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Rice science at the service of Africa
La science rizicole au service de l'Afrique

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Practical guide

Data sheets for the *Smart-Valleys* approach

About AfricaRice and Afrique-learning

AfricaRice:

The AfricaRice is a leading pan-African rice research organization committed to improving livelihoods in Africa through solid science and effective partnerships. AfricaRice is a research center of CGIAR, which is part of a global research partnership on future food security. It is also an intergovernmental association of African member countries. Today, it has 30 member countries. The mission of AfricaRice is to contribute to poverty reduction and food security in Africa through research, development and partnership activities, aimed at increasing the productivity and profitability of the rice sector so as to guarantee the sustainability of the agricultural environment.

Afrique-Learning:

Afrique-learning is a Beninese cooperative which creates and manages vocational e-learning courses specially designed for African youth. Courses are tailor-made in collaboration with experts in the field with the aim of producing interactive, illustrated, interesting and easy-to-study courses that provide the student with important information in simple and appropriate language. Learning is done independently at the student's own pace, it is assessed and a course certificate is attained following a final test. Courses are available on computer, smartphone or android tablet. They only require a very modest bandwidth and are therefore within the reach of students. Registration and classes are free.

Acknowledgements

This guide …

… presents the data sheets for the selection process and the construction of the water control structures.

I. Selection of the inland valleys

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Inland valleys list

Identification data

Date (dd.mm.yyyy)	
First name	
Last name	
Village / Commune	
Inland valley name and(or) indication	
GPS data of the inland valley	

Fill in the following table with the data of the inland valleys you wish to explore. Write down the contact details of the person who will take you to the inland valley. This person must be recommended by the authority of the concerned area.

Inland valleys List

N°	Inland valley indication	Personal data which indicate the inland valley			
		First name	Last name	Phone number	Institution name/ organization

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Inland valley exploration

1. Identification data

Date (dd.mm.yyyy)	
First name	
Last name	
Village / Commune	
Inland valley name and(or) indication	
GPS data of an inland valley point	

2. Accessibility

Instructions :
- Indicate if access is difficult for each season by filling in Yes or No.
- Give the distance in km between the inland valley and the point you can reach with the following means of transport(e.g. the distance between the plot and the location where the motorbike stops is 0,5 km)

Difficult access (Yes / No)	Motorbike (in km)	Tricycle (in km)	Car (in km)	Truck (in km)

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3. Areas / Other crops

Instructions :
- Instructions : Give the areas in hectares (to be estimated with the rope or the GPS)
- Select the other crops cultivated in the inland valley

a. Cultivable area : ___ ha

b. Total area cultivated : ___ ha

c. Area with rice crop : _____ ha

☐	Maize	☐	Sorghum / Millet
☐	Market gardening	☐	Sweet potatoes
☐	Cowpea / Soybean	☐	Others :

4. Slope / Shape / Site

Instructions :
- Appraise the transversal slope of the inland valley and match it with the image that best reflects reality [a.]
- Indicate whether the inland valley has a U or V shape (If the bottom has a flat shape, it is the U-shape) [b.]
- Is the site visited a inland valley or an alluvial plain? [c.]

a. Transversal slope

Flat ☐   Very weak ☐   Weak ☐   Strong ☐

b. Shape	U-shaped inland valley	☐	V-shaped inland valley	☐
c. Site	Inland valley	☐	Alluvial plain	☐

5. Soil types

Instructions : Take some samples of the inland valley soil, examine them and select the types of the soil.

Clay ☐	Loamy ☐	Sandy ☐
Loamy clay ☐	Sandy - Clay ☐	Sandy-loamy ☐
Loamy - Clay - sandy ☐		

6. Number of farmers

Instructions : Give the number of farmers who cultivate rice in the inland valley

Number of persons: _____

7. Floods

Instructions : Indicate the presence or absence of floods and in cases where there is flooding, specify the type of flood and the parts of the inland valley affected.

