 May, 4rth World Congress or	I	rescurences	Several 100	memutonu
Scientific communication	Ndao B. Dakar CSE	2019	Agroforestry. Montpellier, France	seminars / workshops	Researchers		International
Scientific communication	Ouoba Y.H. Bobo-Dioulasso Univ. teacher	English	Comparison of five shea tree (Vitellaria paradoxa C. F. Gaertn.) regeneration techniques in Burkina Faso. 20-22 May, 4rth World Congress on Agroforestry.  Montpellier, France		Researchers	Several 100	International
Scientific communication	Roupsard O. Cirad	English 2019	Faidherbia-Flux": adapting crops to climate changes in a semi-arid agro-sylvo- pastoral open observatory (Senegal). 20-22 May, 4rth World Congress on Agroforestry. Montpellier, France	Conference/ seminars / workshops	Researchers	Several 100	International
Communication	Cirau	2013	montpenier, France	νισικοπορο	1xc3carcile13		incinational

			"Faidherbia-Flux", an				
			open observatory for				
			GHG balance and C				
			stocks in a semi-arid				
		- 1. 1	agro-sylvo-pastoral				
		English	system (Senegal). 20-			Several 100	
			22 May, 4rth World				
			Congress on	Conference/			
Scientific	Roupsard O.		Agroforestry.	seminars /			
communication	Cirad	2019	Montpellier, France	workshops	Researchers		Regional
Communication	Cirau	2013	Rehabilitating degraded		Researchers		Regional
			lands in Groundnut	L			
		Englich	basin of Senegal using	Conference/		Several 100	
Scientific	Sanaga D	English	9	seminars /		Several 100	
	Sanogo D.	2010	Famers' Managed		Dagaawahawa		Intownsticus!
communication	ISRA	2019	Natural Regeneration	workshops	Researchers		International
			Roles of agroforestry in				
			sustainable				
		English	intensification of small			Several 100	
C : .:C:		Ö	farms and food security				
Scientific	0 1: : 1 100	2010	for socIeties in West	seminars /	D 1		T 1
communication	Seghieri J. IRD	2019	Africa	workshops	Researchers		International
			Comparing methods for	•			
			detecting and mapping				
		English	tree parkland dynamics			Several 100	
Scientific	Serpantié G.		on large areas in	seminars /			
communication	IRD	2019	Burkina Faso	workshops	Researchers		International
			Contribution de				
			Piliostigma reticulatum				
			(dc.) Hochst.				
			(caesalpinaceae) à la				
			résilience des				
			populations déplacées				
		French	internes à Yilou dans la				
			région du Centre-Nord				
			du Burkina Faso. 27-28				
			Oct. journées de				
	Bazongo J-P.		IRSAT/CNRST,	Conference/			
Scientific	Ouagadougou		Ouagadougou, Burkina				
communication	Univ. student	2022	Faso	workshops	Researchers	Several 10	National

Short video clip (4 mn)	Seghieri J. IRD	English 2021	Preliminary results of the RAMSES II project. 15-16 Dec., LEAP-Agri Knowledge Sharing and Stakeholders Engagement Matchmaking event, Bari, Italia	Conference/ seminars / workshops	Researchers	Several 10	International
Scientific communication	Serpantié G, IRD	French 2021	Une diversité d'états, pratiques et liens au parc arboré soudanien (Burkina Faso). 23-26 nov., 3ème édition de la Conférence Intensification Durable (CID), Dakar, Sénégal	Conference/ seminars /	Researchers	Several 100	International
	Seghieri J. IRD, Ouoba H. Ouagadougou Univ./INERA, Hien F. APAF, SOME E. Ministry of Environment, Energy, Water and Sanitation, /INERA, Savadogo A. Ministry of Agriculture, Animal Resources and Fisheries, Ms Ouattara K. representative	French and Djoula	Quelle place de l'agroforesterie au Burkina Faso ? Institut Français, Ouagadougou, Burkina Fasqo	Conference-debate			THE THE COMM
Debate with civil society	of the network of Shea Butter	2022		called "Maquis des sciences"	Citizens	Several 10	National

	Producers of the						
	Hauts Bassins	!					
	and Cascades.						
	una Gascaacs.		Transformations du	Conference/			
Scientific		French	parc arborés en pays	seminars /		Several 100	Bi-regional (Africa
communication	Bidou JE IRD,	2021	Sereer (Sénégal)	workshops	Researchers		Europe)
	,		Parc arboré et				1 /
			mutations sociales en				
			pays Sereer (Sénégal) :				
		French	une nouvelle			Several 100	
			gouvernance comme	Conference/			
Scientific			condition de la	seminars /			
communication	Bidou JE IRD	2021	durabilité ?	workshops	Researchers		National
			Faidherbia albida, arbre				
		French	refuge de l'agriculture			Several 1000	
Newspaper	0.1		sahélienne		G	Several 1000	
article	Gubert N.	2019	Sciences & Avenir	Press-release	Citizens		International
			Au Sénégal, le mil,				
N		French	rempart contre la			Several 1000	
Newspaper	Garric A.	2019	sécheresse Le Monde	Press-release	Citizens		International
article	GdIIICA.	2019	L'agroforesterie à la	Piess-ielease	Citizens		Iliternational
			rescousse des cultures				
			au Sahel. CIRAD.	Institutionalisation			
		French	Salon de l'Agriculture	of communication		Several 1000	
			and Agroforestry World				
Video	Dangléant C.	2019	Congress	100 words]	Citizens		International
		2022 French	<https: <="" td=""><td>On line media</td><td>Citizens</td><td>Several 100</td><td>National</td></https:>	On line media	Citizens	Several 100	National
O			sentinellebf.com/	Sentinelle Burkina			
			environnement-	Faso			
			lagroforesterie-au-				
			coeur-du-82eme-				
			maquis-des-sciences>				
	Seghieri J. IRD,	French	Applied training on		24 engineering		
	Barima S.		Agroforestry in West		students from the		
	Daloa UJloG		Africa		Ecole Nationale		
Training	Univ. (Côte			Other (please	Supérieure		
workshop	d'Ivoire),	2021		describe; 100 words)	d'Agriculture	24	Regional

