



Practical guide

Inland valley selection for *Smart-Valleys* development

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About AfricaRice and Afrique-learning

AfricaRice:

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

Development of the toolkit was supported by AfricaRice project: "Fostering the Impact of Rice Technologies for Better Livelihoods in Sub Saharan Africa (FIRITEL)" funded by the Belgian Development Cooperation.

Sources of images and tables

[1] Illustration produced by EUDOX BÉATITUDES

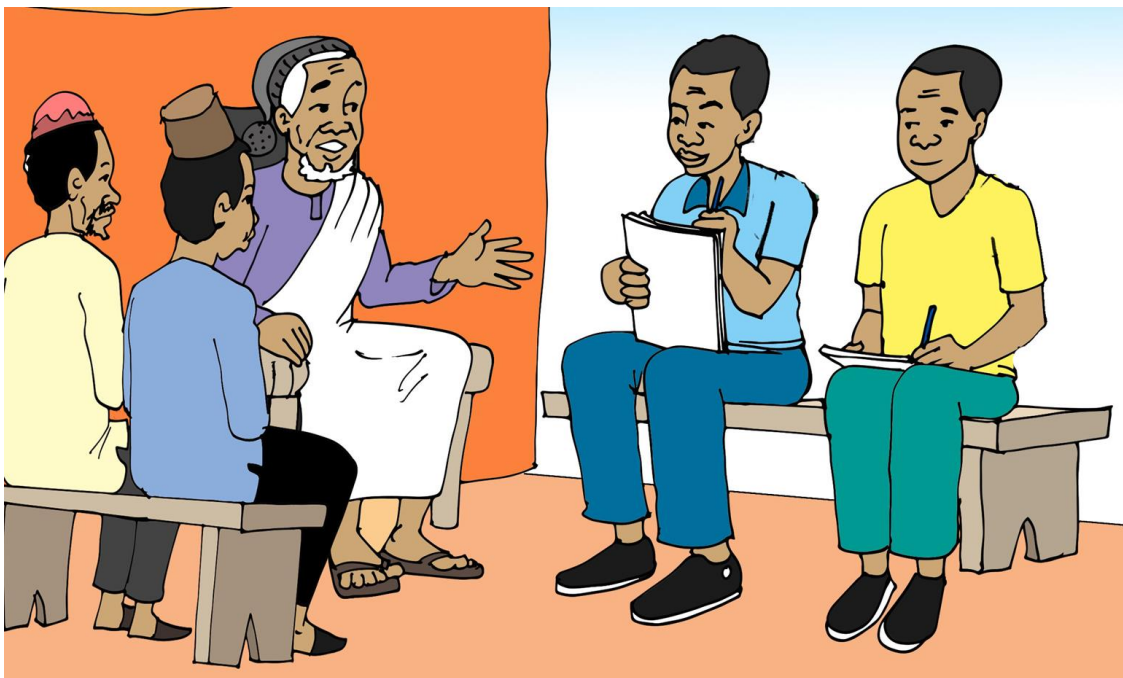
[2] Photo provided by Dr. Soklou Worou

[3] Developed by the teaching team

I. Exploration phase

Task 1.1 : Inland valley identification

- **Actors** : project technician, village chief, farmers' representatives, extensionists or technicians from the locality
- **Product to deliver** : a preliminary list of inland valleys to be explored and contact details for local guides to get there
- **Activities** :
 - look for local technician or other people who are familiar with the inland valleys in the area; visit the village chief to get contact details for local guides to get there; or visit the decentralized extensionists or technicians from the locality
 - develop a preliminary list of inland valleys to be explored in depth
 - identify some villagers who will serve as guides to locate the inland valleys



Technicians' visit to the village chief [1]

Task 1.2 : Inland valleys exploration

- **Actors** : project technician, farmers
- **Products to deliver** :
 - inland valleys biophysical information sheet
 - pictures of each inland valley
- **Work tools** : information sheets to fill, camera, auger, hoe, pencil, cutlass, boots and tools to determine depth and area of water cover, the percentage of transversal slope and the soil type
- **Activities** :
 - the village chief should be informed before the first inland valleys visit
 - plan the inland valleys visit with the villagers who will serve as guides
 - organize the inland valley visit so as not to waste time and money
 - move around the inland valley to assess the pedological and hydrological characteristics (direction of water flow , depth and area of water cover, flood duration, depth of water table) so as to register the information in the biophysical diagnostic sheet
 - take pictures that provides a faithful image of the reality, with GPS data
 - conduct interviews with a few farmers' groups, to obtain additional information on hydrology, soil types, the inland valley, basic information on farmers' groups, and accessibility to the inland valleys during the rainy season.