☐	No floods
☐	Some parts of the inland valley are often flooded
☐	Many parts of the inland valley are often flooded
Description of the parts of the inland valley affected by the flood	

8. Constraints

Instructions : Note here the constraints relating to the following areas

Linked to the development of the inland valley :

Linked to the land ownership :

Linked to the land access :

Linked to the market :

Linked to the husking of rice :

Linked to storage :

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Exploratory phase - Processing

Date (dd.mm.yyyy):	
First name:	
Last name:	
Village / Commune	

N°	Name / indication of the inland valley	Accessibility	Cultivable area (ha)	Crop / Development intensity (%)	Number of farmers	Inland valley shape	Slope (flat, weak, etc)	Types of soils	Information on floods	Important conclusions	Admitted to Phase 2 (Yes / No)
Example	*Gbèzé inland valleys*	*Good*	*25*	*Rice / 80*	*32*	*U*	*Weak*	*Silty / Clay*	*Some parts of the area are rarely flooded*	*The inland valley is ideally suited for the 2nd phase in all criteria*	*Yes*

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Village meeting attendance list

Date (dd.mm.yyyy)	
First name	
Last name	
Village / Commune	
Inland valley name and(or) indication	
GPS data of the inland valley	

N°	First name	Last name	Phone number	Âge	Gender (M/F)	Actors (farmers, villagers, visitors, members of organizations)	Group name/ Organization	Can read and write (Yes / No)

Meeting report

1. Personal data

Date (dd.mm. yyyy)		**Village / Commune**	
First name		**Inland valley name and (or) indication**	
Last name		**GPS data of the inland valley**	

2. Progress and key messages of the meeting

Instruction: Describe progress and key messages of the meeting.

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3. Difficulties

Instruction: Describe the obstacles and the difficulties encountered in the meeting.

4. Improvement ideas for the next meeting

Instruction: Note here the improvement ideas for the next meeting in order to solve the problems or improve your work ability in general.

Inland valley identification

1.   Identification data

Date (dd.mm.yyyy)	
First name	
Last name	
Village / Commune	
Inland valley name and(or) indication	
GPS Data of the inland valley	

2. Land ownership

Instructions: Select the ownership status of the inland valley.

Individual ☐   **Family** ☐   **Village** ☐   **State** ☐   **Group** ☐

3. Access mode to the inland valley

Instructions : Select the access mode to the inland valley.

Inheritance	☐
Donation	☐
Property of a producers group	☐
Loan	☐
In use but for sale	☐
Rent	☐

4. Land sufficiency

Instructions: Inquire about the available area in the inland valley in relation to the needs of farmers and select either it is sufficient or insufficient.

Sufficient area ☐   Insufficient area ☐

5. Average experience of site farmers

Instructions : Give the average experience of site farmers

Average experience in years:

6. Access to market and processing:

Instructions : Select the assessment criterion corresponding to the type of market and processing access.

Assessment criterion	Good	Medium	Difficult
Access to the market	☐	☐	☐
Access to processing	☐	☐	☐

7. Destination of the inland valleys products

Instructions : Estimate the percentage of inland valley products grown for self consumption and the percentage of products grown for sale (the market).

a. Self consumption :   b. Market :

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Identification Phase - Processing

Date (dd.mm.yyyy)	
First name	
Last name	
Village / Commune	

N°	Name / Inland valley indication / GPS data of a point in the inland valley	Land ownership	Mode of access	Experience of farmers (in years)	Destination of products	Access to the market	Access to processing	Admitted to phase 3 (Yes / No)	Ranking
Example	*Gbèzé inland valley (6.326340, 2.334907)*	*State*	*Loan*	*4*	*Market*	*Good*	*Good*	*Yes*	*1*

Actual selection of inland valleys

1. Date / actors / Location

Date (dd. mm. yyyy):	
Supervisor:	
District:	
Facilitator:	
Commune:	
Village:	
Inland valley name and(or) indication:	

2. Willingness of actors

Instructions :
- The willingness of actors is crucial, without their agreement no development is possible.
- Estimate their agreement and select yes or no:

a. Willingness of landowners : Yes ☐ | No ☐

b. Willingness of the community and village: Yes ☐ | No ☐

c. Willingness of farmers : Yes ☐ | No ☐

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3. Nature of the contribution

Instructions:
- The contribution can vary from a person to another or from a community to another.
- A person who cannot do the development work can provide water, food, etc.
- Note the different forms of this contribution.
- But at the end, it must be clear that the development works will be carried out by beneficiaries.

a. Contribution of producers:

b. Other contributions (precise the actors - who does what exactly?):

4. Important conclusions

Instructions: Give important conclusions issued from the meeting (about each important subject) with the community and farmers.