Sanogo D.
ISRA, Sarr
M.S. ISRA,
Some-Dao M.
INERA, Ouoba
H.
Ouagadougou
Univ., Issoufou
B. Maradi
Univ., Thiam
M. ENSA
Thiès, Samb
C.O. ENSA
Thiès

(Senegal) trained in multidisciplinary practical work to study agroforestry on the site of the RAMSESII Niakhar-Sob innovation platform with the collaboration of villagers: tree regeneration and management techniques, survey on the supply services provided by trees, production of a map of the village and lists of constraints and aspirations based on the stakeholders' speeches (participatory workshop), impact of the trees on the

characteristics of the

soil, etc.

(ENSA) in Thiès

Main author, institution and country	Gender (M/F)	Title of the publication	Date of publication	Name of the Journal	Indicate whether non-refereed or peer-reviewed	1 m/z (1t	DOI
Fayama T. INERA, Dabiré D. CIRDES, Bastide B. INERA, Somé J.W. INERA, Seghieri J. IRD, Brouwers J. WUR	M	Caractérisation des acteurs de l'agroforesterie pour une co-conception de plateformes d'innovation suivant le transect Koumbia Guéguéré Dano au Burkina Faso	Aug-22 submitted	Biotechnologie, Agronomie, Société et Environnement (BASE) ; special issue "Agroforestry in West Africa"	Peer-reviewed	Yes	
Badji M. ISRA, Sanogo D. ISRA, Sonko M. ISRA, Gaye S. ISRA, Soti V. Cirad, Seghieri J IRD	M	Le parc à Faidherbia albida (Del.) A. Chev., un système agroforestier menacé de disparition au Sénégal	Aug-22 submitted	Biotechnologie, Agronomie, Société et Environnement (BASE) ; special issue "Agroforestry in West Africa"	Peer-reviewed	Yes	
Dao M. C. E. INERA, Sanou M. INERA, Bazongo J- P. INERA, Some D. INERA, Ramde G. INERA, Hien E. Univ. Ouagadougou, Douzet J-M Cirad.	F	Existerait-il des pratiques de conservation de Piliostigma reticulatum, un arbuste à usages multiples dans le terroir de Yilou et villages environnants?	Aug-22 submitted	Biotechnologie, Agronomie, Société et Environnement (BASE) ; special issue "Agroforestry in West Africa"	Peer-reviewed	Yes	
Diongue D. M. L. Univ. Dakar, Roupsard O. Cirad,	M	Evaluation of parameterisation approaches for	in review 202	2 Hydrological Sciences Journal	Peer-reviewed	No	

Do F. IRD, Stumpp C. Cirad, Orange D. Ird, Sow S. Univ Dakar, Jourdan C. Cirad, Faye, S. ISRA		estimating soil hydraulic parameters with HYDRUS-1D in the Groundnut basin of Senegal					
Kabore O. INERA, Dabone J.S.E. INERA student, Ouedraogo L. INERA	M	Déterminants de l'évolution des parcs agroforestiers du transect Kamboinse-Yilou (Burkina Faso)	Jul-22 20	Revue de Géographie de 22 l'Université de Ouagadougou (RGO)	Peer-reviewed	No	
Lembrechts J. J. et al. (inc. Roupsard O. Cirad)	M	Global maps of soil temperature	20	Global Change 22 Biology	Peer-reviewed	Yes	https:// onlinelibr ary.wiley. com/doi/ 10.1111/ DOI: gcb.16060 10.1111/gcb.16060
Leroux L. Cirad, Clermont-Dauphin C. IRD, Ndienor M. ISRA, Jourdan C. Cirad, Roupsard O. Cirad, Seghieri J. IRD	F	Towards multifunctional agroforestry landscapes: A spatialized assessment of ecosystem services relationships under a Faidherbia albida parkland in Senegal		Sciences of the Total 22 Environment	Peer-reviewed	No	
Ouoba Y. H. INERA, Bastide B. INERA, Kabore S.A. INERA, Seghieri J. IRD, Boussim I.J. INERA Ramde G.	M M	Dynamique des peuplements de Vitellaria paradoxa C.F. Gaertn (karité) dansles parcs agroforestiers du Burkina Faso Effets du stress	Jul-22 submitted	issue "Agroforestry in West Africa"	Peer-reviewed Peer-reviewed	Yes Yes	
Ouagadougou Univ.	171	hydrique, de la	Jui-22 Subillitte	Agronomie,	i cci-icvicweu	169	

		température et des				
		facteurs				
		édaphiques sur		Société et		
student, Dao M.C.E.		la germination des		Environnement		
INERA, Some D.		graines de		(BASE); special		
INERA, Hien E.		Piliosigma		issue		
Univ. Ouagadougou,		reticulatum en		"Agroforestry in		
Sanou M. INRA,		zone soudano-		West Africa"		
Bazongo J-P INERA		sahélienne du				
student.		Burkina Faso				
				Biotechnologie,		
		Analyse spatiale		Agronomie,		
		des déterminants		Société et		
		physiques et	Aug-22 submitted	Environnement	Peer-reviewed	
Kabore O. INERA,		humains des parcs	Aug-22 submitted	(BASE); special	1 cer-reviewed	
Ouedraogo L.		agroforestiers du		issue		
INERA, Dabone		terroir de Yilou		"Agroforestry in		
J.S.T. INERA student	M	(Burkina Faso)		West Africa"		Yes
		Tree and crop root				
		cohabitation in a				
		dry agroforestry				
		parkland				
		dominated by				
		Faidherbia albida:				
G:		impacts of root				
Siegwart L.		traits and				
Montpellier french		distribution on soil				
student, Bertrand I.		carbon stocks in a				
INRA (France),	г	2-year crop	I 22 202	Dl+ 1 C-:1	D	NI -
Jourdan C. Cirad	F	rotation	Jun-22 202	2 Plant and Soil	Peer-reviewed	No
Siegwart L.		Root litter				
Montpellier (France) french student,						
Bertrand I. INRA		decomposition in a sub-Sahelian				
				Journal of Arid		
(France), Roupsard O. Cirad, Duthoit M.		agroforestry parkland		Environments		
Cirad, Jourdan C.		dominated by		(198), article		
Cirad, Jourdan C.	F	Faidherbia albida	າດາ	2 104696	Peer-reviewed	No
Zida I. INERA,	<u>г</u> М	Fluctuation des	Mar-22 submitted		Peer-reviewed	Yes
Liua I. IIILIA,	TAT	1 Iuctuation ues	1V101-22 SUDIIII(IEU	Pioteciniologie,	1 CC1-1CV1CWCU	100

Sawadogo A. INERA, Djiguemdé		populations et évaluation des dégâts des mouches des fruits dans les parcs à karité de l'Ouest du Burkina Faso :			Agronomie, Société et Environnement (BASE); special issue "Agroforestry in			
S. INERA, Bastide B. INERA		cas du transect Koumbia-Dano			West Africa"			
Zomboudré M. Ouagdougou Univ. burkinabè student, Droy I. IRD, Clermont Dauphin C. IRD, Seghieri J. IRD	F	Quelle espèce agroforestière contriburait potentiellement le plus à la production alimentaire dans la région Ouest Africaine?	to be submitted	submitted	Biotechnologie, Agronomie, Société et Environnement (BASE); special issue "Agroforestry in West Africa"	Peer-reviewed	Yes	
Lohbeck M. WUR student, Albers P. WUR, Boels L. WUR, Bongers F. WUR, Morel S. WUR, Sinclair F. WUR, Takoutsing B. WUR, Vagen T-G. WUR, Winowiecki L.A. WUR, Smith- Dumont E. WUR Lohbeck M. WUR student, Albers P. WUR, Boels L. WUR, Bongers F. WUR, Morel S. WUR, Sinclair F.	F F	Replication Data for: Drivers of farmer-managed natural regeneration in the Sahel. Lessons for restoration  Drivers of farmer-managed natural regeneration in the Sahel. Lessons for restoration			Scientific reports, World Agroforestry (ICRAF), V2 Datasets Scientific Reports. 10, article 15038	Non-refereed Peer-reviewed	Yes Yes	DOI: 10.34725/dvn/rufffs
WUR, Takoutsing B. WUR, Vagen T-G. WUR, Winowiecki L.A. WUR, Smith-								

Dumont E. WUR							
Lembrechts J. J.							
Antwerp Univ., Aalto							
J. Helsinki Univ.,							
Ashcroft M.B.							
Wollongong Univ.,							
De Frenne P. Ghent							
Univ., Kopecký M.							
Prague Univ., Lenoir							
J. Amiens Univ.,							
Luoto M. Helsinki							
Univ., Maclean		SoilTemp: A global					
I.M.D. Exeter Univ.,		database of near-		Global Change			
Roupsard O. Cirad, et		surface		Biology ; 26 ; 11	;		DOI:
al.	M	temperature	Feb-20	2020 6616-6629	Peer-reviewed	Yes	10.1111/gcb.15123
Roupsard O. Cirad,							
Audebert A. Cirad,							
Ndour A. P. ISRA,							
Clermont-Dauphin C.							
IRD, Agbohessou Y.							
ISRA, Sanou J.							
INERA, Koala J.							
INERA, Faye E.							
ISRA, Sambakhe D.							
ISRA, Jourdan C.		How far does the					
Cirad, le Maire G.		tree affect the crop					
CIrad, Tall L. ISRA,		in agroforestry?					
Sanogo D. ISRA,		New spatial		Agriculture			
Seghieri J. IRD,		analysis methods		Ecosystems &			DOI:
Cournac L. IRD,		in a Faidherbia		Environment, 29	6		10.1016.j.agee.2020.10
Leroux L. Cirad	M	parkland	Oct-19	2020,106928	Peer-reviewed	No	6928
Seghieri J. IRD,	F	Research and	Mar-20	2020 Agroforestry	Peer-reviewed	No	DOI: 10.1007/s10457-
Brouwers J. WUR,		development		Systems 95:			020-00532-3
Bidou J.E. CNRS,		challenges in		1371–1382			
Ingram, V. WUR,		scaling innovation:					
Droy I. IRD, Bastide		a case study of the					
B. INERA, Sanogo		LEAP-Agri					
D. ISRA		RAMSES II					
		project					

Seghieri J. IRD, Droy I. IRD, Hadgu K. ICRAF, Place F. ICRAF	F	Introduction to the special issue "scaling up of agroforestry innovations: enhancing food, nutrition and income security"	Sep-21	Agroforestry Systems 95:1245– 2021 1249	Peer-reviewed	Yes	DOI : 10.1007/s10457- 021-00689-5
Seghieri J. IRD	F	Shea tree (Vitellaria paradoxa Gaertn. f.): from local constraints to multi-scale improvement of economic, agronomic and environmental performance in an endemic Sudanian multipurpose agroforestry species	Jul-17	Agroforestry Systems 93:2313– 2019 2330		No	DOI: 10.1007/s10457- 019-00351-1
Clermont-Dauphin C. IRD, N'dienor Moussa ISRA, Ba S. A. ISRA, Leroux L. Cirad, Jourdan C. Cirad, Roupsard O. Cirad, Do F.C. Cirad, Seghieri J. IRD Dibloni O. T. INERA, Ouedraogo A. INERA, Sanou S. L. INERA, Hien M. Bobo-Dioulasso Univ.	F M	A survey on the potential role of Faidherbia albida trees for reducing vulnerability to drought of millet in Agroforestry systems in Central Senegal  Diversité et statuts de conservation de la faune aviaire le long du transect agroforestier Koumbia-Dano		Biotechnologie, Agronomie, Société et Environnement (BASE); special issue "Agroforestry in West Africa"  2022 Biotechnologie, Agronomie, Société et Environnement (BASE); special issue	Peer-reviewed  Peer-reviewed	Yes Yes	

		soudanienne du Burkina Faso			West Africa"			
Sarr M. ISRA, Diouf					Biotechnologie,			
K. ISRA, Rocheteau					Agronomie,			
A. IRD, Roupsard O.		Seasonal			Société et			
Cirad, Orange D.		Faidherbia abida			Environnement	D		
IRD, Jourdan C.		A. Chev. water use			(BASE); special	Peer-reviewed		
ISRA, Diehdiou I.		in an agroforestry			issue			
Thiès Univ., Seghieri		parkland in			"Agroforestry in			
J. IRD, Do F. IRD	F	Senegal		202	2 West Africa"		Yes	
		O			Biotechnologie,			
Serpantié G. IRD,		Une enquête de			Agronomie,			
Loireau M IRD,		perceptions sur les			Société et			
Bastide B. INERA,		contributions et			Environnement	D		
Sawadogo A.		« nécessités » du			(BASE); special	Peer-reviewed		
INERA, Maiga AA		parc en zone sud-			issue			DOI:
INERA, Douanio		soudanienne du			"Agroforestry in			10.9734/jeai/2022/v44i
M.INERA	M	Burkina Faso	Aug-22	202	2 West Africa"		Yes	1030890
		Insect Pests and						
		their Direct						
		Damage on						
		Piliostigma						
		reticulatum (D.C.)						
Dao M.C.E.,		Hochst Flowers			Journal of			
Koussoube S.		and Pods in North-			Experimental			DOI:
INERA, Bazongo J-		Soudanian Region			Agriculture			10.9734/jeai/2022/v44i
P. INERA,	M	of Burkina Faso	May-22	Aug-2	2 International	Peer-reviewed	No	1030890
		Characterization of	-					
		Piliostigma						
		reticumatum fruit						
Bazongo J-P. INERA		production by soil						
student , Dao M.C.E.		types and land use			International			
INERA, Some D.		types in Yilou,			Journal of			
INERA, Koussoube		North Sudanian			Biological and			
S. INERA, Hien E.		zone of Burkina			Chemical			
Ouagadougou Univ.	M	Faso	Aug-22 su	bmitted	Sciences	Peer-reviewed	No	
Lesimple A., Manlay	M	The potential of	Oct-22 su		Agroforestry	Peer-reviewed	No	
R.J., Rodrigues M		Faidherbia albida			Systems			
J., Do F., Lardy		crowns for						

		sustainable					
		provisioning					
		services of wood					
Chanuis I Daymand							
Chapuis L., Roupsard		and forage: a					
O., Leroux L.,		multi-level					
Sanogo D., Badji M.,		quantification in					
Seghieri J.		Central Senegal					
		Transformation du		Biotechnologie,			
		parc arboré et		Agronomie,			
		mutations sociales		Société et			
		dans le bassin	submitted	Environnement	Peer-reviewed		
Bidou JE. IRD,		arachidier au	Subilitieu	(BASE); special	reer-reviewed		
Dieng M. ISRA,		Sénégal : une		issue			
Droy I.IRD, Ndiaye		approche		"Agroforestry in			
L.C. ISRA	M	systémique	Aug-22	West Africa"		Yes	

D ( () "!	Table 4. DISSEMINATI	Exploitable	C	Timetable for	D 4 4 3	
Partner(s) responsible/ involved	Exploitable Knowledge (Description)	products or measures	Sectors of applications	commercial use	Patents or others IPR protection	Open Access
Isabelle Droy, IRD / Pascaline Coulibali, DEF-INERA	Database on socio-economic factors and characteristics of farms and households practicing agroforestry in Burkina Faso	Database was produced during project lifetime	Scientific analysis	non commercial use	no	Available at IRD and INERA request to <isabelle.droy@ird.fr> or <li>linganipa@yahoo.fr&gt;</li></isabelle.droy@ird.fr>
Moussa Sall, Bureau d'analyses macro- économiques (BAME) – ISRA	Database on socio-economic factors and characteristics of farms and households practicing agroforestry in Burkina Faso	Database was produced during project lifetime	Scientific analysis	non commercial use	no	Not accessible ; registrered at BAME- ISRA
Cathy Clermont- Dauphin, IRD / Jonas Sanou & Jonas Koala, INERA	Database on agronomical impacts of shea cover (soil fertility and associated annual crop yields) in Burkina Faso	Database was produced during project lifetime	Scientific analysis	non commercial use	no	Available at IRD and INERA (resquest to <cathy.clermont@ird.fr> or <ezeyamb@yahoo.fr> or <josiassanou@yahoo.fr>)</josiassanou@yahoo.fr></ezeyamb@yahoo.fr></cathy.clermont@ird.fr>
Cathy Clermont- Dauphin, IRD / Moussa N'dienor, ISRA	Database on agronomical impacts of Faidherbia albida cover (soil fertility and associated annual crop yields) in Senegal	Database was produced during project lifetime	Scientific analysis	non commercial use	no	Available at IRD and INERA request to <isabelle.droy@ird.fr> or <li>linganipa@yahoo.fr&gt;</li></isabelle.droy@ird.fr>
Jean-Marie Douzet, Cirad	Database on agronomical impacts of Piliostigma ssp. cover (soil fertility and associated annual crop yields) in Burkina Faso, and shrub density impact on Piliostigma ssp. Production	Database was partially produced during project lifetime but the experiement started in 2012	Scientific analysis	non commercial use	no	Available at Cirad request to <christophe.jourdan@cir ad.fr="">)(</christophe.jourdan@cir>
Diaminatou Sanogo, ISRA	Data base on forest inventory in RAMSES II senegaleese sites	Database was produced during project lifetime	Scientific analysis		no	Available at ISRA request to <sdiami@yahoo.fr></sdiami@yahoo.fr>
Brigitte Bastide, INERA	Data base on forest inventory in RAMSES II burkinabe sites	Database was produced during project lifetime	Scientific analysis	non commercial use	no	Available at INERA request to      dastidebrigitte30@gmail.com>
Brigitte Bastide,	Data base of shea fruct	Database was	Scientific analysis	non	no	Available at INERA

INERA	production in RAMSESII	produced during		commercial		request to
INEKA	Koumbia-Dano transect sites					request to
	Roumbia-Dano transect sites	project lifetime		use		  description   description  description 
		· · · · · · · · · · · · · · · · · ·				l.com>
Safietou Sanfo	Calibrated/validated ex ante bio	Bio-economic model	Scientific analysis		no	
	economic model on the impact of	•		commercial		Available at WASCAL-
	agroforestery on household	project lifespan		use		Burkina Faso request to
	livelihood in Burkina Faso					( <sanfo.s@wascal.org>)</sanfo.s@wascal.org>
		Database was		non		Avaliable at WUR-
	Date base on site specific ToCs	produced during	Innovation	commercial		WCDI request to
Jan Brouwers, WUR	and scaling models	project lifetime	platforms	use	no	<jan.brouwers@wur.nl></jan.brouwers@wur.nl>
						Avaliable at WUR-
		Database was		non		WCDI (request to
	database on NTFP value chains in	produced during		commercial		<pre><verina.ingram@wur.nl></verina.ingram@wur.nl></pre>
Verina Ingram, WUR	Senegal & Burkina Faso	project lifetime	Scientific analysis	use	no	)
	database on agro-forestry					
	inventories and field practices	Database was		non		Available at INERA and
	about agroforestry on KD	produced during		commercial		IRD (request to
Serpantie Georges, IRI	) transect	project lifetime	Scientific analysis	use	no	georges.serpentie@ird.fr)
	Data base on agronomic					TACSY database,
	performances of annual crops in	Database was		non		Available at CIRAD
François Affholder,	the context of Faidherbia	produced during		commercial		(request to
Cirad	parkland	project lifetime	Scientific analysis	use	no	<affholder@cirad.fr>)</affholder@cirad.fr>

## **Table 5. CAREER DEVELOPMENT**

Name of the person collaborating in the project		Age (years) of the person collaborating in the project	Country of the person	Gender (M/F)	Academic degree (post- doc, PhD, MSc, Post graduate, degree student, etc)	Position in the project	Contract duration (n° months/d ays)	(n°	Contribution in the project (publication, conference, lab work, field work, etc.)	Position after the project
	Ecole National								Field data collect	
Agbohessou Y.	d'Agriculture (ENSA)- Univ. Thiès	unknowned	Senegal	M	Engineer	internship	8 mo.		and pretreatment and report	unknown
Albers P.	Wageningen University	unknowned	The Netherlands	M	MSc	internship	6 mo.		Field data collect and pretreatment and report	unknown
D- A A	Université Cheikh Anta		C	NA	MC -		0		Field data collect and pretreatment	1
Ba A.A.	Diop de Dakar	unknowned	Senegal	M	MSc	internship	8 mo.		and report	unknown
Bazongo J-P.	Univ. Joseph KI- ZERBO de Ouagadougou	unknowned	Burkina Faso	M	PhD	Doctoral contract	3 yr.		Field data collect and pretreatment and report	_
Biatry N.	Ecole Supérieure d'Agro-Développement International (ISTOM)	22 yr.	France	M	Engineer	internship	3 mo.		Field data collect and pretreatment and report	unknown
Boels L.	Wageningen University	unknowned	The Netherlands	F	MSc	internship	6 mo.		Field data collect and pretreatment and report	unknown
Bouali A.	Ecole Supérieure d'Agro-Développement International (ISTOM)	23 yr.	France	M	Engineer	internship	3 mo.		Field data collect and pretreatment and report	unknown
Bourg J.	Ecole Supérieure d'Agro-Développement International (ISTOM)	21 yr.	France	F	Engineer	internship	3 mo.		Field data collect and pretreatment and report	unknown

	Ecole Supérieure							Field data collect	
_	d'Agro-Développement							and pretreatment	
Brosse C.	International (ISTOM)	23 yr.	France	M	Engineer	internship	3 mo.	and report	unknown
	Ecole Supérieure							Field data collect	
	d'Agro-Développement							and pretreatment	
Cédat C.	International (ISTOM)	25 yr.	France	F	Engineer	internship	3 mo.	and report	unknown
	Ecole Supérieure							Field data collect	
Certaines (de)	d'Agro-Développement							and pretreatment	
G.	International (ISTOM)	23 yr.	France	M	Engineer	internship	3 mo.	and report	unknown
	Univ. Joseph KI-							Field data collect	
	ZERBO de		Burkina		Professional			and pretreatment	Self-employed in
Dabone J-S.	Ouagadougou	unknowned	Faso	M	MSc	internship	6 mo.	and report	Burkina Faso
	Univ. Joseph KI-							Field data collect	
	ZERBO de		Burkina		Professional			and pretreatment	
Damiba F.	Ouagadougou	unknowned	Faso	M	MSc	internship	6 mos	and report	unknown
								Field data collect	
			The					and pretreatment	
Diallo A.K.	Wageningen University	unknowned	Netherlands	M	MSc	internship	6 mo.	and report	unknown
								Field data collect	
	Univ. Gaston Berger de							and pretreatment	
Diao H.	Saint Louis	unknowned	Senegal	M	MSc	internship	8 mo.	and report	unknown
								Field data collect	
	Univ. Cheikh-Anta-Diop							and pretreatment	
Diatta F.	de Dakar	unknowned	Senegal	M	MSc	internship	8 mo.	and report	unknown
	Ecole National							Field data collect	
	d'Agriculture (ENSA)-							and pretreatment	
Diatta S.	Univ. Thiès	unknowned	Senegal	M	Engineer	internship	8 mo.	and report	unknown
	Ecole National							Field data collect	
	d'Agriculture (ENSA)-							and pretreatment	
Diop M.F.	Univ. Thiès	unknowned	Senegal	F	MSc	internship	8 mo.	and report	unknown
- <del></del>								Field data collect	
	Univ. Cheikh-Anta-Diop							and pretreatment	
Diouf A.	de Dakar	unknowned	Senegal	M	MSc	internship	8 mo.	and report	unknown
	Ecole National		_					Field data collect	
	d'Agriculture (ENSA)-							and pretreatment	
Diouf K.	Univ. Thiès	unknowned	Senegal	F	Engineer	internship	8 mo.	and report	unknown
-									

	Institut du								
	Développement							Field data collect	
	Rural/Université Nazi		Burkina					and pretreatment	
Djiguemdé S.	Boni de Bobo-Dioulasso	31 (1991)	Faso	F	MSc	internship	6 mo.	and report	unknown
	Institut Supérieur de							Field data collect	
	Formation Agricole et							and pretreatment	
Fall S.G.	Rurale (ISFAR)	unknowned	Senegal	M	Engineer	internship	4 mo.	and report	unknown
	Ecole Supérieure							Field data collect	
	d'Agro-Développement							and pretreatment	
Hersant T.	International (ISTOM)	22 yr.	France	M	Engineer	internship	3 mo.	and report	unknown
	Institut du								
	Développement							Field data collect	
	Rural/Université Nazi		Burkina		Fixed-term	_	_	and pretreatment	
Kaboré F.	Boni Bobo-Dioulasso	unknowned	Faso	F	contract	internship	45 d.	and report	employment
	Univ. Joseph KI-		_					Field data collect	
Kiendrebeogo	ZERBO de		Burkina					and pretreatment	_
E.	Ouagadougou	unknowned	Faso	M	MSc	internship	6 mo.	and report	unknown
	Univ. Joseph KI-		_					Field data collect	
	ZERBO de		Burkina	_				and pretreatment	
Ky I.	Ouagadougou	unknowned	Faso	F	MSc	internship	6 mo.	and report	unknown
								Field data collect	
т . 1 л	AgroParisTech entre de	1 1		3.6	Msc/			and pretreatment	1
Lesimple A.	Montpellier	unknowned	France	M	Engineer	internship	6 mo.	and report	unknown
	Univ. Joseph KI-		D 1:					Field data collect	
<b>λ</b> 4 - 2 Λ Λ	ZERBO de	20	Burkina	3.4	MC -	I 4	C	1 *	Self-employed in
Maïga A.A.	Ouagadougou	28 yr.	Faso	M	MSc	Internship	6 mo.	and report	Burkina Faso
	Ecole Supérieure							Field data collect	
M-:11J F	d'Agro-Développement	22	F		F	: 4 1- :	2	and pretreatment	1
Maillard F.	International (ISTOM)	22 yr.	France	F	Engineer	internship	3 mo.	and report	unknown
	Ecole Supérieure							Field data collect	
Mána I	d'Agro-Développement	22	Evense		Engineer	intownahin	2	and pretreatment	
Ména L.	International (ISTOM)	23 yr.	France	F	Engineer	internship	3 mo.	and report	unknown
	Hair Chaille Anta Dian							Field data collect	
Mboh M.	Univ. Cheikh-Anta-Diop	unknovenod	Conogal	ъл	Engineer	intornahin	0 ma	and pretreatment	unknoven
	de Dakar	unknowned	Senegal	M	Engineer	internship	8 mo.	and report	unknown
Mendy F.	Ecole de formation G15	unknowned	Senegal	M	MSc	internship	8 mo.	Field data collect	unknown

								and pretreatment	
								and report	
Morel S.	Wageningen University	unknowned	The Netherlands	M	MSc	internship	6 mo.	Field data collect and pretreatment and report	unknown
N'diaye N.K.	Univ. Cheikh-Anta-Diop de Dakar	unknowned	Senegal	F	MSc	internship	8 mo.	Field data collect and pretreatment and report	unknown
N'diaye A.K.	Centre d'Entrepreunariat et de Développement Technique (CEDT G 15)	unknowned	Senegal	M	Technician	internship	4 mo.	Field data collect and pretreatment and report	unknown
Ndiaye L.	Centre d'Entrepreunariat et de Développement Technique (CEDT G 15)	unknowned	Senegal	M	Technician	internship	4 mo.	Field data collect and pretreatment and report	unknown
Ouédraogo A.	Institut du Développement Rural/Université Nazi Boni de Bobo-Dioulasso	unknowned	Burkina Faso	M	MSc	internship	6 mo.	Field data collect and pretreatment and report	unknown
Ouédraogo S.A.	Univ. Joseph KI- ZERBO de Ouagadougou	unknowned	Burkina Faso	M	MSc	internship	6 mo.	Field data collect and pretreatment and report	unknown
Ouédraogo S.	Univ. Thomas Sankara de Saaba	unknowned	Burkina Faso	M	MSc	internship	6 mo.	Field data collect and pretreatment and report	unknown
Paré E. K.	Institut du Développement Rural/Université Nazi Boni de Bobo-Dioulasso	34 (1988)	Burkina Faso	F	MSc	internship	6 mo.	Field data collect and pretreatment and report	PhD Student/Institut du Développement Rural/Université Nazi Boni Bobo Dioulasso
Ramdé G.	Univ. Joseph KI- ZERBO de Ouagadougou	unknowned	Burkina Faso	M	MSc	internship	6 mo.	Field data collect and pretreatment and report	unknown
Ramdé W.	consultant	32 (1990)	Burkina Faso	M	Fixed-term contract	volunteer	1 mo	Socio-economic data treatment	consultant

								and report	
Sagne E.H.M.	Ecole National d'Agriculture (ENSA)-	unknowned	Senegal	M	Engineer	internship	8 mo.	Field data collect and pretreatment and report	unknown
Sagne L.IIvi.	Univ. Joseph KI-	unknowneu		171	Liigilicei	пистизтр	o mo.	Field data collect	unknown
Sam J.	ZERBO de Ouagadougou	unknowned	Burkina Faso	M	MSc	internship	6 mo.	and pretreatment and report	unknown
Sana I.	Consultant	unknowned	Burkina Faso	M	Fixed-term contract	volunteer	1 mo	Socio-economic variables pretreatment	Consultant
Sane A.	Univ. Cheikh-Anta-Diop de Dakar	unknowned	Senegal	M	Engineer	internship	8 mo.	Field data collect and pretreatment and report	unknown
Sanou M.	Univ. Joseph KI- ZERBO, Ouagadougou	unknowned	Burkina Faso	F	PhD	Doctoral contract	3 yr.		PhD Student at Univ. Joseph KI-
Sarr N.J.	Ecole National d'Agriculture (ENSA)- Univ. Thiès	unknowned	Senegal	F	Engineer	internship	8 mo.	Field data collect and pretreatment and report	unknown
Sarzana C.	Wageningen University	unknowned	The Netherlands	F	MSc	internship	6 mo.	Field data collect and pretreatment and report	unknown
Sawadogo B.G.F.	Univ. Joseph KI- ZERBO de Ouagadougou	unknowned	Burkina Faso	M	MSc	internship	6 mo.	Field data collect and pretreatment and report	unknown
Siegwart L.	Univ. Montpellier	unknowned	France	F	PhD	Doctoral contract	3 yr.	Field data collect and pretreatment and report	volunteer
Silga T.	Univ. Joseph KI- ZERBO de Ouagadougou	unknowned	Burkina Faso	M	MSc	internship	6 mo.	Field data collect and pretreatment and report	MSc student and Commander in the forestry corps as before its internship
Somé W.J.	Univ. Joseph KI- ZERBO de	33(1989)	Burkina Faso	F	MSc	internship	6 mo.	Field data collect and pretreatment	unknown

	Ouagadougou							and report	
	Institut Supérieur de							Field data collect	
_	Formation Agricole et				Works	_		and pretreatment	_
Sonko M.	Rurale (ISFAR)	unknowned	Senegal	M	Engineer	internship	8 mo.	and report	unknown
								Field data collect	
	Univ. Gaston Berger de				D1 D	Doctoral		and pretreatment	
Sow S.	Saint Louis	unknowned	Senegal	M	PhD	contract	3 yr.	and report	unknown
	Ecole Supérieure							Field data collect	
m1 / 1.0	d'Agro-Développement	2.0	-			1.		and pretreatment	1
Thérond S.	International (ISTOM)	22 yr.	France	F	Engineer	internship	3 mo.	and report	unknown
	Ecole Nationale des							Field data collect	
Thiombiano	Eaux et Forêts Bobo-	20 (1002)	Burkina	3.4	т ,	1 .	2	and pretreatment	
I.A.	Dioulasso	39 (1983)	Faso	M	Inspector	internship	3 mo.	and report	environment
	Univ. Joseph KI-		D 1:					Field data collect	
Tiemtoré E.	ZERBO de	unknowned	Burkina Faso	F	MSc	intownship	6 mo.	and pretreatment	unknoven
Heimore E.	Ouagadougou	unknowned	raso	Г	MSC	internship	6 1110.	and report	unknown
	Univ. Joseph KI- ZERBO de		Burkina					Field data collect	
Traoré A.	Ouagadougou	unknowned	Faso	M	MSc	internship	6 mo.	and pretreatment and report	unknown
Tradic A.	Ouagadougou	ulikilowileu	1'050	1V1	WISC	шешыр	o mo.	and report	official of
								Field data collect	
	Ecole Nationale des		Burkina					and pretreatment	
Zampaligré M.	Eaux et Forêts	unknowned	Faso	M	Technician	Internship	3 mo.	and report	Departement
									PhD
									Student/Institut
	Institut du		D 1:		N CC			Field data collect	
Zerbo G.L.	Développement Rural/Université Nazi	31 (1991)	Burkina Faso	M	MSc		6 months	and pretreatment	Développement
	Boni Bobo Dioulasso		Faso		internship			and report	Rural/Université
	Doill Dono Dioniasso								Nazi Boni Bobo
						Internship			Dioulasso
						INERA			PhD
	Institut du					Contract		Field data collect	Student/Institut
Zerbo G.L.	Développement	31 (1991)	Burkina	M			3 months	and pretreatment	du
	Rural/Université Nazi	( )	Faso		F. 1.			and report	Développement
	Boni Bobo Dioulasso				Fixed-term			_	Rural/Université
					contract				Nazi Boni Bobo

									Dioulasso
Zerbo G.L.	Institut du Développement Rural/Université Nazi Boni Bobo Dioulasso	31 (1991)	Burkina Faso	M	PhD	Doctoral contract	3 years	Field data collect and pretreatment and report	
Zidouemba W.R.A.	Univ. Joseph KI- ZERBO de Ouagadougou	unknowned	Burkina Faso	F	MSc	Internship	6 mo.	Field data collect and pretreatment and report	unknown
Zomboudré M.C.	Univ. Joseph KI- ZERBO de Ouagadougou	unknowned	Burkina Faso	F	PhD	Doctoral contract	3 yr.	Field data collect and pretreatment and report	unknown
Diop M.	Centre de Recherches Forestières (CNRF) - 'Institut Sénégalais de Recherches Agricoles (ISRA)	unknowned	Senegal	M	Fixed-term contract	ISRA Contract	48 mo	Project engineer, Assistant to the project coordinator in Senegal, Implementation of Innovative platform	ISRA Project contractor
Badji M.	Centre de Recherches Forestières (CNRF) - 'Institut Sénégalais de Recherches Agricoles (ISRA)	unknowned	Senegal	M	post-doc	ISRA Contract	42 mo	Field data collect and pretreatment and report	ISRA Project contractor
Ouedraogo B. S.	Département Environnement et Forêt -DEF) - Institut de l'Environnement et de Recherches Agricoles (INERA)	37 (1985)	Burkina Faso	М	Fixed-term contract	INERA Contract	11 mo		Consultant
Ouedraogo B. S.	Département Environnement et Forêt -DEF) - Institut de l'Environnement et de	37 (1985)	Burkina Faso	M	Fixed-term contract	INERA Contract	6 mo	Project assistant	Consultant

	Recherches Agricoles								
	(INERA)								
Ouedraogo B. S.	Département Environnement et Forêt -DEF) - Institut de l'Environnement et de Recherches Agricoles (INERA)	37 (1985)	Burkina Faso	М	Fixed-term contract	INERA Contract	6 mo	Project assistant	Consultant
Ouedraogo B. S.	Département Environnement et Forêt -DEF) - Institut de l'Environnement et de Recherches Agricoles (INERA)	37 1985)	Burkina Faso	М	Fixed-term contract	INERA Contract	12 mo	Project assistant	Consultant
Ouedraogo B. S.	Département Environnement et Forêt -DEF) - Institut de l'Environnement et de Recherches Agricoles (INERA)	37 (1985)	Burkina Faso	М	Fixed-term contract	INERA Contract	8 mo	Project assistant	Consultant
Dabiré D.	IKAA SARL	unknowned	Burkina Faso	M	Fixed-term contract	INERA Contract	45 d.	Platform diagnostic in Koumbia and Dano areas and report	the same as before the project : researcher at CIRDES Bobo- Dioulasso
Yonli A.	Consultant	37 yr.	Burkina Faso	F	Fixed-term contract	IRD Contract	2 mo	Socio-economic variables pretreatment and report	registration for a PhD at Ouagadougou Univ.
Yonli A.	Consultant	37 yr.	Burkina Faso	F	Fixed-term contract	INERA Contract	13 mo	Field data collect on socio- economic variables	registration for a PhD at Ouagadougou Univ.
Yonli A.	Consultant	37 yr.	Burkina Faso	F	Fixed-term contract	INERA Contract	4 mo	Field data collect on parkland governance and resource access	registration for a PhD at Ouagadougou Univ.

								rules	
Yonli A.	Consultant	37 yr.	Burkina Faso	F	Fixed-term contract	IRD Contract	8 d.	Field data collect on parkland governance and resource access rules	registration for PhD at Ouagadougou Univ.
						INERA		Field data collect	
					Fixed-term	Contract		and pretreatment	university
Diallo, M.	Consultant	unknowned	Senegal	F	contract		3 mo.	and report	employment
						INERA Contract		Implementation of socio-economic surveys (design, data entry mask, testing, training of interviewers,	
			Burkina		Fixed-term			survey follow-	NGO Data
Sana I.	Consultant	33 yr	Faso	M	contract		4 mo.	up)	analyst
Zampaligré M.	Ecole Nationale des Eaux et Forêts/Bobo Dioulasso	unknowned	Burkina Faso	M	Controlor	Internship	3 mo.	Field data collect and pretreatment and report	
Hamzaoui Q	Université Paul Valery Montpellier	unknowned	France	M	Tutored project MSc 1	internship	3 mo.	data treatment and report	ongoing schol
Duvanel T	Université Paul Valery Montpellier	unknowned	France	M	Tutored project MSc 1	internship	3 mo.	data treatment and report	ongoing schol
Nikiema F	Université Paul Valery Montpellier	unknowned	Burkina Faso	M	Tutored project MSc 1	internship	3 mo.	data treatment and report	ongoing schola
Maiga A.A.	Consultant	30	Burkina Faso	M	Fixed-term contract	INERA Contract	9 mo.	Field data collect, treatment and report	NGO assistan
111u1Su / 1./ 1.	Consultant	50	Burkina	141	Fixed-term	INERA	J 1110.	Field data	official of
Sanou Y	Consultant	unknowned		M	contract	Contract	3 mo.	collect, treatment	

									Forest
								and report	Departement
						<b>INERA</b>		Field data	
			Burkina		Fixed-term	Contract		collect, treatment	CIRAD Project
Sawadogo A	Consultant	unknowned	Faso	M	contract		2 mo.	and report	contractor
	Université des Antilles /							Field data collect and pretreatment	
Lesimple A.	IRD	22	France	M	MSc	internship	6 mo.	and report	unknown
Senghor Yolande	Univ. Gaston Berger de Saint Louis	32	Senegal	F	PhD	Doctoral contract	14 mo	Field data collect and pretreatment and report	
Kpadonou B. A. R.	Abomey Calavi Cotonou Univ.	unknowned	Benin	M	PhD	Doctoral contract	12 mo	Field data collect and pretreatment and report	unknown