Inland valley exploration in group [2]

Criteria to consider in this phase

- Inland valley accessibility
- Area that can be farmed
- Current level of inland valley use
- Number of crops grown yearly
- Dominant crops
- Number of farmers
- Shape of inland valley
- Transversal and longitudinal slopes
- Soils
- Water table dynamics
- If possible: land ownership regime and he potential land ownership conflicts

Task 1.3 : Processing of data and pre-selection of inland valley

- **Actors** : technician
- **Product to deliver** : a list of inland valley soils ranked onto their current level of development
- **Activities** :
- Collate the information by completing the processing sheet
 - the most relevant data are ranked in order of importance within three classes:
 1. if available: land ownership, existence of possible conflicts
 2. accessibility, cultivable area, current level of use, crops, number of farmers
 3. shape of inland valley, slope, soils, water table dynamics, the height, extent of floods during the rainy season
- Select the inland valleys which are suitable for the identification phase
- Record your observations onto the sheet with brief explanations

N*	Name / inland valley localisation	Accessibili ty	Area available for farming (ha)	Crop / inland valley use	Number of farmers	inland valley shape	Slope (%)	Soil type	Important conclusions	Qualified for Phase 2
1	Close to Djidja, beside ...	Difficult	5 ha	Nothing for now	0	U	1-3	Sandy	Excluded because access is difficult; the inland valley is not exploited and the sandy soil is not conducive for development	No
2	Bamakoué	By foot	7 ha	Rice /a good portion is cultivated	23	U	1-3	Sandy on clay	Conditions met	Yes
3	Loéla	Motorbike	1.5 ha	Rice, maize / half is cultivated	5	V	1-3	Clay	Excluded because the available area is not sufficient	No

II. Identification phase

Task 2.1 : Village meetings for data collection

- **Actors** : technician, village chief, villagers – farmers
- **Work tools** : note books, pens, sheets to fill in, boards for writing and visualizing information, camera
- **Product to deliver** :
 - completed socio-economic data sheet
- **Activities:**
 - organize a village meeting to collect additional data on biophysical criteria, socio-economic and land ownership, and assess the interest and consent of the community in the *Smart-Valleys approach*
 - inform farmers and other stakeholders (particularly the village chief) in advance to ensure their participation
 - prepare for the meeting and the topics to be discussed
 - at the meeting, also discuss access to markets, traders and wholesalers as this ultimately is the farmers' motivation
 - this meeting can cover several inland valleys if the village has access to more than one inland valley
 - the information obtained during the meeting will need to be verified **in** the field (task 2.2)



Village meeting to collect information on the pre-selected inland valley [1]

Criteria to consider for this phase

- Land ownership
- Accessibility
- Average age and experience of the farmers
- Will the produce be kept or sold? Where?
- Access to market and processing

Task 2.2 : Inland valley prospection with farmers

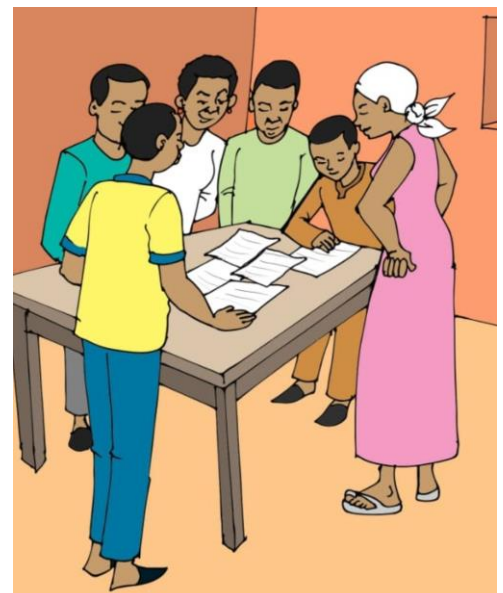
- **Actors :** technician, relevant inland valley farmers
- **Product to deliver :** verification of the data obtained during the village meeting
- **Activities :**
 - visit the pre-selected inland valleys on foot with the relevant farmers to complete, verify and confirm or refute the information obtained during the village meeting
 - take notes
 - take pictures if necessary



Inland valleys prospection after meeting with the farmers [1]

Task 2.3 : Processing and pre-selection

- **Actor :** technician
- **Product to deliver :** processing sheet with ranking based on ease of development
- **Activities :**
 - collate the information obtained during the village meeting and the field prospection to select the inland valleys for the ranking phase
 - this syntheses is done by filling out the processing sheet
 - select the inland valleys that are suitable for the third phase, the selection phase
 - rank the selected inland valleys by ease of development



Processing and pre-selection [1]

How to do the processing

The most important data in this phase are those related to land ownership and how important produce from the inland valley is for farmers' livelihoods.

- Other most important criteria to consider:
 1. Land ownership and the potential existence of land ownership conflicts
 2. Accessibility
 3. Average age and experience of the inland valley farmers
 4. The destination of produce (proportion consumed or sold)
 5. Access to market and processing
- At the end of the processing, the inland valleys are the subject of an initial ranking, based on ease of development (1st, 2nd, 3rd, 4th, 5th, etc.) on the basis of the processing of the information gathered in the field

N*	Name / Inland valley localisation	Land ownership	Access to ownership	Years of experience of farmer	Destination of products	Access to market	Access to processing	Qualified for Phase 3 (Yes / No)	Validation
1	Gbèzé inland valley	State	Heritage	4	Market	Good	Difficult	Yes	2
2	Enagnon inland valley	Family	inland valley for sale	5	Market	Good	Difficult	No	-
3	Gbédokpo inland valley	Family	Gift	6	Market	Good	Good	Yes	1

III. Selection phase or final ranking phase

Task 3.1 : Village meeting

- **Actors** : technician, all the farmers, landowners and village opinion leaders
- **Product to deliver** : lists of information obtained during the meeting
- **Activities** :
 - organize a meeting with all the villagers
 - pre-inform the whole community several days before the meeting
 - make sure to record the conclusions of this important meeting



Village meeting [1]

Task 3.2 : Processing and compilation of the file

- **Actor** : technician
- **Products to deliver** :
 - each inland valley has a file which contains reports of phases 1, 2 and 3
 - a list of inland valleys suitable for *Smart-Valleys* development
- **Activities** :
 - final selection of the inland valleys that are suitable for development
 - inland valleys with buy-in from the entire community are ranked at the top
 - prepare an inland valley file with reports of phases 1, 2 and 3 and, importantly, including the synthesis documents



Compilation of the inland valley file by the technician [1]

N*	Name / Inland valley location	Buy-in from land owner	Buy-in from farmers	Buy-in from the community or Village	Contribution the stakeholders	Important conclusions	Suitable for development work (Yes / No)	Rank
1	Gbèzé inland valley development work	Yes	Yes	No	Water, food and construction	Awaiting agreement of the villagers	Yes	3
2	Enagnon inland valley development work	Yes	Yes	Yes	Water, food and development work	No problems	Yes	1
3	Gbédokpo inland valley development work	No	Yes	Yes	Development work	Awaiting agreement of the land owner	No	-
4	Okpèyèmi inland valley development work	Yes	Yes	Yes	Development work	No problems	Yes	2

Task 3.3 : Final ranking

- **Actor** : technician
- **Product to deliver** : list of the final ranking of the inland valleys suitable for development
- **Activities** :
 - take into account data from over all three phases to determine the final ranking
 - ranking based on ease of development
 - over all three phases, the criteria determining the final ranking of the inland valley are, in order of importance:
 1. buy-in from the stakeholders
 2. land ownership and absence of land ownership conflicts
 3. accessibility of the inland valley area
 4. experience number and average age of the farmers
 5. flood height, area and duration
 6. soil texture and to a lesser extent, other biophysical criteria



N*	Name / Inland valley location	Buy-in of stakeholders	Land ownership	Inland valley accessibility	Number and average experience stakeholders	Soil texture and to a lesser extent, other biophysical criteria	Suitable for development (Yes / No)	Final ranking
1	Opkèyèmi inland valley	Yes	Family	Motorbike	Number = 15 Experience = 10 years	Silty-clay soil	Yes	2 nd
2	Monifè inland valley	Yes	Gift	Accessible on foot	Number = 12 Experience = 8 years	Sandy-clay soil	Yes	3 rd
3	Gbédokpo inland valley	Yes	Family	Accessible with all means of transportation	Number = 20 Experience = 6 years	Silty-clay soil	Yes	1 st