Conclusion:

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Selection phase - Processing

Date (dd.mm.yyyy)	
First name	
Last name	
Village / Commune	

N°	Name / Inland valley indication	Willingness of landowners (Yes / No)	Willingness of farmers (Yes / No)	Willingness of the community or the village (Yes / No)	Contribution of actors	Important conclusions	Good for development (Yes / No)	Ranking (1, 2, 3, ..)
Example	Gbèzé inland valley	Yes	Yes	No	Water, food, Development	The village agreement is missing	Yes	3

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Final ranking of the inland valleys

Date (dd.mm.yyyy):	
First name:	
Last name:	
Village / Commune:	

N°	Name of the inland valley	Willingness of farmers	Land ownership	Inland valley accessibility	Number and experience of farmers	Cultivable area(ha) / Crop	Intensity of development (%)	Types of soils	Information on floods	Final ranking
Example	*Gbèzé inland valley*	*Yes*	*Villagers*	*Good*	*23 / 7*	*23 / Rice*	*85*	*Sandy / Clay*	*No floods*	*1*

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II. Development of the inland valleys

Information expected from the site visit

1. Date / Actors / Location

Date (dd.mm.yyyy)		**Village / Commune**	
First name		**Inland valley name and(or) indication**	
Last name		**GPS data of the inland valley**	

2. Information related to water

Instruction : Collect the following information to facilitate realization of the development plan.

a. Rain regime

b. Water inlets in the inland valley

c. Periods of flooding

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d. Main and secondary natural drainage canals

e. The damage caused by water in periods of flooding

f. Problems of water management in the rainy period

g. Erosion

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3. Information related to the soil

Instruction : Collect the following information to facilitate the realization of the development plan.

a. Nature of the soil

b. Soil work

c. Other problems linked to the soil or its work

4. Information related to crops

Instruction : Collect the following information to facilitate the realization of the development plan.

a. Types of crops and growing periods

b. Difficulties encountered in their cultivation

c. Other problems and wishes of farmers (possible change of crops after development)

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Progress report - Smart-Valleys development

1. Personal data

Date (dd. mm. yyyy)		**Village / Commune**	
First name		**Inland valley name and (or) indication**	
Last name		**GPS data of the inland valley**	

2. Progress of development structures

Instruction: Describe the progress of the structures in the text box below.

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3. Difficulties

Instruction: Describe the obstacles and the difficulties in the text box below.

4. Improvement ideas for the next execution of development works

Instruction: Give improvement ideas for the next execution to solve the problems or improve the procedure and your work ability in general.

Supervision report – Smart-Valleys development

1. Date / Actors / Location

Date (dd.mm.yyyy)	
First name (supervisor)	
Last name (supervisor)	
Name of the technician	
Village / Commune	
Inland valley name and (or) indication	
GPS data of the inland valley	

2. Conduct of the activity

Instruction : Short description of the activity carried out by the technician

3. Difficulties/ Suggestions

Instruction : Describe the obstacles / difficulties and make recommendations for solving these problems

Problems :

Suggestions :

4. Evaluation of the technician's performance

Instruction: Evaluate the activities of the technician with the marks below:

- Excellent - Well above average = 5
- Good - Above Average = 4
- Just satisfactory - Average = 3
- Unsatisfactory - Below average = 2
- Unacceptable - Must improve = 1

a. Task carried out carefully   Note : ___
b. Technical competences   Note : ___
c. Communication with farmers/ villagers   Note : ___
d. Relationship with the supervisor   Note : ___

5. Other observations: